



Republic of Slovenia



Convention on
Biological Diversity

6th National Report 2015 – 2018

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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 24

Target C 11: By 2020, at least 17 per cent of terrestrial and inland water, 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 27

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Aichi Biodiversity 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 40

Aichi Biodiversity 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 44

Aichi Biodiversity 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 47

Aichi Biodiversity 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 49

Aichi Biodiversity Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity 52

Aichi Biodiversity Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity 59

Aichi Biodiversity 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 63

Aichi Biodiversity Target 10: 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 66

Aichi Biodiversity Target 11: By 2020, at least 17 per cent of terrestrial and inland water, 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 70

Aichi Biodiversity 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 74

Aichi Biodiversity 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 80

Aichi Biodiversity Target 14: 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 83

Aichi Biodiversity Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has 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 87

Aichi Biodiversity 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 89

Aichi Biodiversity 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 91

Aichi Biodiversity 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 93

Aichi Biodiversity 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 94

Aichi Biodiversity Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties. 97

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INTRODUCTION

The 6th National Report (NR6) of the Republic of Slovenia differs from the 5th National Report (NR5) submitted in 2015. NR6 focuses on updating measures and actions established during the reporting period as well as the ones already described in NR5. The NR6 should therefore be seen in the context of the NR5 so that, jointly, the reports provide an overall picture of the state of nature and the national measures taken to achieve the Aichi biodiversity targets. It is important to note that the NR6 has been adapted to national and the European Union circumstances. Along with the other EU Member States, Slovenia has joined the EU Biodiversity Strategy which sets six targets towards achieving the global biodiversity targets. The government of the Republic of Slovenia is in the process of setting ambitious nature conservation goals by adopting the new National Environmental Protection Program by 2030 with Biodiversity Strategic Plan as its integral part.

The information on national targets presented under Section II refers to targets of the National Program on the Management of Natura 2000 Sites 2015 – 2020, covering more than 37% of the national territory. Detailed information on measures that contributed to the achievement of each global Aichi Biodiversity Target is provided under Section IV.

SECTION I: INFORMATION ON THE TARGETS BEING PURSUED AT THE NATIONAL LEVEL

My country has adopted national biodiversity targets or equivalent commitments in line with the Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets

or

My country has not adopted national biodiversity targets and is reporting progress using the Aichi Biodiversity Targets for reference.

Note: The information provided under Section II refers to the targets of the National Program on the Management of Natura 2000 Sites 2015 – 2020 (PUN). It should be considered together with the information given in Section IV.

SECTION II. IMPLEMENTATION MEASURES TAKEN, ASSESSMENT OF THEIR EFFECTIVENESS, ASSOCIATED OBSTACLES AND SCIENTIFIC AND TECHNICAL NEEDS TO ACHIEVE NATIONAL TARGETS

1. Communication activities

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Communication activities are a support measure for several others, and as an independent measure they are implemented in conjunction with the directing of people in order to prevent disruptions of protected species and other practices threatening protected species and habitat types. The measure covers various communication tools - direct communication with stakeholders, publication of articles and other contributions in printed and electronic media, preparation of brochures and leaflets and actions in the field. The set of stakeholders that this measure captures is very broad - from the leaders of sectoral policies, interested public, landowners, the general public and educational institutions. Over this reporting period, the Institute of the Republic of Slovenia for Nature Conservation carried out both formal and informal communication on the importance of preserving biodiversity with decision makers of various sectoral policies (foresters, hunters, fishermen, leaders, farmers, spatial planners ...), experts and other targeted public. All available communication tools were used. They published 260 (2016) and 219 (2017) contributions (interviews, journalistic articles, press releases, press conferences etc.) and prepared 89 (2016) and 109 (2017) presentations with an emphasis on nature conservation.

For the implementation measure, please indicate to which national or Aichi Biodiversity Target(s) it contributes

The measures are aimed at achieving the following Aichi goals: A: 1, B: 5, 7, C: 12, D: 15, E: 19.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes:

- Measure taken has been effective
- Measure taken has been partially effective
- Measure taken has been ineffective
- Unknown

Please explain the selection and where possible indicate the tools or methodology used for the assessment of effectiveness above

The effects of direct communication are evident, where it is visible in a relatively short period of time whether the measure is effective or not. We evaluated the effectiveness of the measure of communication activities according to the assessment of the achievement of the goals that we want to achieve with the measure. A number of communication measures require the upgrade to be achieved with other implementing measures.

Relevant websites, web links and files

http://www.natura2000.si/fileadmin/user_upload/Porocilo_lzvajanjePUN_2015-17.pdf

Other relevant information

Communication activities carried out by ZRSVN are available at the links below.

Relevant websites, web links and files

http://www.zrsvn.si/dokumenti/65/2/2018/Porocilo_2017_5094.pdf

http://www.zrsvn.si/dokumenti/65/2/2017/Porocilo_2016_4816.pdf

http://www.zrsvn.si/dokumenti/65/2/2016/Porocilo_2015_4231.pdf

Obstacles and scientific and technical needs related to the measure taken

The measure is only partially implemented due to a lack of personnel and financial resources. In particular, direct communication requires a lot of human resources which in most instances was not sufficient.

Relevant websites, web links and files

http://www.natura2000.si/fileadmin/user_upload/Porocilo_IzvajanjePUN_2015-17.pdf

2. Restoration of habitat size, its specific properties, structures or processes

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan

For ten EU-wide important habitat types and 36 species, various measures are being implemented to restore the species' habitats, their specific structures, properties or processes. Bird nesting sites have been established, eco-cells have been set up in forests and non-native species have been removed. Most of these measures are implemented within the framework of specific nature protection projects.

For the implementation measure, please indicate to which national or Aichi Biodiversity Target(s) it contributes

The measures are aimed at achieving the following Aichi goals: B: 5, C: 12,15

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes:

- Measure taken has been effective
 Measure taken has been partially effective
 Measure taken has been ineffective
 Unknown

Please explain the selection and where possible indicate the tools or methodology used for the assessment of effectiveness above

Restoration of habitats is mostly a lengthy process. In a short period of time, the positive effect can only be shown to improve the individual habitat structures, or whether the measures would have a positive effect on the conservation of the populations. Since most of the measures were implemented in the framework of projects, their effect is monitored by comparing the situation at the beginning and end of the project.

Relevant websites, web links and files

<http://www.wetman.si/o-projektu/rezultati-projekta>

http://livedrava.ptice.si/wp-content/uploads/2018/01/2018_12_1_LIVEDRAVA_Laymans_report_web_v2.pdf

<https://www.lifetograsslands.si/o-projektu/aktivnosti-in-pricakovani-rezultati/>

<http://life.notranjski-park.si/en/project-objectives/>

<http://life-kocevsko.eu/en/project-actions-and-results/>

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

The main difficulty in implementing such measures is financial constraints since most of the measures are

implemented in the framework of projects. Common problems are also the complexity of procedures in obtaining various approvals, the unwillingness of the participation of landowners and the lack of prior awareness of the situation.

3. Adaptive forest management measures

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Conservation or improvement of the state of biodiversity of forest ecosystems is carried out predominantly with measures planned in forest management plans. The measures are planned annually for approx. 10% of Slovenian forests. These measures are implemented during the 10-year specific forest management plans. Measures that were included in the forest management plans through nature conservation guidelines refer to the establishment of peaceful zones, improvement of specific structures and functions of habitats of individual species, habitat types, maintenance or gradual attainment of (co) natural species composition of forests in all development phases, maintaining of hydro morphological characteristics of forest streams and water regimes.

In 2015, ZRSVN has produced 24 nature protection guidelines for forest management plans and 25 in 2016 /2017 in addition to 25 nature conservation guidelines.

For the implementation measure, please indicate to which national or Aichi Biodiversity Target(s) it contributes

The measures are aimed at achieving the following Aichi goals: A: 4, B: 5, 7, C: 12, D: 15

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes:

- Measure taken has been effective
- Measure taken has been partially effective
- Measure taken has been ineffective
- Unknown

Please explain the selection and where possible indicate the tools or methodology used for the assessment of effectiveness above

The procedure for the preparation of measures is well regulated in Slovenia, but their implementation is in many cases insufficient. Most Forest Management Plans summarize measures to preserve biodiversity, but in nature some measures were not or only partly implemented.

Relevant websites, web links and files

http://www.natura2000.si/fileadmin/user_upload/Porocilo_IzvajanjePUN_2015-17.pdf
<http://prostor.zgs.gov.si/pregledovalnik/>

Obstacles and scientific and technical needs related to the measure taken

The implementation of such measures in the field is partly limited by financial resources intended to implement the measure or to pay compensation to landowners. Conflicts of various interests, especially economic and conservation, are often expressed. There is also a lack by knowledge of some promoters and operators of these measures.

Relevant websites, web links and files

4. Conservation of forest reserves

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Forest reserves are an important safeguard measure for the maintenance of specific elements of biodiversity in Slovenia. In 2018, the Ministry of Agriculture, Forestry and Food prepared an amendment to the Decree on protective forests and forests with a special purpose, according to which approx. 9400 ha of forests in Slovenia were protected as a forest reserve.

For the implementation measure, please indicate to which national or Aichi Biodiversity Target(s) it contributes

The measures are aimed at achieving the following Aichi goals: C: 11, 12

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes:

- Measure taken has been effective
- Measure taken has been partially effective
- Measure taken has been ineffective
- Unknown

Please explain the selection and where possible indicate the tools or methodology used for the assessment of effectiveness above

At the time of reporting, the amendment to the regulation has not yet been adopted, and the effects of the measure cannot yet be predicted.

Relevant websites, web links and files

<https://skupnostobcin.si/2018/04/predlog-uredbe-o-spremembah-in-dopolnitvah-uredbe-o-varovalnih-gozdovih-in-gozdovih-s-posebnim-namenom/>
http://www.natura2000.si/fileadmin/user_upload/Porocilo_IzvajanjePUN_2015-17.pdf

Obstacles and scientific and technical needs related to the measure taken

Problems that will arise in the process of adopting a revision of the Forest Protection and Special Forests Regulation will probably be linked to limited financial resources for the compensation of damages.

5. Measures for adaptive management of fishery resources

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan

The management of fishery resources is carried out through fisheries management plans. Measures for the adapted use of fishery resources are introduced into these plans through nature conservation guidelines. Fish breeding plans are under preparation, and measures were prepared within the nature conservation guidelines. The measures relate to the conservation of indigenous species of fish and their habitats, in particular by limiting fishing, establishing natural habitats and removing non-native species. The measures envisaged also prevent the negative impact of fishing and the cultivation of fish and other autochthonous species, in particular amphibians and other aquatic species. In the course of 2016, the amendment of the nature conservation guidelines was made for 12 plans of fisheries areas while in 2017 and 2018, 67 nature protection guidelines were drawn up for fish breeding plans. These activities included guidelines for the preparation of the above measures.

Additional information on the measures implemented to achieve the relevant Aichi targets are provided in Section IV.

For the implementation measure, please indicate to which national or Aichi Biodiversity Target(s) it contributes

The measures are aimed at achieving the following Aichi goals: A: 4, B: 5, 6, 7, C: 12

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes:

- Measure taken has been effective
- Measure taken has been partially effective
- Measure taken has been ineffective
- Unknown

Please explain the selection and where possible indicate the tools or methodology used for the assessment of effectiveness above

At the time of reporting, the implementation of measures has not yet begun as the fish breeding plans are still under preparation.

Relevant websites, web links and files

http://www.natura2000.si/fileadmin/user_upload/Porocilo_IzvajanjePUN_2015-17.pdf

Obstacles and scientific and technical needs related to the measure taken

When implementing the measures envisaged, good cooperation between planners (Fisheries Research Institute) and operators (fisheries associations, concessionaires) will be needed. There may be a lack of financial and human resources, in particular for the removal of non-native invasive species. Conflict of interest between the measures envisaged and the interests of the concessionaires is also possible.

6. Agri-environment-climate payments

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan

In the context of the agri-environment-climate payments, several measures are being implemented in the 2015-2020 programming period, the most important ones are:

1. Measures "**Grassland habitat**" are implemented in ecologically important areas of special grassland habitats, where wild fauna and flora occur and habitat types which conservation status is directly dependent on the implementation of suitable agricultural use. They are intended to preserve qualifying grassland habitat types and qualifying species of Natura 2000 sites related to meadows (e.g. plants, butterflies, birds, etc.) and meadows with high diversity. The main measures are to ban early mowing and grazing and limit the intake of nitrogen from organic fertilizers and use of mineral fertilizers.
2. Measures "**Butterfly habitats**" are intended to promote the implementation of an agricultural practice that is particularly adapted to the ecological requirements of the two endangered butterfly species and enables their long-term conservation and protection. As part of the implementation of these measures, use (mowing and grazing) in the ecologically important areas of butterfly grassland habitats is prohibited between 15 June and 15 September, and a complete ban on fertilization applies.
3. Measures "**Habitats of birds at extensive wet meadows**" are intended to protect grassland birds nesting on the ground. These measures prohibit mowing before first August as well as grazing and fertilization.
4. Measures "**Steljniki**" are carried out on the habitats of some butterfly qualifying species in Natura 2000 sites. The implementation of these measures prohibits grazing and mowing until 25. August and fertilization is also prohibited.
5. Measure "**Traditional grassland orchards**" is intended to maintain adequate care of these habitats in order to conserve wild fauna and flora and specific landscapes.
6. Measure "**Conservation of hedges**" is aimed at maintaining borders on different types of agricultural land use. The boundary length should be at least 20 meters and the width at ground level should be 2 to 4 meters. The border should be trimmed every second year in such a way to assure the continuity of its canopy.
7. Measures "**Breeding of local breeds at risk**" aim at preserving genetic diversity of local breeds of domestic animals. Local breeds of domestic animals include native and traditional breeds that are reared in a particular area and adapted to the climate, feed, structure and configuration of the area.
8. Measures "**Conservation of threatened plant genetic resources**" are intended to protect and preserve the original traits and genetic variability of native and traditional varieties of agricultural plants. These measures are based on the voluntary involvement of farmers in an implementation program of 5 years.

In 2015-2017, the measures "Specific grassland habitats", "Butterfly grassland habitats", "Habitats of wet extensive meadows" and "Steljniki" were implemented at approx. 5800 ha, representing a quarter of the target by 2020.

For the implementation measure, please indicate to which national or Aichi Biodiversity Target(s) it contributes

The measures are aimed at achieving the following Aichi goals: A: 3, 4, 5, B: 7, C: 12, 13 & 15.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes:

- Measure taken has been effective
- Measure taken has been partially effective
- Measure taken has been ineffective
- Unknown

Please explain the selection and where possible indicate the tools or methodology used for the assessment of effectiveness above

At the midpoint of the programming period, the proportion of areas where measures are implemented is lower than expected, and the trend of including additional areas is not favourable. Some of the measures are partly implemented in areas that are not optimal for biodiversity conservation and are therefore less effective.

Relevant websites, web links and files

http://www.natura2000.si/fileadmin/user_upload/Porocilo_IzvajanjePUN_2015-17.pdf
http://www.zrsvn.si/dokumenti/65/2/2017/Porocilo_2016_4816.pdf

Other relevant information

A more detailed description of agri-environment-climate payments is available at the link below.

Relevant websites, web links and files

<https://www.program-podezelja.si/si/knjiznica/10-kmetijsko-okoljska-podnebna-placila-2015-2020/file>

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

The main problem with the implementation of agri-environment-climate payment measures is that they are voluntarily and in areas where landowners are interested. Therefore, measures are often not implemented at most important areas for biodiversity conservation. There is also a lack of adequate staff to promote the measures among farmers, and some people in charge of promoting these measures lack knowledge. The interests of food production seems too often outweigh the interest of nature conservation.

Relevant websites, web links and files

http://www.natura2000.si/fileadmin/user_upload/Porocilo_IzvajanjePUN_2015-17.pdf
<http://openscience.si/jan/gradivo?nrid=9160857&lang=1033>

7. Cross-compliance measures in agriculture

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan

The system of cross-compliance prescribes management standards that are important for maintaining the good environmental status of agricultural land which affects the conservation of biodiversity. Among the more important requirements that affect the conservation status of biodiversity are:

- protection of waters against pollution caused by nitrates from agricultural sources
- establishment of buffer zones along watercourses
- protection of groundwater against pollution
- conservation of wild birds
- conservation of natural habitats of wild fauna and flora
- conservation of landscape features

For the implementation measure, please indicate to which national or Aichi Biodiversity Target(s) it contributes

The measures are aimed at achieving the following Aichi goals: A: 4, B: 5, 7, 8, 9, C: 12

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes:

- Measure taken has been effective
- Measure taken has been partially effective

- Measure taken has been ineffective
 Unknown

Please explain the selection and where possible indicate the tools or methodology used for the assessment of effectiveness above

Cross-compliance measures are not specifically targeted at biodiversity conservation. However they affect biodiversity through environmental factors. Measures are only being taken by farmers who are covered by direct payment schemes. Landowners are not penalized for not implementing these measures.

Relevant websites, web links and files

<http://www.kgzs.si/Portals/0/Strokovna%20gradiva/36b%20-%20navzkrizna%20skladnost.pdf>

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

Implementation of cross-compliance measures is difficult to control due to the size of the surfaces concerned and the lack of controllers and therefore breaches occur more frequently. Failure to achieve the objectives is also a consequence of lack of knowledge of rules.

8. Conservation of environmentally sensitive grasslands

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan

The prohibition of ploughing at grasslands with poor conservation status is one of the measures of adapted agricultural practice implemented in certain Natura 2000 sites where endangered habitat types are present. This measure is implemented by farmers involved in direct payment schemes at selected Natura 2000 sites with exception of organic and small farmers. It is implemented at approx. 19400 ha.

For the implementation measure, please indicate to which national or Aichi Biodiversity Target(s) it contributes

The measures are aimed at achieving the following Aichi goals: A: 3,4, B: 5, 7, C: 12, D: 15

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes:

- Measure taken has been effective
 Measure taken has been partially effective
 Measure taken has been ineffective
 Unknown

Please explain the selection and where possible indicate the tools or methodology used for the assessment of effectiveness above

Prohibition of ploughing of rich grasslands with poor conservation status is one of the measures of adapted agricultural practice not applicable to organic farmers and small farmers, which partially offsets the effects of the measure in some areas. Violations have also been detected, further reducing the effectiveness of this measure.

Relevant websites, web links and files

http://www.natura2000.si/fileadmin/user_upload/Porocilo_IzvajanjePUN_2015-17.pdf

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

The measure is not optimal for the conservation of species at rich grasslands with poor conservation status since the exceptions reduce the effectiveness of the measure. Control over the implementation of the

measure should also be strengthened, both in terms of financial and human resources.

9. Measures to ensure the continuity of watercourses, reduce their hydro morphological loads and maintain the water regime

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan

The implementation of measures within the framework of water management ensures the continuity of watercourses and reduces their hydro morphological load. They are usually performed as part of the maintenance of watercourses or their rehabilitation. Measures are integrated into water management plans and work programs through nature conservation guidelines and opinions. The ecological requirements of the species and habitat types adapted to the water regime are ensured by the measures laid down in the acts on water rights.

In the period from 2015 to 2017, the Institute of the Republic of Slovenia for Nature Protection prepared the guidelines for National Water Management Program II, the Flood Risk Reduction Plan and the use of water as a natural asset. Particular attention was paid to the problem of groundwater pollution, especially nitrates in connection with the deterioration of underground habitats.

For the implementation measure, please indicate to which national or Aichi Biodiversity Target(s) it contributes

The measures are aimed at achieving the following Aichi goals: B: 5, C: 12, D: 15

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes:

- Measure taken has been effective
- Measure taken has been partially effective
- Measure taken has been ineffective
- Unknown

Please explain the selection and where possible indicate the tools or methodology used for the assessment of effectiveness above

Due to lack of funding, maintenance works on watercourses are performed to a lesser extent as necessary to achieve biodiversity goals. Rehabilitation works are repeatedly undertaken to address the effects of floods, where priority is given to protecting people and their property and may be inconsistent with biodiversity conservation measures.

Relevant websites, web links and files

http://www.natura2000.si/fileadmin/user_upload/Porocilo_lzvajanjePUN_2015-17.pdf
http://www.zrsvn.si/dokumenti/65/2/2018/Porocilo_2017_5094.pdf
http://www.zrsvn.si/dokumenti/65/2/2017/Porocilo_2016_4816.pdf
http://www.zrsvn.si/dokumenti/65/2/2016/Porocilo_2015_4231.pdf

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

The main difficulty in implementing measures to ensure the flow ability of watercourses and reduce their hydro morphological load is the lack of financial resources. Ensuring an adequate water regime would require more frequent monitoring of the implementation of concession acts and permits, which lacks adequate financial and human resources.

10. Measures included in the spatial planning process

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan

In Slovenia, spatial planning is one of the most important mechanisms for biodiversity conservation. The measures included in the spatial planning documents and the planning of the interventions ensures that the areas important for biodiversity conservation are not built up. At the same time they also enable the possibility of verification of any negative impact of the planned interventions on biodiversity. Biodiversity conservation measures are integrated into spatial planning documents with nature conservation guidelines and opinions. For various municipal and state spatial planning documents the Institute for Nature Conservation prepared about 200 nature conservation guidelines during this reporting period.

For the implementation measure, please indicate to which national or Aichi Biodiversity Target(s) it contributes

The measures are aimed at achieving the following Aichi goals: B: 5, C: 12, D: 15

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes:

- Measure taken has been effective
- Measure taken has been partially effective
- Measure taken has been ineffective
- Unknown

Please explain the selection and where possible indicate the tools or methodology used for the assessment of effectiveness above

The spatial planning process includes procedures of assessments of planned interventions and nature conservation considerations, which in most cases ensure compliance with biodiversity conservation measures.

Relevant websites, web links and files

<https://zakonodaja.com/zakon/zon/97-clen-naravovarstvene-smernice>
<https://zakonodaja.com/zakon/zon/101-clen-presvoja-sprejemljivosti-planov>

Relevant websites, web links and files (

http://www.zrsvn.si/dokumenti/65/2/2018/Porocilo_2017_5094.pdf
http://www.zrsvn.si/dokumenti/65/2/2017/Porocilo_2016_4816.pdf
http://www.zrsvn.si/dokumenti/65/2/2016/Porocilo_2015_4231.pdf

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

The proposed measures in nature conservation guidelines are based on the knowledge of the terrain and previously obtained data on biodiversity in the area regulated by the spatial planning document. The lack of data and the short timeframes for drawing up the guidelines are main obstacles for the optimal preparation of proposals for biodiversity conservation measures.

11. Protection, temporary protection, contractual protection, custody

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Protection is a conservation measure for biodiversity in conjunction with the natural values and landscape diversity. Through protection regimes and development policies, the measure contributes to the preservation or improving the status of species and habitat types in the protected area. Each area is protected by the state and/or local community by an act prepared on the basis of a proposal by the ZRSVN. Since 2015, the ZRSVN has prepared 10 proposals for protection/temporary protection of natural areas. Contractual protection is concluded mainly in the context of projects where land management contracts are concluded with individual landowners and such a measure is not often used.

For the implementation measure, please indicate to which national or Aichi Biodiversity Target(s) it contributes

The measures are aimed at achieving the following Aichi goals: B: 5, C: 11, 12, D: 15

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes:

- Measure taken has been effective
- Measure taken has been partially effective
- Measure taken has been ineffective
- Unknown

Please explain the selection and where possible indicate the tools or methodology used for the assessment of effectiveness above

The completed conservation measure (adoption of the protection act and establishment of management) contributes significantly to the conservation of biodiversity. Adoption of the act alone is time consuming and requires coordination with many stakeholders in the area concerned.

Relevant websites, web links and files

<https://www.uradni-list.si/glasilo-uradni-list-rs/vsebina/2018-01-2463/odlok-o-krajinskem-parku-debeli-rtic>
<https://www.uradni-list.si/glasilo-uradni-list-rs/vsebina/2017-01-1213/uredba-o-naravnem-rezervatu-oroske-lagune>
http://www.rpls.si/files/20171122_125726_26_10_2017_01.pdf
<https://www.uradni-list.si/glasilo-uradni-list-rs/vsebina/2016-01-1739/odlok-o-naravnem-rezervatu-glinokopnih-bajerjev-z-okolico-na-bobovku-pri-kranju/>

Obstacles and scientific and technical needs related to the measure taken

With the measures of protection/temporary protection and contractual protection, the preparation of each measure is a problem in itself, as different interests of stakeholders are encountered in the same area. It is also difficult to assure financial resources for managing the protected area.

12. Research and monitoring

Describe a measure taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Monitoring and research are of particular importance for biodiversity conservation. Based on their results, conservation measures are prepared as a base for improving the condition of species, their habitats and

habitat types. National system of monitoring is being carried out in Slovenia for selected target species of butterflies, beetles, crustaceans, fish, birds and large carnivores. Within the projects, monitoring of target species and habitat types is also carried out in some areas.

For the implementation measure, please indicate to which national or Aichi Biodiversity Target(s) it contributes

The measures are aimed at achieving the following Aichi goals: A: 1, B: 5, 9, C: 12, D: 15

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes:

- Measure taken has been effective
- Measure taken has been partially effective
- Measure taken has been ineffective
- Unknown

Please explain the selection and where possible indicate the tools or methodology used for the assessment of effectiveness above

In order for the monitoring to be effective, all target groups of species and habitat types should be included in the national monitoring scheme. Monitoring should be carried out on a regular basis, and the results should be specified to enable adoption of appropriate measures.

Relevant websites, web links and files

http://www.natura2000.si/fileadmin/user_upload/Porocilo_IzvajanjePUN_2015-17.pdf
<http://www.natura2000.si/knjiznica/>

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

Regular monitoring requires both financial resources and experts with specific knowledge. The national budget does not provide sufficient resources to implement the entire national monitoring scheme under the prescribed protocols. For some groups of species, there are not enough experts to set up monitoring, and knowledge should be deepened to further enhance existing monitoring for the needs of managing both species and areas important for biodiversity conservation.

Relevant websites, web links and files

http://www.natura2000.si/fileadmin/user_upload/Porocilo_IzvajanjePUN_2015-17.pdf

**SECTION III. ASSESSMENT OF PROGRESS TOWARDS EACH NATIONAL TARGET WITH
REFERENCE TO CORRESPONDING AICHI TARGETS**

Target A 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
Category of progress towards the implementation of the selected target: <input checked="" type="checkbox"/> On track to achieve target <input type="checkbox"/> Progress towards target but at an insufficient rate <input type="checkbox"/> No significant change <input type="checkbox"/> Moving away from target <input type="checkbox"/> Unknown
Date the assessment was done: October 2018
Additional information The assessment is based on the Report on the implementation of the 2015 - 2017 Natura 2000 Site Management Program (PUN).
Indicators used in this assessment The PUN implementation monitoring table was used as an indicator.
Relevant websites, web links and files http://www.natura2000.si/aktualno/novice-in-dogodki/novica/article/797/50/
Level of confidence of the above assessment <input type="checkbox"/> Based on comprehensive evidence <input checked="" type="checkbox"/> Based on partial evidence <input type="checkbox"/> Based on limited evidence
Please provide an explanation for the level of confidence indicated above. The objective is mainly achieved through communication measures. In order to achieve the objective, these measures must be carried out on a continuous basis and repeated as necessary.
Adequacy of monitoring information to support assessment <input type="checkbox"/> Monitoring related to this target is adequate <input checked="" type="checkbox"/> Monitoring related to this target is partial (e.g. only covering part of the area or issue) <input type="checkbox"/> No monitoring system in place <input type="checkbox"/> Monitoring is not needed
Please describe how the target is monitored and indicate whether there is a monitoring system in place The objective is monitored as part of the monitoring of the implementation of the Natura 2000 site management program (2015 to 2020).

Relevant websites, web links and

<http://www.natura2000.si/aktualno/novice-in-dogodki/novica/article/797/50/>

Target A 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

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 target
- Unknown

Date the assessment was done:

December 2018

Additional information

The assessment is based on the Report on the implementation of the 2015 - 2017 Natura 2000 Site Management Program (PUN) and the monitoring of direct payments in agriculture and agri-environment-climate payments.

Indicators used in this assessment

- No indicator used

Level of confidence of the above assessment

- Based on comprehensive evidence
- Based on partial evidence
- Based on limited evidence

Adequacy of monitoring information to support assessment

- Monitoring related to this target is adequate
- Monitoring related to this target is partial (e.g. only covering part of the area or issue)
- No monitoring system in place
- Monitoring is not needed

Target B 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.

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

<input type="checkbox"/> Moving away from target <input type="checkbox"/> Unknown
Date the assessment was done: December 2018
Additional information The assessment is made on the basis of national monitoring of the status of populations of selected target species in 2015, 2016, 2017 and 2018.
Indicators used in this assessment Assessments of the status and trends of selected species in the monitoring framework were used as an indicator.
Please describe any other tools or means used for assessing progress A more accurate assessment of the situation and thus the achievement of the objective will be known after the completion of the report under Article 17 of the Habitats Directive and Article 12 of the Birds Directive in 2019.
Relevant websites, web links and files http://www.natura2000.si/knjiznica/
Level of confidence of the above assessment <input type="checkbox"/> Based on comprehensive evidence <input checked="" type="checkbox"/> Based on partial evidence <input type="checkbox"/> Based on limited evidence
Please provide an explanation for the level of confidence indicated above. Monitoring is carried out only for some of the selected target species and habitat assessment has been carried out partly. Monitoring of non-forest habitat types is also missing.
Adequacy of monitoring information to support assessment <input type="checkbox"/> Monitoring related to this target is adequate <input checked="" type="checkbox"/> Monitoring related to this target is partial (e.g. only covering part of the area or issue) <input type="checkbox"/> No monitoring system in place <input type="checkbox"/> Monitoring is not needed
Please describe how the target is monitored and indicate whether there is a monitoring system in place The achievement of the objective is monitored in the context of the monitoring of the conservation status of species and habitat types, which is assessed every six years in reports under Article 17 of the Habitats Directive and Article 12 of the Birds Directive. Achievement of the objective is also partially monitored through monitoring of individual species, habitat type mapping and other relevant research.
Relevant websites, web links and files http://www.zrsvn.si/sl/informacija.asp?id_meta_type=65&id_informacija=579 http://www.zrsvn.si/sl/informacija.asp?id_meta_type=65&id_informacija=820 http://www.natura2000.si/knjiznica/

Target B 7: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity

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 target
- Unknown

Date the assessment was done:

October 2018

Additional information

The assessment is based on the Report on the implementation of the 2015 - 2017 Natura 2000 Site Management Program (PUN), in particular on the implementation of measures that are included in the sectoral plans by nature conservation guidelines.

Indicators used in this assessment

The PUN implementation monitoring table was used as an indicator.

Relevant websites, web links and files

<http://www.natura2000.si/aktualno/novice-in-dogodki/novica/article/797/50/>

Level of confidence of the above assessment

- Based on comprehensive evidence
- Based on partial evidence
- Based on limited evidence

Please provide an explanation for the level of confidence indicated above.

Sustainability is the key element of the nature conservation guidelines, which is why we estimate that the areas covered by the guidelines will be managed sustainably. In particular, the non-achievement of the target is foreseen in agricultural areas where the implementation of nature conservation measures is based on the voluntary involvement of farmers.

Adequacy of monitoring information to support assessment

- Monitoring related to this target is adequate
- Monitoring related to this target is partial (e.g. only covering part of the area or issue)
- No monitoring system in place
- Monitoring is not needed

Please describe how the target is monitored and indicate whether there is a monitoring system in place

The target is monitored in the context of monitoring of the implementation of the 2015 to 2020 Natura 2000 Site Management Program, notably by integrating measures into sectoral management plans.

Relevant websites, web links and files

<http://www.natura2000.si/aktualno/novice-in-dogodki/novica/article/797/50/>

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

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 target
- Unknown

Additional information

Slovenia as a Member State of the European Union implements the EU legislation regarding invasive alien species. In 2015 [Regulation \(EU\) 1143/2014 on invasive alien species](#) (the EU IAS Regulation) entered into force. It provides for a set of measures to be taken across the EU in relation to invasive alien species included on a [list of Invasive Alien Species of Union concern](#). The core of the IAS Regulation is a list of invasive alien species of Union concern, which the Commission develops in cooperation with the Member States. Species listed as species of EU concern are effectively banned, with some limited exceptions, and Member States have to take measures to ensure these species are not introduced, traded, kept, bred, or released in the EU.

In accordance with the early warning system Member States have to take quick action and early eradication for invasive alien species that have appeared on their territory so that any further spread is prevented.

If a species included in the list of species of EU concern is already present in Member State, it has to take measures to eradicate or manage it and ensure it is kept under control.

Since the majority of invasive alien species comes into Europe by accident, the IAS Regulation provides for measures to be taken to manage the routes through which species enter into the EU and spread. These measures include awareness campaigns and regulatory measures requiring, for example, checks to be performed on certain commodities.

Besides the implementation of the EU IAS Regulation additional activities to the IAS target 9 took place in Slovenia.

Management of IAS

In April 2015 the Natura 2000 Management programme for Slovenia for the period 2015 - 2020 has been adopted (<http://www.natura2000.gov.si/index.php?id=330>). In the programme management measures that address IAS are foreseen where it was identified that IAS might prevent maintenance or reaching of the favourable status of Natura 2000 species or habitat types.

Management of IAS is included in yearly work programs of public authorities managing state protected areas, in the management program of the ZRSVN and in the management program of the Fisheries Research Institute. Due to the financial constraints management of IAS is often linked to financing through projects (mostly from the EU financial sources), which is not assuring a continuation of work as is crucial long term management of IAS.

In preparation for the implementation of the Regulation (EU) 1143/2014, the Ministry of the Environment and Spatial Planning financed a study to identify IAS that should be addressed primarily on a national level and to identify pathways of introduction of IAS. In this study also management of waste products of removed IAS plant material is analysed and best practices are looked upon.

Activities including management of IAS are supported in accordance with the national operational programmes prepared under the EU financial perspective for period 2014 - 2020. Sources are provided for

nature conservation projects addressing IAS in accordance with the national Operational programme for European Maritime and Fisheries Fund (EMFF) and for the Cohesion policy. Several nature conservation projects that will be financed under the Cohesion policy are already taking place or in preparation. They will inter alia address alien fish species, pond slider and other alien turtle species in selected areas. Monitoring of marine alien species in most vulnerable areas is financed Under the EMFF.

In the project WETMAN ([heries Research InstituteFire](#)) six Slovene wetlands were restored and their conditions were improved. One of the actions was to remove alien fish species that threatened native freshwater turtle *Emys orbicularis* from the Natura 2000 site Gornji kal.

In the project GoForMura (<http://goformura.gozdis.si/>) invasive tree species were removed and replaced by the local native tree species with the aim of improving the unfavourable status of selected riparian forest habitat types. In the project Ljuba (<http://www.ljuba.si/en/about/project-ljuba/>) 21 ha of wet meadows were cleared of the Canadian goldenrod and Giant goldenrod. Invasive alien plant species were also removed in the project Gorički travniki (http://travniki.park-goricko.info/page/page.asp?id_informacija=1&id_language=1&id_meta_type=1) in order to improve several grassland habitat types and to protect endangered bird and butterfly species dependent on these habitats. Management of these areas continues through the regular work of nature protection management authorities.

The Municipality of Ljubljana financed the removal of selected invasive alien plant species on their properties (*Ailanthus altissima*, *Heracleum mantegazzianum*, *Ambrosia artemisiifolia*, *Lonicera japonica*, *Buddleja davidii*, *Amorpha fruticosa*, *Asclepias syriaca* and *Thuja orientalis*).

They are also financing research on best practices for removal of the knotweed species and are looking for innovative solutions for the use of the removed plant material. In 2016 they carried out a project where knotweed was removed by volunteers and paper was produced out of this material. In 2017, the municipal company Snaga (providing removal of waste and cleaning Ljubljana and its surrounding municipalities) raised awareness through a message, delivered to each household and offered its clients to collect removed knotweed plant material for free. They advanced their work within the project APPLAUSE - from harmful to useful with citizens' led activities (<https://www.ljubljana.si/en/applause/>). The project addresses unsolved questions with regard to invasive alien plant species in terms of the zero-waste approach and circular economy.

Activities for mechanical removal of *Heracleum mantegazzianum* in Ljubljana and its vicinity are taking place for five years. The removal started by volunteers, continued under the project Thuja and is now financed by the Municipality of Ljubljana and by the Ministry for the environment and spatial planning. All known sites are checked annually by the ZRSVN and for now the spread of this species is under control and is declining. Information materials for identification and management were produced and are available on several webpages.

(http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/invazivke/OrjaskiDezen_Symbiosis2016.pdf)

(<https://www.ljubljana.si/sl/moja-ljubljana/varstvo-okolja/invazivne-tujerodne-vrste/invazivne-tujerodne-rastline/orjaski-dezen/>)

Farmers that are included in the voluntary agri-environment measures under the Common Agricultural Policy are obliged to remove five selected IAS (*Ambrosia artemisiifolia*, *Rudbeckia laciniata*, *Solidago canadensis*, *Solidago gigantea* and *Erigeron annuus*) from their properties. In order to inform farmers on the topic of IAS several brochures on Invasive plants in agricultural areas have been published by the support of Ministry of Agriculture, Forestry and Food (<https://www.program-podezelja.si/sl/knjiznica/240-invazivne-rastline-in-kmetijstvo-1/file>)

Scientific background document was prepared for the establishment of management measures for 5 species of IAS of Union concern (*Trachemys scripta*, *Pseudorasbora parva*, *Pacifastacus leniusculus*, *Orconectes limosus*, *Asclepias syriaca*) that fall under the category of widely spread in Slovenia in accordance with the EU Regulation 1143/2014.

http://www.mop.gov.si/si/delovna_podrocja/narava/invazivne_tujerodne_vrste_rastlin_in_zivali/knjiznica/

Identification manuals were also prepared for three groups of IAS of Union concern (aquatic plants, squirrels and decapods) in order to provide support by the identification of IAS for enforcement authorities and other stakeholders

(http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/invazivke/obvescanje_o_invazivnih_tujerodnih_vrstah_4faza.pdf).

There is one ongoing LIFE project ARTEMIS (LIFE15 GIE/SI/000770) addressing IAS (<http://tujerodne-vrste.info/>). It aims to contribute to the reduction of the harmful impacts of IAS on biodiversity by increasing public awareness and by setting up an efficient early warning and rapid response (EWRR) system to manage their impacts on forests. An information system, which enables efficient collection and exchange of field data, using citizen science, called "Invazivke" has been developed in the framework of this project. The system operates on an independent website www.invazivke.si.

Raising awareness

The webpage of the Ministry of the Environment and Spatial Planning dedicated for raising awareness on IAS is regularly updated. Information sheets are produced for the majority of species from the EU list.

(http://www.mop.gov.si/si/delovna_podrocja/narava/invazivne_tujerodne_vrste_rastlin_in_zivali/).

Ministry of the environment and spatial planning has co-financed four two year projects that addressed nature protection and invasive alien species. Projects were managed by the NGO acting in public interest.

- In the project **Ujemite naravo!** (<http://ribiska-zveza.si/projekti/projekt-ujemite-naravo>) a Citizen Science platform was established where citizens can provide data on rare, endangered and alien freshwater fish, crayfish, bivalves and also other species (<http://www.ckff.si/projekt.php?pid=47>). The lead project partner is Slovenian Anglers Association which promotes this project amongst its 17.000 members.

- The aim of the project **Invazivke nikoli ne počivajo** (<http://invazivke.weebly.com/>) is to raise awareness on negative influence of IAS and to improve knowledge on threatened species in Europe. A part of the project is dedicated to collecting data on reptiles, amphibians and alien species using Citizen Science.

- The aim of the project **Raznoživost pod vidrino streho na Goričkem** is to promote nature conservation and to raise awareness among local inhabitants, farmers and visitors in a visitors centre Aqualutra through nature conservation activities, including removal of IAS and improvement of local ecosystems and Natura 2000 sites (<http://lutra.si/sl/tekoci-projekti/127-raznozivost>).

- The project **Še smo tu! – Domorodne vrste še nismo izrinjene** (<http://www.ckff.si/projekt.php?pid=54>) continues and upgrade the work of the projects Ujemite naravo! and Invazivke nikoli ne počivajo in the years 2018–2019.

Project **Amc promo BID** (<http://www.bc-naklo.si/~amc/slo.html>). The aim of this project was to involve honey producers in the prevention of biodiversity loss through research of the influences of IAS on native bee *Apis mellifera carnica*. This was a bilateral project between Slovenia and Austria. Besides activities in the field (monitoring of IAS, eradication experiments) several workshops were organised where IAS issues were introduced to participants, followed by the exchange of ideas. Among other, it was discussed how the use of meliferous invasive plants could be replaced by the use of native meliferous plants or by introducing different agriculture practices (for example growing of buckwheat in autumn) and how selected interest groups such as bee keepers could contribute towards the prevention of introduction and spread of IAS. Due to this project awareness on IAS within the beekeeping organisations have risen, which could be seen in their further activities. As there are still some complaints from beekeepers when meliferous IAS are removed, further communication work is planned.

Ministry has financed several workshops for municipality workers dealing with management of green areas. During the workshop participants were informed about IAS with emphasis on common plant IAS present in their regions. Possible management options have been discussed together with experiences from the participants. This kind of workshop was also organised for personnel managing green areas along state roads, highways and railways.

The Municipality of Ljubljana, the Green capital of Europe 2016, manages a webpage dedicated to IAS (<https://www.ljubljana.si/sl/moja-ljubljana/varstvo-okolja/invazivne-tujerodne-vrste/>) where information can be found on invasive alien species. In a campaign **Rokavice gor!** that started in 2016, management of IAS was promoted

amongst citizens. A publication on IAS plants in the Municipality of Ljubljana is also available (<https://www.ljubljana.si/assets/Uploads/Invazivne-rastline-v-Ljubljani-16082016-FINAL.pdf>).

The system for addressing IAS in the framework of the EU IAS Regulation is under development in Slovenia. Progress towards achieving the Aichi Biodiversity Target 9 is evident however additional efforts are needed for the establishment of a functional and stable system that could react under any circumstance. New experience is still gained each time when individual IAS is addressed and this has to be analysed and incorporated in the legal and management measures order to improve the system. We also meet with capacity and financials constraints in the process of development of a functional system for addressing IAS.

Target C 11: By 2020, at least 17 per cent of terrestrial and inland water, 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

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 target
- Unknown

Date the assessment was done:

December 2018

Additional information

At the national level, Slovenia has 15.5% of land and 1.6% of coastal and marine areas included in protected areas. Expert proposals are in the pipeline for securing additional areas, so we expect the 2020 land-based target to be reached. No major new protection is foreseen for marine areas, so the target will almost certainly not be reached. Detailed information on measures for implementation of target 11 is provided under Section IV

Indicators used in this assessment

Geolocated data on protected areas in Slovenia are used as an indicator.

Relevant websites, web links and files

<https://www.naravovarstveni-atlas.si/web/profile.aspx?id=ZO@ZRSVNJ>
<http://www.arso.gov.si/narava/zavarovana%20obmo%C4%8Dja/>

Level of confidence of the above assessment

- Based on comprehensive evidence
- Based on partial evidence
- Based on limited evidence

Please provide an explanation for the level of confidence indicated above.

The assessment is based on a reliable database.

Adequacy of monitoring information to support assessment

- Monitoring related to this target is adequate
 Monitoring related to this target is partial (e.g. only covering part of the area or issue)
 No monitoring system in place
 Monitoring is not needed

Please describe how the target is monitored and indicate whether there is a monitoring system in place

The size and distribution of protected areas can be monitored using geolocated data in web browsers.

Relevant websites, web links and files

<https://www.naravovarstveni-atlas.si/web/profile.aspx?id=ZO@ZRSVNJ>
http://gis.arso.gov.si/atlasokolja/profile.aspx?id=Atlas_Okolja_AXL@Arso

Target C 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

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 target
 Unknown

Date the assessment was done:

December 2018

Additional information

The assessment is made on the basis of national monitoring of the status of populations of selected target species in 2015, 2016, 2017 and 2018.

Indicators used in this assessment

Assessments of the status and trends of selected species in the monitoring framework were used as an indicator.

Please describe any other tools or means used for assessing progress

A more accurate assessment of the situation and thus the achievement of the objective will be known after the completion of the report under Article 17 of the Habitats Directive and Article 12 of the Birds Directive in 2019.

Relevant websites, web links and files

<http://www.natura2000.si/knjiznica/>

Level of confidence of the above assessment

- Based on comprehensive evidence
 Based on partial evidence
 Based on limited evidence

Please provide an explanation for the level of confidence indicated above.

Monitoring is carried out only for some selected target species.

Adequacy of monitoring information to support assessment

- Monitoring related to this target is adequate
- Monitoring related to this target is partial (e.g. only covering part of the area or issue)
- No monitoring system in place
- Monitoring is not needed

Please describe how the target is monitored and indicate whether there is a monitoring system in place

The achievement of the objective is monitored in the context of the monitoring of the conservation status of species and habitat types, which is assessed every six years in reports under Article 17 of the Habitats Directive and Article 12 of the Birds Directive. Achievement of the objective is also partially monitored through monitoring of individual species, habitat type mapping and other relevant research specific to the species at certain intervals.

Relevant websites, web links and files

http://www.zrsvn.si/si/informacija.asp?id_meta_type=65&id_informacija=579
http://www.zrsvn.si/si/informacija.asp?id_meta_type=65&id_informacija=820
<http://www.natura2000.si/knjiznica/>

Target D15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has 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

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 target
- Unknown

Date the assessment was done:

December 2018

Additional information

The assessment is based on project reports aimed at improving species habitats and habitat types.

Indicators used in this assessment

- No indicator used

Please describe any other tools or means used for assessing progress

In the implementation of projects for the restoration of degraded habitats, an inventory shall be drawn up before beginning and the end of the project. The final reports indicate improvement.

Relevant websites, web links and files

<http://www.wetman.si/o-projektu/rezultati-projekta>

http://livedrava.ptice.si/wp-content/uploads/2018/01/2018_12_1_LIVEDRAVA_Laymans_report_web_v2.pdf
<https://www.lifetograsslands.si/o-projektu/aktivnosti-in-pricakovani-rezultati/>
<http://life.notranjski-park.si/en/project-objectives/>
<http://life-kocevsko.eu/en/project-actions-and-results/>

Level of confidence of the above assessment

- Based on comprehensive evidence
 Based on partial evidence
 Based on limited evidence

Please provide an explanation for the level of confidence indicated above.

The monitoring of the results of the projects varies among different institutions and for some projects information is not available.

Adequacy of monitoring information to support assessment

- Monitoring related to this target is adequate
 Monitoring related to this target is partial (e.g. only covering part of the area or issue)
 No monitoring system in place
 Monitoring is not needed

SECTION IV. DESCRIPTION OF THE NATIONAL CONTRIBUTION TO THE ACHIEVEMENT OF EACH GLOBAL AICHI BIODIVERSITY TARGET

Some of information relevant in this chapter has been captured in sections II and III above. Herewith, detailed information on national contribution to the achievement of each global Aichi Biodiversity Target is provided.

Aichi Biodiversity 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

Awareness-raising and communication are key support activities ensuring the understanding of and support for biodiversity conservation measures in Slovenia. ZRSVN, the managers of protected areas and non-governmental organisations carry out many educational and communication activities. These activities include direct personal communication, such as discussions with stakeholders, lectures, field actions, guided tours, etc. In recent years, the focus of the awareness-raising activity has been transferred to projects co-financed by EU funds and programs. In Slovenia non-governmental organisations are important actors in awareness-raising and they contributed significantly to achievement of this global target over the reporting period.

It can be concluded that funds dedicated to awareness raising activities from state budget and other sources have been adequately used during the reporting period. These sources included the EU funds for national and transnational awareness-raising campaigns and some additional sources from donations and sponsorships. The aim of these campaigns was to raise awareness and bring about a change in the behaviour of specific administrative or economic sectors. There are also funds envisaged for awareness-raising campaigns with regard to invasive non-native species which are focused on the general public and key stakeholders, including decision-makers, the enterprise sector, local communities and state institutions. Furthermore, the EC funds were successfully allocated to the campaigns for large carnivore species.

The **National Environmental Protection Programme (NEPP)** is a fundamental strategic environmental document that is adopted by the National Assembly of the Republic of Slovenia. The Programme also includes the **National Nature Protection Programme**, which covers biodiversity conservation. The NEPP is a document defining the scope of the public interest concerning biodiversity conservation of at least 10 years by determining the goals and aims for the following on the basis of an assessment of the nature conservation status and it points out the importance of public awareness for nature conservation in general. The new NEPP includes the following directions on awareness rising:

Awareness rising activities should be planned in the long run by combining the activities of government bodies, public institutions and non-governmental organizations. General public should be adequately informed about the links between climate change and their impact on ecosystems and biodiversity.

Educational and awareness-raising capacities of public services active in the field of biodiversity conservation should be strengthened. These activities should include the use of targeted communication modes and modern communication techniques that are closer to the youth where managers of the protected areas should act as an example.

The directions are further elaborated in the Program for the protection of plant and animal species, their habitats and ecosystems and the Strategic plan for the conservation of biodiversity in Slovenia, both of which are integral parts of the NEPP.

At the level of the European Union, the Eurobarometer survey collects information on how informed Europeans feel about biodiversity in general, their views on the seriousness of the threat, the role of the

Natura 2000 network, personal efforts they are making to stop biodiversity loss, and how they expect Europe to react. Awareness of the Natura 2000 network varies widely across Member States. The latest Eurobarometer survey on attitudes of Europeans towards biodiversity (2015) shows that there are only three Member States where a majority have heard of the Natura 2000 network: Bulgaria (75%), Finland (74%) and Slovenia (58%). In avoiding using pesticides and chemicals in order to protect biodiversity (the most mentioned activity in each Member State), respondents in Slovenia are the most likely to say they do this (69%), followed by those in Sweden (68%), the Netherlands and Finland (both 66%).

In addition to regular public awareness events, such as the international days (International Day of Biological Diversity, World Wetlands Day, and World Wildlife Day etc.) numerous activities have been carried out in the reporting period for various target groups. Campaigns are mostly organised by non-governmental organisations, the National Institute for nature Conservation and by the managers of protected areas. For this reporting we can emphasize the following three areas:

Invasive Alien Species - a great number of successful actions has been carried out on non-native species in the last few years for various target groups. Campaigns for the disposal of invasive species are also on the rise. They are mostly organised by non-governmental organisations and local communities, but increasingly also by the managers of protected areas and the Institute for Nature Conservation within its projects (e.g. LIFE Artemis, Wetman, Climaparks, Ljuba, Suport).

Large Carnivores (see below)

Tourism development in Slovenia. Its vision is based on sustainable development by raising public awareness of the importance of biodiversity protection and nature conservation, and promotion of the development of sustainable tourism. **The 2012–2016 Slovenian Tourism Development Strategy – Partnership for Sustainable Development** includes raising public awareness of the importance of biodiversity protection and nature conservation, and promoting the development of sustainable tourism in protected areas with the participation of all key sectors.

Please describe other activities contributing to the achievement of the Target (optional)

A Code of Practice in Nature which was created with the cooperation of 27 organizations was published online. <http://www.taborniki.si/wp-content/uploads/2018/06/ZTS-zlozenka-Obisk-v-naravi-ENG-web.pdf>

In the framework of the LIFE NATURAVIVA project, slides with biodiversity content were prepared. They are freely available for educational purposes.

https://www.naturaviva.si/wp-content/uploads/2018/10/biodiverziteteta_NIB.pptx

https://www.naturaviva.si/wp-content/uploads/2018/08/Plakat_za_osnovne_ole_FINAL.pdf

As a result of the LIFE Naturaviva project the International Natural Science Photography Competition was held in 2017. Works were collected in the “*Magic Nature*” catalogue.

<https://www.naturaviva.si/magicna-narava-2018/#>

The Slovenian Tourist Board has published a brochure entitled Nature Parks of Slovenia in Slovene, English, German and Italian.

<https://issuu.com/slovenia/docs/nature.parks-slovenia>

In the framework of the LIFE LYNX project leaflet was published in Slovenian and English languages.

<http://www.natura2000.si/aktualno/enatura/enatura/article/785/>

In April 2018, an international workshop was held under the LIFE Lynx project entitled "*Communication in the management and protection of large carnivores*". Experts and providers of communication activities from Europe and US exchanged knowledge, experiences and suggestions for improvements and solutions to the

challenges of communicating with stakeholders

<https://dinalpbear.eu/delavnica-o-komuniciranju-pri-varstvu-velikih-zveri/>

A conference on the management of large carnivores was organized by the National Chamber of Agriculture and Forestry and the National Council.

<https://www.kgzs.si/GV/Aktualno/V-srediscu/Novica/ArticleId/3833/%c2%bbNe-moremo-kar-vseh-kmetij-ograditi%c2%ab.aspx>

In the framework of the LIFE Kočevsko project, teachers from elementary schools and other pedagogical workers prepared materials on forest pedagogy and interpretation of nature. These materials are intended for experiencing nature and are based on experiential learning.

<http://life-kocevsko.eu/gradiva-iz-gozdne-pedagogike-za-ucitelje-in-pedagoske-delavce/>

Within the European project BID-REX, the Slovenian partner, the National Institute of Biology published a document with key findings on the problem of communication between providers and users of biodiversity data.

<http://www.nib.si/aktualno/novice/1148-od-podatkov-o-biodiverziteti-do-odlocanja>

A new visitors guide was published in Slovenian and English by the Triglav National Park, titled: "A guide for visitors to the Biosphere Reserve Julian Alps" with tips for trips, recommendations for a safe mountain visit, descriptions of paths and interesting information.

https://issuu.com/tnp-publikacije/docs/tnp_2017

In the framework of the LIFE DINALP BEARS project, randomly selected residents of the project area were surveyed in Italy, Austria, Slovenia and Croatia. Respondents from all four countries identified measures to reduce conflicts between bears and humans. Knowledge of bear biology has proved important in predicting support to local residents.

<https://dinalpbear.eu/odnos-javnosti-do-medveda-in-upravljanja-z-njim/>

In the framework of the LIFE GENMON project, a workshop was held in Kočevska in mid-May. A group of 23 forestry educators, teachers and scouts found out how to present the primeval forest to children.

<http://www.lifegenmon.si/workshop-old-growth-forests-to-children/>

A technical report titled: "Public attitudes, perceptions, and beliefs about bears and bear management" was published in 2016.

<https://dinalpbear.eu/wp-content/uploads/A2-final-report-with-annexes-min.pdf>

Exhibition on National Parks titled "National parks - in the care of nature" was opened in May 2017 at the information premises of the Triglav National Park

<https://www.tnp.si/sl/obiscite/koledar-dogodkov/page-14/>

For schools in which the LIFE DinAlpBear project is run, they have prepared new educational packages. They contain publications, prints, soft molds and a manual to assist teachers to organize instructions on the brown bear theme.

<https://dinalpbear.eu/novi-izobrazevalni-paketi-o-rjavem-medvedu/>

The National Institute of Biology published the leaflet "Biodiversity with agriculture and for agriculture"

http://www.nib.si/images/stories/novice/2017/Zlozenka_EKOS.pdf

Pošta Slovenije issued a new series of stamps on the topic of fauna and flora. At the suggestion of the NGO Morigenos, dolphins and whales were selected for the motives. In the series Nature Parks of Slovenia, the stamps with motifs of Strunjan and Ljubljansko barje were published.

http://www.natura2000.si/index.php?id=87&no_cache=1&tx_ttnews%5Btt_news%5D=568&tx_ttnews%5BbackPid%5D=50

The Ministry of the Environment and Spatial Planning hosted the exhibition from the series of LIFE projects in Slovenia, namely Aqualutra and Aquaviva. The biotic diversity of inland waters was presented.

<https://lifeslovenija.si/razstava-life-projektov-aqualutra-in-aquaviva/>

In the framework of the LIFE DINALP BEAR project, guidelines have been prepared for the responsible management of bears in tourism. The aim of this document is to ensure a unique and safe visitors experience of bears in their natural environment in a way that has the least impact on them. They also prepared an online survey, with aim to find out what kind of bear-related products would be most interesting to the guests. The first results show that the most interesting are the combined programs that, in addition to observing bears, offer hiking, biking, city sightseeing and similar activities.

https://dinalpbear.eu/wp-content/uploads/Odgovorno-opazovanje-medvedov-v-severnih-Dinaridih_SI_web.pdf

<https://dinalpbear.eu/vprasanik-z-medvedom-povezani-produkti/>

The network of environmental advocates, an informal network of lawyers who, together with natural science experts, combine their knowledge for effective legal protection of nature, has established their own website

<http://zagovorniki-okolja.si/>

New information centres of protected areas were established in the Triglav National Park and Kozjanski park.

<https://www.tnp.si/sl/javni-zavod/obvestila/>

<https://kozjanski-park.si/?p=1559>

The Ministry of Public Administration has published a Joint Volunteering Report for 2014. Volunteer organizations include the Lutra Institute, the Drobnovratnik Society, the Society for Cave Biology, the DOPS – Birdlife Slovenia and the Society of admirers of Križna jama.

[http://84.39.218.201/MANDAT14/VLADNAGRADIVA.NSF/18a6b9887c33a0bdc12570e50034eb54/168eb6d9de52cb0dc1257e7500277d4e/\\$FILE/PorProst_2014_P.pdf](http://84.39.218.201/MANDAT14/VLADNAGRADIVA.NSF/18a6b9887c33a0bdc12570e50034eb54/168eb6d9de52cb0dc1257e7500277d4e/$FILE/PorProst_2014_P.pdf)

A brochure on Nature 2000 in Slovenia titled “*People with nature - nature for people*” was published by the Institute for Nature Conservation.

http://www.natura2000.si/uploads/tx_library/E_Brosura_N2000_LIFE2015.pdf

Challenges:

Not exclusively, but also owing to the lack of financial and human resources, attention in the reporting period was focused on the fulfilment of obligations under the Natura 2000 network. In the national legislation little attention is given to awareness-raising regarding biodiversity and the responsibilities for drawing up such programs is unclear. Existing national directions concerning awareness-raising and communication have not been fully achieved, as activities are dispersed and mostly conducted on the project level, which does not guarantee their continuity. The awareness-raising activities carried out at the project level should therefore be adapted to the long-term plan in terms of content and time. The biodiversity Clearing House Mechanism (CHM) is poorly maintained and its management needs to be restructured and improved. Considerable effort has to be made to ensure through the CHM, that the public is promptly informed of new developments in biodiversity and of possibilities for participating in various campaigns and decision-making procedures related to biodiversity conservation.

It is also necessary to strengthen cooperation with NGOs, to improve the possibilities for their functioning and to include their potential in activities aimed at achieving the goals of biodiversity. There is also an open space for the government to encourage the participation of volunteers in the performance of tasks related to biodiversity conservation (citizen science).

Awareness raising activities should be planned in the long run by combining activities of state bodies, public institutions and non-governmental organizations. The wider public will need to be acquainted with the links

between climate change and their impacts on ecosystems and biodiversity and on the positive effects of biodiversity conservation on mitigation and adaptation to climate change.

One of the challenges in Slovenia is to strengthen the awareness-raising capacities of public services active in the field of biodiversity conservation and the management of its components (e.g. agriculture, forestry, water management, energy, spatial planning, and tourism). In the coming years it will be also very important to use targeted communication modes and give more emphasis to modern forms of communication that are close to the youth.

Activities that deserve additional attention of decision makers should include i.e. promotion of biodiversity on the websites of public services and the presentation of links between biodiversity conservation and access to quality ecosystem services, a list of professions and services related to biodiversity to be included in training and awareness-raising and to monitor the activities of services within the public sector that are related to the education and awareness-raising of various publics and, if necessary, to enhance their cooperation. Regarding climate change more efforts have to be introduced to raise the awareness of the general public regarding the impacts of climate change on biodiversity and regarding the importance of reducing the carbon footprint for the conservation of biodiversity and ecosystem services.

Sources:

<https://www.naturaviva.si/pricela-se-je-kampanja-na-mestnih-plakatih/>

<http://www.za-ljubitelje-narave.mop.gov.si/>

<https://www.naravniparkislovenije.si/slo/prireditve>

https://www.lifelynx.eu/wp-content/uploads/2018/11/Communication-in-large-carnivore-conservation-and-management_A4_web.pdf

https://www.ecocolife.scot/sites/ecol/files/LIFE%20Invertebrates%20Platform%20Stirling_Summary%20for%20Policy%20Makers%20final.pdf

http://www.zrsvn.si/sl/informacija.asp?id_meta_type=73&id_informacija=919

<http://life-kocevsko.eu/raziskava-javnega-mnenja-o-seznanjenosti-javnosti-z-ucinki-projekta-life-kocevsko-life13-natsi000314-2/>

https://www.naturaviva.si/wp-content/uploads/2018/10/Komunikacijski_nacrt_LNV-Za_SPLET.pdf

Aichi Biodiversity 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

As explained in detail in NR5 under chapter 8, in Slovenia, biodiversity is integrated in national and various sectoral strategies, plans and programmes. In general, nature and biodiversity practitioners are seeking for synergies between nature conservation and other sectors both through mainstreaming of nature conservation goals and activities in policy and programmes of other sectors, but also through cooperation at the project level, trying to provide as many nature-based solutions as possible. Slovenia is aware of benefits of biodiversity conservation and its sustainable use to human health and attaches special importance to those Convention's provisions that are aimed at the conservation of nature and sustainable use of natural resources particularly through "*in situ*" conservation and development of green infrastructure. In Slovenia, the comprehensive environmental impact assessment procedure on the impacts is determined based on the environmental report. The procedure ensures the participation of all competent state bodies and organisations, as well as public information and participation. The aim of assessment is to ensure a high level of environmental protection and to contribute to the integration of environmental aspects in the development and adoption of plans and programmes in order to promote sustainable development.

Within the reporting period, most of the key inter-sectoral documents that have been adopted during NR5 period are still valid. Detailed information on the integration of biodiversity in specific sectors is explained in NR5 under chapter 8.2. Measures adopted during the reporting period and the key emphasis of the existing ones are presented here:

Owing to the large share of Natura 2000 sites in Slovenia (app. 38% of Slovenia's territory), the **Natura 2000 Site Management Programme** is country's key document for biodiversity conservation. In November 2018, the Slovenian Government adopted the **Report on the Implementation of the Natura 2000 Management Programme 2015 to 2017**. The overall conclusion is that approximately three quarters of all measures are at certain stages of implementation, which shows improvement compared to the implementation of the past programme. In approximately half of all areas, almost all measures are expected to be implemented. However, in order to achieve a sufficiently comprehensive implementation of measures in the fields of monitoring and agriculture, changes are needed. On the basis of the collected data on the implementation of measures, preliminary conclusions were drawn on the probability of implementation of the measures put in place until the expiry of the Programme in 2020. The probability that the 90 to 100% of the measures will be finalized exists in the fields of forestry; hunting; fishing; spatial planning; management of protected areas and restoration. The probability that the implementation will be between 90% and 100% of the measures put in place but not fully implemented lies in the fields of water management; communication and with some other measures. The probability that less than 90% of the planned measures will be implemented exists in the fields of agriculture, contractual protection, custody, redemption, control, monitoring and research and under the category »other measures«.

<http://www.natura2000.si/life-upravljanje-2015/program-upravljanja-obmocij-natura-2000-2015/>

http://www.natura2000.si/fileadmin/user_upload/Porocilo_IzvajanjePUN_2015-17.pdf

National Development Strategy by 2030 (NDS 2030) was adopted by the Government of the Republic of Slovenia in December 2017. With five strategic orientations and twelve interconnected development goals, with this document Slovenia puts forward new long-term development foundations, while integrating the global sustainable development goals. Slovenia recognized the importance of responsibility towards the environment and society. NDS 2030 is a fundamental national strategic document that defines the well-being of the population as the highest development goal. NDS states that all changes in the economy and society will

be directed towards increasing the well-being of the present and future generations, taking into account the environmental restrictions and human health considerations. The aim of development is not only to achieve economic growth but also progress in the service of increased well-being and the conservation of natural capital. Slovenia's development will therefore be directed toward ensuring a green living environment by investments in green infrastructure and measures for nature protection and biodiversity conservation. Sustainable management of natural resources is among the strategy's 12 goals and Ecosystems and their services are being recognised as key to survival, health and quality of life of present and future generations. This goal should be implemented by maintaining a high level of biodiversity and the quality of valuable natural features, and by strengthening the ecosystem services. The deficiency of this Strategy is that it does not provide foundations for advancement of nature conservation. That is yet to be assured under specific program and strategic documents such as 2030 National Environmental Protection Program.

http://www.vlada.si/fileadmin/dokumenti/si/projekti/2017/srs2030/Strategija_razvoja_Slovenije_2030.pdf

The **National Reform Programme (NRP)** is the Government's medium-term plan of priority measures and projects focused on achieving the objectives of the Europe 2020 strategy. This document is the core of the European Semester and, together with the Stability and Growth Pact, represents the foundation for the preparation of country-specific recommendations to Member States, which are drafted at the end of the Semester by the European Commission and approved by the European Council. One of the fundamental goals of the NRP concerning sustainable growth through effective transport and energy policy is indirectly related to biodiversity conservation. The NRP states that this will provide for secure high-quality energy supply in support of economic development, at the same time reducing greenhouse gas emissions and ensuring the protection and preservation of the natural environment. A horizontal priority which ensures a transition to an environmentally efficient low-carbon society is adequately represented in all priority measures of the NRP. In the reporting period, the 2015–2016 and 2017 – 2018 NRPs applied. The NRP 2012-2013 stated that the preservation of a high level of biodiversity and vital ecosystems would be ensured through the effective management of existing protected areas and the accelerated implementation of measures intended to maintain the Natura 2000 network. Forest management will be improved, the forest production potential used better, and the competitiveness of the industry enhanced. Unlike the NRP 2012-2013, biodiversity is mentioned only in the NRP 2015-2016, while in the NRP 2017-2018 efforts in this area can be recognized in the restructuring of tax burdens in order to promote the achievement of environmental objectives and greater efficiency in the use of budgetary resources (the Green project budgetary reform). In the NRP 2015-16, the goal of renewing spatial and construction legislation, whose aim is to minimize investment risk, to facilitate the procedures for acquiring building permits, including the reduction of the required documentation for the acquisition, should be highlighted. The incorporation of environmental contents into spatial processes and efficient management of space and environment was brought by the new Law on Construction and the new Spatial Planning Act. Particular emphasis is also aimed at combining procedures, in particular the process of obtaining environmental consent and issuing a building permit, as well as the process of more detailed spatial planning.

https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction/european-semester/framework/europe-2020-strategy_en

https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction/stability-and-growth-pact_en

http://www.mf.gov.si/fileadmin/mf.gov.si/pageuploads/sporocila/NRP_cistopis.pdf

The **Rural Development Programme 2014-2020** is a strategic document under which agri-environmental measures are implemented, whose objective is to establish a balance between agricultural production and the environment and nature protection. These are measures for reducing erosion and increasing the content of organic matter in the soil, measures for adapting to the requirements of farming in water protection areas, introducing more environmentally friendly types of farming, adapting environmental standards to climate change and preserving agricultural production in less favoured areas. The promotion of the concept of sustainable agriculture is aimed at ensuring the appropriate management and preservation of natural

resources (water, air and soil quality) and biodiversity.

The green component has been implemented since 2015 as an obligatory direct payment scheme under the Common Agricultural Policy. Three agricultural practices that have a favourable impact on climate and the environment are defined in detail in the *Decree on Direct Payment Schemes*. The aim of agricultural plant diversification is to prevent monocultures and improve soil quality. Ecological focus areas are introduced with the aim of preserving and improving biodiversity on farms. The preservation of environmentally sensitive permanent grasslands is important in terms of biodiversity conservation, habitat conservation and carbon sequestration. These agricultural practices are obligatory for all persons eligible for the basic payment. Which type of practice an agricultural holding must apply depends on the type and extent of its agricultural land.

<http://www.program-podezelja.si/sl/strateski-dokumenti/strateski-dokumenti/slovenija>

In the **Operational Programme for the Implementation of the EU Cohesion Policy 2014–2020**, a special priority investment is dedicated to the protection and restoration of biodiversity and soil and the promotion of ecosystem services, including the Natura 2000 network and green infrastructure. The specific objectives of investment are to improve the status of species and habitat types of European importance and to give priority to those with poor conservation status and endemic species. Funds from the European Regional Development Fund and funds from national co-financing were devoted for projects that contribute to the achievement of the objectives of the Natura 2000 Site Management Programme for 2015–2020.

During the reporting period a preparation of the new **National Environmental Protection Programme (NEPP)** advanced and it is expected that this overarching document will be adopted by the end of 2019. NEPP is a fundamental strategic environmental document that is adopted by the National Assembly of the Republic of Slovenia. The draft programme emphasises that the integration of environmental requirements in all policies and activities is essential for the enforcement and promotion of sustainable development. In adopting their policies, strategies, plans and general legal acts, and in dealing with other issues under their responsibility, the state, regions and municipalities have to promote the economic and social development of society that allows for future generations to have equal opportunities for fulfilling their needs as the present generations and facilitates long-term environmental conservation. The NEPP 2030 will include the National Nature Protection Programme, which covers biodiversity conservation and the protection of natural assets. It will define the scope of the public interest concerning biodiversity conservation for a period of at least 10 years by determining the goals and aims on the basis of an assessment of the nature conservation status for the following: biodiversity conservation through a programme of measures for the protection of plant and animal species, and their habitats and ecosystems; protection of natural assets through a programme for the establishment of protected areas and the restoration of natural assets; the manner of fulfilling international obligations; education and public awareness and provision of financial resources for nature protection. The NEPP 2030 will, as a whole, and in particular in areas where the contents covered by Article 94 of the Nature Conservation Act are discussed serve as the national biodiversity strategy and will cover all relevant Aichi targets. The strategic plan on biodiversity will be annexed to the NEPP.

http://www.mop.gov.si/si/priprava_nacionalnega_programa_varstva_okolja_2030/priprava_nacionalnega_programa_varstva_okolja/

Please describe other activities contributing to the achievement of the Target (optional)

Stakeholder Participation in Natura 2000 Management Program: Case Study of Slovenia

<https://www.mdpi.com/1999-4907/9/10/599>

The report on participation of stakeholders within the Interreg COOP MDD project »Training on Stakeholder Involvement« was published in 2017.

http://www.interregdanube.eu/uploads/media/approved_project_output/0001/12/4a684b3fd4178b0fa0c3242c508357f87ee9cc50.pdf

The Institute of the Republic of Slovenia for Nature Conservation has issued a three-language publication titled

“Opportunity to Connect / Un'opportunita per collegarsi”, which contains summaries of contributions from the international conference

http://www.zrsvn.si/dokumenti/73/2/2016/Zbornik_POVEZOVANJE-CONNECT_231216_SCREEN_4567.pdf

In May 2016, the Institute of the Republic of Slovenia for Nature Conservation published the General Conservation Guidelines - version 1.3. They are prepared in a way and in a form that enables municipalities as well as other planners to use them in the preparation of spatial acts.

http://www.zrsvn.si/sl/informacija.asp?id_meta_type=75&id_informacija=801

In 2015, the doctoral dissertation entitled "Inclusion of stakeholders in the emergence of natural parks" was published. The positive attitude of the local residents is mostly influenced by the perception of the benefits in the future protected area. It is also dependent on their involvement in the designation process, past experiences and the confidence in the PA's creators.

http://www.digitalna-knjiznica.bf.uni-lj.si/gozdarstvo/dd_nastran_mojca.pdf

The Ministry of the Environment and Spatial Planning has announced a public tender for co-financing projects of NGOs operating in the field of the environment for the years 2016 and 2017. The tender was aimed to promote the conservation of nature.

http://www.mop.gov.si/si/javne_objave/javni_razpisi/?tx_t3javnirazpis_pi1%5Bshow_single%5D=1032

In March 2016, the partners of the LIFE SI Natura 2000 project management and representatives of the key participating ministries met at the workshop on the implementation of the Natura 2000 Management Program in Slovenia 2015-2020.

http://www.natura2000.si/index.php?id=146&no_cache=1&tx_simplfaq_pi1%5Bcat%5D=0&tx_simplfaq_pi1%5Bfaq%5D=104

In April 2016, training titled “Integrating cultural heritage and nature conservation into development programs and projects by 2020” was carried out.

<https://www.sdeval.si/2-uncategorised/597-usposabljanje-za-uporabnike-evropskih-sredstev-nacrtovalce-in-evalvatorje>

In October 2015, a Practical Guide for people who enrich protected areas and maintain their tradition was published. Its aim is to guide through the demanding administrative procedures related to interventions in protected areas. It is intended for both project developers and local action groups, advisers in regional development agencies, municipalities and administrative units etc.

<http://drustvo-podezelje.si/vodnik-varovanaobmocja>

In September 2015, the Ministry of the Environment and Spatial Planning organized a training seminar for the implementation of comprehensive environmental impact assessments.

http://www.mop.gov.si/si/medijsko_sredisce/novica/6279/

In May 2015, a workshop was held in co-organization between ELES and the DOPPS – Birdlife Slovenia on the protection of nature and the spatial placement of high-voltage land lines.

<https://www.eles.si/zakladnica-znanja/ArticleID/12320/opozorila-za-ptice>

In February, 2015, a cross-border workshop and a round table with Italy on the management of Natura 2000 sites were held. In the workshops, the management of Natura 2000 areas in Slovenia from the perspective of different sectors was presented (forestry and hunting, agriculture, management of coastal and marine areas, wetlands, caves and waters).

http://www.natura2000.gov.si/index.php?id=146&no_cache=1&tx_simplfaq_pi1%5Bcat%5D=0&tx_simplfaq_pi1%5Bfaq%5D=83

Challenges:

In principle, biodiversity is relatively well included in relevant sectoral strategies and plans in Slovenia. Although biodiversity conservation is integrated in the mechanisms of strategic planning, the biodiversity goals

in the policies of other sectors were often not adequately implemented in the reporting period. There are often difficulties in the achievement of biodiversity goals, as implementing measures are not planned appropriately or the adopted measures are implemented poorly. Efforts are to be made to improve decision makers' understanding of the complex linkages between biodiversity, ecosystem services and human health through more integrated policies and implementation. More attention should be devoted to cooperation with the representatives of various sectors, the academia and NGO community. As most other countries, Slovenia is facing similar challenges connected to infrastructure and biodiversity. Increased demand for the construction of new infrastructure is expected – from transport, energy to urban and waste management. Due to clear and long-term orientation to assure “in situ” conservation of its biodiversity, the particular challenge for Slovenia is effective implementation of all conservation measures on the ground where cooperation of other sectors is strongly needed. Apart from sectors such as agriculture, forestry, science, water management etc., there are several key areas that Slovenia has to be more focused in the post 2020 period, such as health and infrastructure. Slovenia put considerable efforts in implementing its Natura 2000 Programme which is a key strategic document in the area of biodiversity conservation and improvement was made compared to the implementation of the past program. However there is still place for improvement particularly in areas outside of Natura 2000. The real problem is that compared to its obligations arising from rich biodiversity and high level of legal protection the resources to service these obligations are often insufficient. This is particularly the case with management of existing human resources. Decision makers do not realise the potential of all available resources within the NGO community and cooperation is often not sufficient and leads to conflicts rather than seeking best possible common solutions. Regular monitoring of integration through relevant indicators on the basis of a common methodology for each sector, and reporting on the process of sectoral integration is needed.

Aichi Biodiversity 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

Main sectors where subsidies mostly affect biodiversity in Slovenia are agriculture, energy and transport (not discussed under this report). As already mentioned in NR 5, in **agriculture**, progress has been made in the last decade, such as the establishment of agri-environmental payments. Such payments facilitate the preservation of agricultural activities and land cultivation, the prevention of land or habitats becoming overgrown, and the promotion of more environmentally friendly agriculture, with restrictions that mitigate the adverse impacts of intensive agriculture. The participation of farmers in these schemes is voluntary. The areas included in **agri-environmental schemes** that facilitate biodiversity conservation are often not large enough to ensure the conservation of habitats and species with the concurrent trends of agricultural intensification. Owing to the rules on the calculation of the surface area eligible for payments under agri-environmental schemes, solitary trees, forest margins, hedges and wind-breaking trees on agricultural land are under great pressure. Some impacts of agriculture have recently been reduced as a result of the implementation of cross-compliance; there has been an indirect positive impact on biodiversity conservation particularly in relation to the reduced input of fertilisers and phyto-pharmaceuticals.

Although the agri-environmental payments scheme is voluntary, the **Natura 2000 Management Programme** defines it as a systemic instrument for the management of agricultural land within Natura 2000 sites. The analysis of the achievement of objectives shows that the implementation was not successful in the previous

reporting period, as the objectives were achieved in only 11% of the sites. The reasons lie mostly in the voluntary participation of farmers in agri-environmental payment schemes, an inappropriate agri-environmental payments scheme which allowed the entry of general (horizontal) measures also on Natura 2000 sites, inappropriate financial evaluation of so-called biodiversity measures of the agri-environmental payments scheme, inadequate promotion of the scheme, and inadequate education.

The aim of common European Union agri-environmental schemes which Slovenia as its Member State is following is to preserve natural resources, biodiversity, soil fertility and the traditional cultivated landscape and protected areas. The measures are directed towards reducing the adverse impacts of agriculture on the environment (e.g. field greening, organic farming, preserving mountain pastures and meadow orchards, the farming of native breeds and traditional varieties) and improving management of protected areas (e.g. the preservation of grassland habitats). It is also expected that obligatory agricultural practices from the green component will bring positive results. Education of farmers is particularly important in this regard and the promotion of measures and products (e.g. informing consumers of the quality of organically produced food)¹. Progress has been made in relation to the agri-environmental payments scheme through the popularisation of agricultural production that is appropriate to consumer needs and protects human health, ensures the sustainable use of natural resources, and enables the negative impacts of agriculture on the environment to be reduced.

The **European Agricultural Guarantee Fund** finances measures or direct payments schemes, agricultural market measures and measures in the field of beekeeping. The **European Agricultural Fund for Rural Development** finances the measures of the Rural Development Program 2014-2020.

The reform of the **EU Common Agricultural Policy**, which includes the reform of direct payments, began in 2015. Direct payments continue to be primarily income support, which regulates the economic position of agriculture. The central scheme remains production-related payment, which functions in the form of payment entitlements. At the same time, the reform places a greater emphasis on the sustainable development of agriculture and, like in rural development measures, allows Member States to devote a certain amount of resources to specific areas. New schemes were introduced in 2015. One of the important objectives of the new Common Agricultural Policy is to improve environmental performance through the direct payments scheme "*green component*" supporting agricultural practices that have a beneficial effect on climate and the environment. Implementation of the scheme is mandatory for Member States, which must use 30% of the funds available for direct payments for the annual payment for compulsory practices within the green component. The green component agricultural practices are the following:

- diversification of agricultural plants, which is primarily aimed at preventing monocultures and improving soil quality
- areas of ecological significance that are being introduced in order to maintain and improve biodiversity on farms
- maintaining permanent grasslands in order to preserve biodiversity, habitats and increase carbon sequestration.

According to the 2018 Analysis of the implementation of non-standard agricultural practices in the green economy for the period 2016 – 2018, all measures have been classified as »partially realized« and »realized«.

http://www.arsktrp.gov.si/si/o_agenciji/informacije_javnega_znacaja/prejemniki_sredstev/

http://www.mkgp.gov.si/si/delovna_podrocja/kmetijstvo/neposredna_placila/

http://www.mkgp.gov.si/si/delovna_podrocja/kmetijstvo/neposredna_placila/kmetijske_prakse_iz_naslova_zelene_komponente/

<http://www.enotnazbirkaukrepov.gov.si/realizacija-ukrepov/ukrep/574>

http://www.arsktrp.gov.si/si/storitve_ukrepi/ukrepi_razvoja_podezelja/ohranjanje_okolja_in_podezelja/

<http://www.natura2000.si/aktualno/novice-in-dogodki/novica/article/792/50/>

It has been widely recognised in Slovenia that the transition to the green economy can be encouraged by

reducing or eliminating tax relief for practices that have a negative impact on the environment (e.g. promoting the use of fossil fuels), and by eliminating direct payments from public funds that have a negative impact on the environment. The **fiscal policy instrument** on energy and natural resources consumption can provide an incentive for saving and more efficient energy use, leading to new, more energy-efficient innovations and technologies. Thus, with economic instruments (e.g. environmental taxes, emission trading schemes ...) we can change the current pricing system. In Slovenia, the starting point for determining measures is to promote sustainable development as a balancing of three development components: social, economic and environmental, while at the same time pursuing the public financial goals and improving the competitiveness of the economy.

Raising environmental taxes is just one of the strategies that help to balance budgetary deficit in a sustainable way in Slovenia. Another such strategy is to reduce the environment harmful subsidies. These two strategies are strongly linked because they provide environment subsidies often in the form of tax exemptions or refunds. It is important to point out the outstanding call from society for the "**Green Development Breakthrough**" that was signed by more than 10,000 individuals and 200 organizations, businesses, municipalities, associations and agencies. In addition to other efforts, this initiative influenced the Government of the Republic of Slovenia to start of the **Green Budget Reform** Project in March 2017. This may be considered as one of the key steps in the direction of incentives reform in Slovenia within the reporting period. The main idea behind the green budget reform in Slovenia is the transfer of tax burdens from production to consumption of natural resources. For instance, higher taxes on energy consumption create economic incentives for saving energy and for its more efficient use and as a consequence lead to introduction of new technologies. In Slovenia, the system of public duties is one of the important economic policy instruments that can contribute to the achievement of environmental policy objectives, since they can promote the reduction of negative environmental impacts, more efficient use of natural resources and energy, and the proliferation of renewable energy sources.

When implementing the green budget reform in Slovenia, it should be taken into account that revenues from environmental taxes are already relatively high and any additional increase would not be appropriate. Also, due to the central objective of fiscal consolidation, the green budget reform must be set up to support the transition to a green economy in a fiscally neutral way. It is expected that by implementing the green budget reform, the country will develop more efficient and environmentally friendly economy through an interlinked and coordinated set of measures.

http://www.vlada.si teme_in_projekti/prehod_v_zeleno_gospodarstvo/ukrepi/zelena_proracunska_reforma/

According to OECD, in Slovenia revenues from environmental taxes are relatively high compared to other member countries (more than 3% of gross domestic product). Generally speaking, tax incentives are relatively high and, as a rule, they are not directed towards environmental objectives.

http://www.mf.gov.si/si/medijsko_sredisce/novica/3154/

<http://www.planbz slovenija.si/upload/stories/zpr/umanotera%20-%20zelena%20proracunska%20reforma%202013.pdf>

Energy subsidies are another group of subsidies with an important impact on the environment. There is no common agreement at the EU level on the definition of subsidies in the energy sector. The term subsidy most frequently includes direct payments to an energy producer or consumer. However, subsidies can also include other less transparent forms of aid or support mechanisms, such as exemption from the payment of taxes and discounts, controlled prices, restrictions on trade, restrictions on entering the market, etc. Environmentally harmful subsidies are those that lower the price of environmentally harmful energy by changing the relative relations between energy prices to the benefit of the subsidized resource. The share of "environmentally friendly subsidies" intended for the exploitation of sustainable energy sources increased in the reporting period. In general, these subsidies do not always contribute to the improvement of the state of biodiversity but sometimes have negative impacts (e.g. fragmentation of watercourses due to hydropower plants,

intensification in agriculture due to biogas production etc.).

Subsidies generally improve the competitiveness of source against other sources of energy. In Slovenia as well as in other countries, we are faced with energy subsidies that can harm or benefit the environment. The environmentally unfriendly are those subsidies that reduce the price of environmentally harmful energy by changing the relative ratios between energy prices in favour of the subsidized source. This can be reflected in the excessive production of energy or the use of a resource that damages the environment. As elsewhere, regardless of the subsidy mechanism, in Slovenia subsidies are encountered in two forms » on-budget« subsidies, and »off-budget« subsidies. The former represent a direct burden on the budget, while others are paid through other sources and methods.

http://kzalci.arso.gov.si/?data=group&group_id=21

<http://www.energetika-portal.si/statistika/statisticna-podrocja/subvencije-v-energetiki/>

Please describe other activities contributing to the achievement of the Target (optional)

We can highlight the utilisation of agricultural subsidies on Lake Cerknica as an example of good practice in the reporting period. Subsidized late mowing is an environmental and climate measure that was created a decade ago on Lake Cerknica, where the Life KOSEC project took place. It is a project that wanted to protect the population of the corncrake (*Crex crex*), which has been steadily declining since 1990. Corncrake is a meadow bird species that nests on wet meadows and then remains in the grass for considerable period of time with its chicks. Other species threatened by modern early mowing are also preserved by protecting the corncrake.

<https://lifestrzen.blogspot.com/2018/08/kosci-so-odleteli-in-kosci-so-priceli-s.html>

During the reporting period, the Ministry of Agriculture, Forestry and Food published training materials for the purpose of implementation of the Common Agriculture and Environment Policy - CAEP (Nature conservation in conjunction with the measures of CAEP, Management of Grasslands and the Issues related to invasive species in agriculture).

<https://www.program-podezelja.si/sl/knjiznica/216-ohranjanje-narave-v-povezavi-z-ukrepi-kopop/file>

<https://www.program-podezelja.si/sl/knjiznica/217-upravljanje-s-travisci-in-problematika-invazivk-v-kmetijstvu/file>

The Ministry of Agriculture, Forestry and Food has announced an invitation to enter agri-environmental-climate payments. In the year 2018, several innovations were introduced.

<https://www.program-podezelja.si/sl/infoteka/sporocila-za-javnost/516-22-2-2016-vstop-v-ukrep-kmetijsko-okoljska-podnebna-placila-kopop-ekolosko-kmetovanje-ek-in-dobrobit-zivali-dz-iz-programa-razvoja-podezelja-republike-slovenije-2014-2020-v-letu-2016>

In the framework of the EEA LJUBA project several publications were issued: An analysis of the enrollment in the nature protection operations of agri-environmental-climate payments on Ljubljansko Barje and the inventory and analysis of the meadow mowing on Barje.

<http://www.ljuba.si/>

In 2015, the Ministry of Agriculture, Forestry and Food issued an updated brochure on Agri-environment-climate payments 2015-2020, which is in line with the Regulation on payments for environmental measures from the Agriculture Development program 2014-2020. For environmental measures, farmers will be trained by the Chamber of Agriculture and Forestry of Slovenia, the Ministry of Agriculture, Forestry and Food has selected the Chamber as a provider of training for beneficiaries of agri-environmental-climate payments. During the period of commitment, the beneficiaries must complete a minimum 4-hour training program on agri-environmental climates every year.

<https://www.program-podezelja.si/sl/knjiznica/213-kmetijsko-okoljska-podnebna-placila-za-obdobje-2015-2020/file>

Challenges:

The usual understanding of the green tax reform, whereby revenues from environmental taxes create opportunities for reducing the burden on labour costs, is not applicable to Slovenia. Future activities should therefore aim at increasing the effectiveness of environmental taxes and other fiscal policy instruments, with an appropriate balance between the various objectives of fiscal policy and the integration of different instruments in order not to be mutually contradictory. Despite considerable progress, the main problem remains the policy of subsidies since RS indirectly and directly subsidizes products and production that are harmful to the environment. In addition, this practice is contrary to the polluter-pays principle. In the case of environmentally harmful subsidies, these costs are in many instances not borne by polluters but by a wider society.

Aichi Biodiversity 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

In Slovenia, sustainable development is the common denominator of all development priorities. It is a starting point of Slovenia's strategic and implementing documents such as the **National Development Strategy**, while the environmental dimension is addressed in detail in the **National Environmental Protection Programme – NEPP** (currently in prep.). One of the priorities of the National Development Strategy is the integration of environmental criteria into sectoral policies and consumption patterns. During the reporting period, considerable efforts have been made in Slovenia to implement measures such as the large-scale introduction of eco labels for products and services, and of environmental management systems in public and private organisations, and to education and raising public awareness of sustainable consumption and production. Public authorities play a major role in the introduction of the environmental orientations of the economy. Green public procurement was improved in the reporting period, which can increase the demand for services and products exploiting resources in a more efficient manner. Although the changes seem slow, it can be expected that by 2020 the application of environmental product and innovation planning and more efficient production procedures will increase in Slovenia.

In principle, in Slovenia, the awareness is prevailing that sustainable production and consumption mean more efficient use of natural resources and energy and the reduction of greenhouse gas emissions and other environmental impacts. It is about the fact that products and services are manufactured and used in a way that is least harmful to the environment. The aim is to meet the basic needs for products and services and to achieve a better quality of life while providing sufficient resources. Resource economy and the reduction of dependence on imports of energy products and rare raw materials form the basis for Slovenia's future competitiveness. Within the reporting period, a part of the Slovenian economy has recognized the potential to transform environmental challenges into economic opportunities, which also benefits consumers.

At the end of September 2011, the European Commission presented a **Timeframe for a Resource Efficient Europe**, with the aim of making the European economy sustainable by 2050. Thematic strategy A resource-efficient Europe is extremely complementary to the Roadmap for a transition to a low-carbon economy by 2050, both of which are among the seven initiatives of the Europe 2020 strategy. The proposed common EU objective is 70 per cent recycling of municipal waste and 80 per cent recycling of packaging waste by 2030.

Slovenia accounts for the share of separately collected waste among the most successful European countries. Good practices in this field exist in both municipalities and companies. The **"Zero Waste Concept"**, which

aims at abandoning all types of waste as a way of achieving more sustainable living, economic stability and social cohesion, is also being implemented. More and more Slovenian municipalities are participating in the European Zero Waste Network, and in 2016 Ljubljana was the first involved European Capital.

In Slovenia, the public sector is a big and important consumer. Integrating environmental criteria into its purchasing decisions is recognized as a key mechanism for promoting sustainable production and consumption, while creating significant public savings. In 2018, the Government of the Republic of Slovenia adopted the updated **Regulation on Green Public Procurement**. Good practices and pilot cases represent an important part of the support to Green Public Procurement from general public and providers.

Environmental labels give consumers a focus on choosing more environmentally friendly products. Over the last decade, the EU Ecolabel has become a recognizable symbol for products that meet stringent environmental and performance criteria. In Slovenia, specialized signs and schemes help consumers also in choosing organic agricultural products, foodstuffs, green tourist destinations, wood products from sustainably managed forests, and the like.

In the context of sustainable production and consumption in Slovenia, we must also consider the shift to an energy-efficient economy based on renewable energy sources. Investments focusing on low-carbon and sustainable energy generate new jobs and encourage the development of new industries. Efficient use of energy in buildings is considered one of the main priority areas for achieving the goals of climate and energy policy in Slovenia and the EU, where greenhouse gas emissions should be reduced by 80-95% by the year 2050 relative to 1990. Energy costs represent a large part of the costs of the public sector and the economy, efficient use of energy already became a key policy priority in Slovenia, which in turn means saving public money and improving the competitiveness of the economy.

During the reporting period the **energy sanitation of public buildings and housing** had a number of multiple effects in Slovenia, such as: cost reduction, better quality of life and job creation with the revival of the construction sector and the timber industry. The Government of the Republic of Slovenia adopted an **Action Plan to increase the competitiveness of the forest-wood chain until 2020** "Wood is Beautiful", which aims at creating a market for timber products and services, improving the sustainable management of forests, increasing the amount and processing of timber with new technologies, creating new jobs and increasing the added value per employee in the wood processing industry.

As an example of good practice we can highlight the activities carried out by the **Green Building Council Slovenia (GBCS)** which in 2018 organized the third sustainable conference. The goal of GBCS is to have sustainable construction which will use its own energy sources. This means that any combination of technologies can be used to achieve the predicted level of energy efficiency at the lowest cost. The vision of the GBCS is to contribute, through its efforts and work, to development in the areas of sustainable construction, sustainable development and real estate management. The GBCS co-operates with ministries and other stakeholders and educates 22,500 people annually while 150,000 readers regularly receive their e-newsletter. According to the GBCS, Slovenia is on the right track of sustainability, as proposals that are in preparation are of high-quality.

As elsewhere, in Slovenia organic farming is the most sustainable agricultural practice that fully responds to key challenges of modern agriculture. It has less negative impact on the environment and provides a high level of public goods and a range of positive effects on social well-being. Basically, it is based on improving or at least preserving soil fertility and biodiversity. It also has a positive impact on the development of rural areas as it creates more jobs than conventional agriculture in the production itself, as well as in complementary activities on the farm, in particular in food processing, marketing and tourism. Organic agriculture in Slovenia also contributes to the increase of interest in locally produced foods and consequently to shorter food supply chains. Market interest and the added value of high quality organic foods in Slovenia

are constantly increasing. They have a higher nutritional value and less harmful effects on human health, for which buyers are willing to pay a higher price. The gap between demand and only 20% of Slovenia's share of eco-food consumption is an important business opportunity at the national level. **The Rural Development Program 2014-2020**, with the **Agri-environment and Climate Program**, also includes for the first time the objectives of mitigation of climate change caused by agriculture and the adaptation of agriculture to climate change. Organic farming has become an independent measure in the Rural Development Program, which is recognition of the overall contribution of this farming method to the protection of the environment and climate. Market cooperation between organic producers has intensified, which further strengthens the positive environmental impact. In Slovenia, about 150 schools and kindergartens supply their own school ecological gardens, thus promoting lifestyle changes and dietary habits.

Natural resources for sustainable development of Slovenian countryside are rich: forests, fertile soil, renewable energy sources, beauty and diversity of natural and cultural landscapes, water resources. Together with people's knowledge, creativity and innovation, they represent the basis for the development of a decentralized, low-carbon economy. Sustainable development of Slovenian rural areas is not only important for the revitalization of the countryside, but with a regional balanced development process, it brings higher quality of life and competitiveness of the economy at the state level, and preserves the strategically important population density of the state territory. In addition to climate change and other environmental pressures, it also addresses the pressing problem of unemployment.

During the reporting period, local communities played an important role in reducing greenhouse gas emissions in Slovenia. Electricity and heating for municipal buildings, municipal vehicle fleet and street lighting are areas where municipalities have full control and can independently introduce measures to increase energy efficiency and the use of energy from renewable sources. They also have leverage to promote green tourism and forest-wood chains and supply with local organic food. Many municipalities are making great strides, recognizing the synergistic benefits of public fiscal savings, business opportunities and high-quality jobs, increased self-sufficiency and improved living standards for citizens. The number of municipalities with a comprehensive sustainable development strategy and good practices of sustainable rural development is increasing. The Association of Municipalities of Slovenia is very active in promotion of such practices.

Challenges:

Sustainable development principles have been considerably realised in Slovenia during the reporting period but there are still deficiencies and an imbalance in all three components (economic, social and environmental). In general, the situation in Slovenia is the same as in other EU Member States, where the environmental impacts of consumption are the greatest in the food, building and transport sectors. In order to achieve the goal, the link between economic progress and environmental degradation should be unlocked. It is also important to make sure that sustainable consumption in Slovenia will become a dominant lifestyle, since it is necessary to change the shopping habits and the way to use and dispose of products and services. There is still much to be done with regard to awareness-raising, as consumers can achieve a change in the orientation of the business sector by choosing and buying certain products.

The construction of energy-efficient buildings is recognizable in Slovenia, by individual investors and in public buildings. There is a need for examples of good practices in construction of almost zero energy buildings, as envisaged in the updated Energy Performance of Buildings Directive. Wood is easily accessible and the most important natural resource in Slovenia. Although significant moves have been made to improve processing and utilisation of locally made wood products.

Sources:

http://ec.europa.eu/europe2020/index_sl.htm

<http://www.slovenija-co2.si/index.php/dobre-prakse/trajnostna-proizvodnja-in-potrosnja>
<http://pisrs.si/Pis.web/pregledPredpisa?id=URED7202>
<https://www.zps.si/index.php/okolje/trajnostna-potronja/5502-trajnostna-potronja-kaj-je-to-52012>
<http://www.trajnostnaenergija.si/>
<https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0571:FIN:SL:HTML>
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<https://gbc-slovenija.si/uncategorized-sl/3-trajnostna-konferenca-gbc-slovenija/>

Aichi Biodiversity 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

In Slovenia, two processes are evident, on one side natural habitats are disappearing due to anthropogenic causes, and on the other hand, they emerge as a result of the abandonment of agriculture in rural areas and some industrial and other activities. Slovenia, like all European Union Member States is obliged to define NATURA 2000 sites and to manage them properly. The purpose of the network is to maintain biodiversity by protecting the natural habitats of endangered plant and animal species of importance for the European Union. The total area in the Natura 2000 sites in Slovenia is 7,681 km², of which 5.5 km² at sea (ZRSVN, 2018). These areas cover 37.16 percent of the territory of Slovenia. Forests cover 71 % of Natura 2000 sites, 5 % of the sites lie above the tree line, 23 % includes agricultural and overgrown land, water is 1 %, and 2 % of land is built. 29% of the Natura 2000 sites are located in the protected areas. According to the **Statistical Office of the Republic of Slovenia**, there are 127,940 inhabitants in the Natura 2000 sites. In the period since the first designation of Natura sites in 2004, the total area increased by 2.34% in 2013, while there was no increase during the reporting period.

Regarding forest habitats, they covered 58.3% of the Slovenia's territory in 2015, or 1.182,016 ha (11,820 km²). Data on the forested areas are derived from the forest management plans of the **Slovenian Forest Service** and do not cover areas that are in the process of overgrowing. Data on the use of land held by the Ministry of Agriculture, Forestry and Food show a slightly higher share of forests in 2016 (58.9%). Economic forests, which are primarily oriented to the extraction of wood share at 90.83%. Forest reserves accounted for 0.80% of the forested areas, while the protective forest had an 8.37% share. Comparatively, in 1875 forest covered 36.4% of the surface of Slovenia. This was followed by a long period of overgrowth, which ended about a decade ago. Despite the fact that mainly agricultural areas are still overgrown, the surface area of forests is slightly decreasing. In Europe, Slovenia ranks the fourth place among the most wooded countries after Finland (72%), Estonia (61%) and Latvia (60%).

In the field of forestry, the preparation of **forest management plans**, which are necessary for the protection of Natura 2000 sites, is fairly in line with the timetable for their adoption. Out of the remaining measures that have not yet been implemented, by the end of 2020, it is expected to issue a revision of the rules on protection of forests and the amendment of the regulation on forest reserves and forests with a special purpose. Due to the large extent of the Natura 2000 sites and since they fairly represent all important habitat types, the best available resource on the success of prevention of loss of natural habitats is a **Report on the Implementation of the Natura 2000 Management Program 2015 - 2017**. The general conclusion of the report is that roughly three quarters of all measures are at certain stages of implementation. This has been an improvement compared to the implementation of the past program. In almost half of all areas the great majority of all measures are expected to be implemented. However, in order to achieve a sufficiently

comprehensive implementation of measures in areas such as monitoring and agriculture, changes are needed to allow better implementation. On the basis of the collected data, preliminary conclusions were drawn on the probability of the implementation of the measures until the end of 2020, as follows:

The probability that 90% and 100% of the planned measures will be completed exists in the following areas:

- forestry;
- hunting;
- fishing;
- spatial planning;
- nature protection (management of protected areas)

The probability that the implementation will be between 90% and 100% of the measures put in place but not fully implemented in the fields of:

- water management;
- nature protection (communication and other measures)

The probability that less than 90% of the planned measures will be implemented for actions in the fields of:

- agriculture;
- nature protection (contractual protection, custody, redemption);
- supervision and control;
- monitoring and research;
- categories "other measures"

Compared with the preceding reporting period, the greatest threats to natural habitats and biodiversity in Slovenia are mostly the same. However, the negative impacts of the spread of invasive non-native species and climate change are more pronounced. All the key reasons are linked to human activities and their effect on the environment, which results in the loss, fragmentation and degradation of ecosystems and habitats in terms of both species and populations. The pressures caused by urbanisation on inland aquatic ecosystems, coastal and marine ecosystems, subterranean ecosystems and ecosystems of extensively cultivated landscape are still significant. The pressures on biodiversity are increasing, particularly due to non-sustainable management and activities affecting the environment in the lowland areas. Global changes, particularly the spread of invasive species and climate change, are also a consequence of human activities. An increase in the impact of these factors on the biodiversity of some ecosystems in Slovenia was detected in the reporting period. The most prominent among the identified pressures and threats are those related to agriculture and anthropogenic changes to aquatic ecosystems, which is reflected in the relatively poor conservation status of species and habitat types dependent on these areas. The second reason is the abandonment of traditional agricultural activities in areas of little economic interest and their becoming overgrown by forest. The pressure on wetland habitat types continued in the reporting period. Urbanisation and pollution are among the significant threats. Climate change, which is affecting the ecosystems of inland waters in Slovenia, is becoming increasingly important and periods of drought are becoming more frequent and longer. With regard to the conservation of biological and landscape diversity, areas becoming overgrown due to the abandonment of traditional use remain a problem in some parts of Slovenia. Threats to mountain ecosystems resulting from tourism are still increasing. Threats to coastal and marine ecosystems remained more or less the same (habitat degradation and fragmentation due to urbanisation, tourism, intensive mariculture, etc.). Pollution due to the discharge of urban wastewater and polluted watercourses into the sea has been reduced with the construction and operation of new treatment plants. Cave ecosystems in Slovenia are threatened by both underground and above-ground activities that have an impact on the subterranean environment (pollution). The issue of cave management remains largely unresolved. With regard to genetic resources for agriculture and the food industry, the globalisation of the agricultural market is the main threat to the genetic

diversity of domestic breeds and varieties. Agricultural practices introducing new breeds and varieties that are more suitable for intensive agriculture are widespread. Non-native species are being recognised as a great threat to biodiversity in Slovenia. Invasive plant species are spreading fast along rivers and traffic routes. This is most notable in wetlands and along the large rivers where invasive plant species have completely replaced the natural vegetation in some areas. Tourism and recreation become most distinct threats in protected areas. There is also increased pressure caused by illegal driving of motor vehicles in the natural environment. In the reporting period, Slovenia suffered several extreme weather events. Warm winters are becoming more common, which also has an impact on biodiversity (disturbed hibernation patterns, the expansion of thermophilic species, etc.).

According to the Statistical Office, demographic growth in Slovenia does not threaten biodiversity, unlike in some other places in the world, as demographic forecasts for the country are unfavourable. Nevertheless, it can be expected that the pressures on the natural environment will continue to increase and the conservation status of plant and animal species will decline in relation to the decrease in ecosystem diversity. It is expected that many negative trends will be reduced, as several new obligations and requirements have been introduced (e.g. a ban for farmers on ploughing grasslands). The spread of non-native species will remain an important threat to biodiversity. The climate change projection indicates that extreme weather and hazardous events will occur more frequently than in the past. The Slovenian coast and Karst regions and north-eastern Slovenia are endangered the most. Detailed explanation of individual threats to biodiversity is explained under Chapter 3 of NR5.

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Aichi Biodiversity 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

In Slovenia, fisheries takes into account the premise that the sustainable use of fish is closely related to the general social, economic and spatial development of Slovenia. It also emphasises that the culture of the attitude towards aquatic ecosystems and the professional qualifications of actors in the fisheries sector are key factors of the comprehensive implementation of fish management and the sustainable use thereof.

Fisheries are defined by law as an activity involving fishing, aquaculture, and the processing and marketing of fish and fish products. According to the **standard classification of activities in the Republic of Slovenia**, the fisheries are divided into marine fisheries, freshwater fishing, breeding of marine organisms and cultivation of freshwater organisms, as well as processing and processing of fish, crustaceans and molluscs. Fishing involves economic and non-commercial fishing at sea and non-commercial fishing in inland waters while aquaculture includes the rearing of all aquatic organisms. Processing and marketing are part of a fishing activity that add value to fish and fishery products and provide consumers with quality products. In Slovenia, the pursuit of commercial fishing activities is possible only on the basis of the registration of activities and the acquisition of

a fishing license. The conditions to be met by a legal or natural person require impunity and professional competence for commercial fishing and his/her vessel must be registered in the register of fishing vessels. A special permit for commercial fishing is possible in areas and cases where and when commercial fishing is not permitted under the **Marine Fisheries Act** and the EU regulations (e.g. winter schools and the mass occurrence of fish by the coast). This special permit is issued on the basis of a positive expert opinion of the Fisheries Institute of the Republic of Slovenia and determines the mode, conditions and timing of fishing.

Inland waters in Slovenia belong to the Danube and the Adriatic catchment areas. The contributing area of the Danube covers 16,856 km² or 83.2%, while the Adriatic area covers 3,400 km² or 16.8% of the entire Slovenian territory. The total water surface where fisheries management takes place in Slovenia occupies 11,584.91 ha. Of these, the fishing area occupies 10,245.83 ha, which represents 88.4% of the water surface. 9.1% of all areas are protected while areas without active management cover only 252.08 ha (2.2%) while areas where fishing is no longer possible due to environmental degradation cover 38.5 ha or 0.3%.

For the purposes of fishery management, inland waters in Slovenia are divided into fishing districts (FD), and fishing territories (FT). Inland waterways in Slovenia are thus divided into 12 FDs (10 within the Danube catchment area and 2 within the Adriatic Sea catchment area) and 67 FTs (60 in the Danube catchment area and 7 water areas of the Adriatic Sea catchment area). Depending on the method of their management, fishing territories are divided into: conservation, fishing, degraded and territories without active management. In Slovenia only recreational fishing is permitted on inland waters. It has a significant economic impact as an important tourism-related activity that has numerous positive effects on the development of the local economy. Estimates at EU level show that the income from the sale of fishing licenses represents only 15% of total revenue originating from fishing tourism. The remaining 85% is brought by parallel activities related to fishing tourism.

Some of the key documents that we reported on in NR5 are still valid at the time of reporting (National Strategic Plan for Fisheries Development, Operational Programme for the Development of Fisheries, Programme for Fish Management in Inland Waters)

The following strategic/action documents were adopted over the reporting period:

Fisheries management plan 2017-2022 for inland fishing for individual fisheries areas. This plan sets out, inter alia, guidelines for the sustainable long term use of fish and ensures that conservation status of other plant and animal species is not worsened. The implementation of fisheries management is designed so that fish populations are reproduced and maintained in a given aquatic environment. The number of fishing licences issued in individual fisheries areas is adapted to the specific ecosystem characteristics of the area. In areas where sport fishing is an important tourist activity, measures are implemented with complementary and maintenance portfolios for sustainable use of adapted fishing regimes. The detailed measures are adopted in the plans for the implementation of management in individual fisheries environments. Fisheries management is aimed at conserving autochthonous fish populations by maintaining their size and age structure and ensuring their long-term survival. Management of non-native fish species must follow the long-term goal of reducing their populations. Particular emphasis is given to measures in those fisheries areas that have a special nature conservation status. Fisheries management in these areas is adapted to the protection regimes and operational protection measures are defined in concrete fisheries management plans. In addition to these areas, the plan deals with the protection of fish, lampreys and crustaceans in Natura 2000 sites with particular care.

Fishery management plans define objectives and measures for the conservation of populations of indigenous fish species by area. The primary long-term goal is to conserve the populations of native species of fish and biodiversity. These plans mainly regulate the management of populations of fish species in which fishermen interact each year with fishing and reduce the reproductive capacity of individual populations. Measures are mainly directed to the fishing regime and repopulation of stocks, which allows the controlled harvest and the

replacement of fish with adult and young fish of suitable origin. Among the measures that contribute to the conservation of populations is the appropriate organization of the fishing guard service, which can limit and reduce the impact of poaching on fish populations. For all repopulations, the principle of the composition of local populations is taken into account. In water bodies where a certain species is not yet present, its stocking is not permitted. It may only be permitted after the risk assessment has been completed, and where it is not contrary to the protection regimes in areas with nature conservation status (Natura 2000 sites, protected areas, natural values, ecologically important areas). Outside of these areas, guidelines and recommendations of the Fisheries Research Institute must be taken into account.

The program of fish management in inland waters of the Republic of Slovenia for the period up to 2021.

This program provides the basis for the preparation of fishery management plans for fisheries areas and districts. On the basis of sectoral legislation, the State is responsible for the management of wild fish and other aquatic animals (crustaceans and cyclostomes) in inland waters. On the basis of the Program, management includes planning, zonation, setting rules for the sustainable use of fish, tasks related to maintaining a favourable status of fish populations, granting fisheries management concessions, fish breeding, records and reporting, training of fishery operators, compensations caused by damage to fish stocks, fishing guard service and public services. The program was prepared in accordance with **Council Directive 92/43 / EEC (habitat Directive)**, and the **Water Framework Directive**. In addition, it also takes into account the **Water Management Plan for the Danube and the Adriatic Sea waters 2009-2015**. The program is closely linked to the general social, economic and spatial development of Slovenia, the supply of drinking water, electricity generation, industry, agriculture, and aquaculture.

Local fisheries management is carried out in individual fisheries districts on the basis of the **six-year plans**. These plans define the places, methods and extent of fishing and type and quantity of fish for fertilization for repopulation and recreational fishing. They also specify sections, time and conditions under which fishing may be conducted. In doing so, account shall be taken of the ecological characteristics and the prevalence of populations which are important for maintaining a favourable status, as well as the regimes governing the conservation of nature and waters to which fishery management might have an impact. Measures are also aimed at reduction of non-native species, especially invasive ones and prevention of their spread. The plan shall be drawn up on the basis of nature conservation guidelines and the opinions of the Fisheries Research Institute and the local community.

Prior to the adoption of plans, it is necessary to determine whether a comprehensive environmental impact assessment should be carried out for it and an environmental report issued. On that basis, fishery management operators produce annual plans based on the assessment of the state of area under their competence in the previous year.

The implementation of fisheries management in waters of special importance is based on **medium-term fisheries management plan** drawn up by the National Fisheries Research Institute (NFRI). The operational implementation of fisheries management takes place in accordance with the annual plans and the annual work program of the NFRI.

In the previous Financial Perspective (2007–2013) Slovenian fishing associations, which in Slovenia are responsible for the implementation of the majority of measures, were not eligible for funds from the European Fisheries Fund. Considering the current programming regarding the funds from this programme, the situation remains the same by 2020. If this changes, it can be expected that the implementation of the planned measures will improve. Since commercial fishing in Slovenia is limited to the sea, the measures related to fishing can only be financed in reference to the sea. The majority of water management activities in Slovenia are carried out within the provision of the mandatory public utility service (funds for the work of the service are provided from the Water Fund). In the EU Financial Framework 2014–2020, investments in green infrastructure are supported, where priority is given to synergy with anti-flood measures and measures aimed

emissions from agriculture and for maintaining or improving the biodiversity status in habitats related to the agricultural landscape. Within the reporting period the **Rural Development Programme 2014 – 2020** as key strategic document in Slovenia was in force. Based on this programme, agri-environmental measures are implemented whose objectives are to establish the concept of sustainable agriculture and preserve natural resources and biodiversity. As stated in the **Strategy for Implementing the Resolution on the Slovenian Agriculture and Food Industry Strategic Guidelines up to 2020**, the green component is implemented within direct payments under the reformed Common Agricultural Policy, which includes obligatory agricultural practices with a favourable impact on climate and the environment. One of the basic new elements introduced by the reform of the EU agricultural policy for the 2015–2020 period is an increase in the funds within agri-environmental and climate payments. The aim of these measures is to reduce the negative impacts of agriculture on the environment. For example, the use of pesticides in agriculture is being revised to improve the status of pollinators; the EU rural development policy provides aid for farmers who sign up to environmental commitments, etc.

The implementation of measures for the preservation of native breeds and varieties can be rated as positive and stable. The operation of the gene bank for plant resources is well coordinated. Activities are underway to establish the relevant public service (more details are provided under report on implementation of ABT 13). The implementation of measures in **forestry** can be rated as good, which is reflected in the relatively favourable conservation status of the majority of forest habitats and species. However, the increasing pressure on forests is a cause for concern (more details are provided under report on implementation of ABT 5).

In agriculture, a number of actions were carried out during the reporting period, which directly or indirectly affected biodiversity. The field of incentives in agriculture is presented in more detail under ABT 3, while the scope of protection of biodiversity in livestock farming is presented under ABT 13. Among countless activities that were carried out within the reporting period new measures and actions with significance to biodiversity are listed here. A greater emphasis is given to aquaculture since it was less presented under NR5. One of the indicators of sustainable agricultural land management is **organic farming** which is gaining increasing importance in Slovenia. Organic farming also influences the sustainable management of non-renewable natural resources and the implementation of the animal welfare principle. In organic farming, plant production and animal breeding are complemented, thus following the circulation of substances in nature. The system also ensures continuous and transparent control over the production and processing of these products, thereby guaranteeing greater safety for consumers. Organic farming also ensures the production of high quality and safe food (use of mineral fertilizers, pesticides, genetically modified organisms and various growth regulators is forbidden). Applying such practices means less residues of these substances in crops or foodstuffs, and consequently - in consumers.

According to the Ministry of Agriculture, Forestry and Food, the number of organic farms in Slovenia increased in this reporting period. Subsidies for the implementation of organic farming can also be obtained in the context of agri-environment payments from the Rural Development Program 2014-2020. So far this sub-measure received the highest support. Given the increasing consumer demand, organic farming has a relatively safe future in Slovenia. There are also many unexploited opportunities in tourism which can be a good alternative to or supplementing traditional rural tourism. In 2017, 3.635 agricultural holdings were included in ecological scheme (representing 5.2% of all farms in Slovenia), with 9.6% of all utilized agricultural area. Of these, 3,190 farms have already completed the conversion period and obtained an eco-certificate. There is a great need for larger quantities of crops and the production is dominated by livestock, although consumer demand is the highest in fresh vegetables, fruits and non-processed foods.

Pollinators:

During this reporting period, Slovenia implemented many activities related to pollinators. Slovenia joined the

Coalition of Willing on Pollinators in 2016 as a founding member in the auspices of CBD COP13. In Slovenia, pollinators are primarily protected by conservation of their habitats (Natura 2000 sites and protected areas) and the Carniolan honeybee subspecies (*Apis mellifera carnica*) has been protected since 2014 on the basis of Livestock Breeding Act. The Ministry of the Environment and Spatial Planning has drawn up a draft National Environmental Protection Programme (NEPP) to 2030. This includes pollinator initiatives that involve integration of protection of wild pollinators into strategic and program documents, *inter alia*, in nature protection measures. The NEPP defines pollination as an important ecosystem service and a part of natural capital that provides conditions for human existence. The National Institute of Biology in Slovenia is setting up a monitoring programme for pollinators supported by the EU-funded project. In the reporting period, there have been numerous public awareness activities on pollinators, e.g. The National Institute of Biology issued several publications on bumblebees and the solitary bees. In addition to many other awareness raising activities, the National Beekeepers' Association launched the World Bee Day initiative in 2016. It has been adopted by the UN General Assembly with aim to raise awareness of the importance of honey bees and other pollinators for food security and biodiversity globally. Members of the National Beekeepers' Association launched a book called 'No bees, no life' to promote World Bee Day, which includes information on bees, beekeeping and threats they are currently facing.

In the reporting period, the conflict between the interests of pasture animal breeders and the interests to preserve the populations of large carnivores continued. Most often damage is caused to small ruminants by bears and wolves. Since early 90's, Slovenia established a stable and functioning system of compensation for damage caused by animals of protected species. Due to a great reproductive potential of brown bear in Slovenia and availability of suitable habitat (also connected with the abandonment of agricultural areas) its population has increased as well as related problems. Population of wolf is also on the rise.

Forestry

Forest is no doubt greatest natural treasure in Slovenia. It is a natural resource that, when properly managed permanently produces numerous ecosystem services and value products. The general benefits given by the forest are at least ten times greater than the value of economically productive products. In Slovenia, tradition of forest management dates back to the 18th century and modern management is based on the principles of sustainability and multifunctionality which takes into account the ecological, productive and social functions of the forest.

Slovenia is one of the most forested countries in Europe (forestation amounts to 58.5%). 74% of forests in Slovenia are private property, 26% of forests are public (owned by the state or communes). Larger and undivided forest estates of state-owned forests enable good professional management. Private forest estates are small, with an average area of only 3 ha. According to the latest data there are approx. 314,000 (with co-owners even 489,000) forest owners in Slovenia. According to the data of forest management plans by the Slovenia Forest Service, the growing stock of Slovenian forests amounts to 327,458,525 cubic metres or 276.08 cubic metres per hectare. The share of growing stock of coniferous trees is 46.50% and 53.50% of deciduous trees. There is an annual increment of 7,985,256 cubic metres of wood or 6.74 cubic metres per hectare in Slovenian forests. In recent years, the felling in Slovenian forests has totalled to around 4 million m³ of trees annually, 60% of which have been conifers and 40% deciduous trees. According to forest management plans, the felling could be higher. Currently, it amounts to 70% of its potentials and 40% of the current increment.

Slovenia has an established tradition of planned forest management. Modern principles of forest management in Slovenia are sustainability, co-natural management and the multi-purpose nature of the forests (environmental and social functions). Forest management is the right and duty of forest owners, while

guidelines for forest management are within the competences of the Slovenia Forest Service, which in cooperation with forest owners also performs tree selection for felling on the basis of the **National Forest Programme, Law on Forests** and **Forest Management Plans**. They provide the conditions for multifunctional forest management in accordance with the protection of the environment and valuable natural features.

National Forest Program sets the following goals:

- conservation and sustainable development of forests in terms of their biological diversity and ecological, social and productive functions;
- preserving the natural environment and ecological balance in the landscape;
- assuring the population and cultivation of the landscape and improvement of the quality of life in the countryside

It should be emphasized that the Law on Forests stipulates prohibitions due to the nature of the forest property, but it also defines the system that helps the forest owner to realize them (financing, co-financing, compensation, public forestry service). In particular, the tiny ownership property, which is typical for Slovenia does not enable good forest management. Therefore, it is important to provide permanent professional advice on the one hand, and to determine the public interest measures for the maintenance and development of forest and its functions on the other. The measures to be undertaken must be financed or co-financed by the forest owner in proportion to the extent to which the individual measure contributes to the realization of public interests. This is the case with the restoration, care and protection of forests and maintenance of forest roads. The drawing-up of nature protection guidelines for forest management plans for forest management units and of management zones on complex Natura 2000 sites are presented in detail under NR5.

At the policy and legislation levels, Slovenian forestry is favourably inclined towards nature protection. Concern for nature conservation was well demonstrated in programmes at all levels of forest management planning in the reporting period. The following directions and measures are being proposed in the Strategic Plan for Biodiversity in order to achieve the ABT 7:

Directions:

Agriculture

- To establish the ecological and social functions of agriculture which contribute to the preservation of rural areas and high biodiversity in these areas, and which are based on sustainable forms of agriculture and the sustainable development of these areas.
- To expand sustainable agricultural practices based on native genetic resources of plant varieties and domestic animal breeds.
- To promote market-oriented agricultural policies and activities that complies with the requirements of the conservation and sustainable use of biodiversity components. To preserve the genetic potential of native varieties and breeds.

Forestry

- To ensure forest conservation and sustainable development in terms of biodiversity and all the ecological, social and production functions of forests.
- To preserve the natural environment and ecological balance in the landscape.
- To maintain the level of population density and land cultivation and improve the quality of life in rural areas.

Measures

Directed to agriculture:

- To include in the agricultural rural development programme after 2020 (or in any amendment of the current programme) additional aims for the protection of habitat types on Natura 2000 sites and in protected areas;
- To expand the breeding and use of native and traditional breeds of domestic animals in order to preserve genetic diversity in agriculture;
- To expand the areas where native and traditional varieties are cultivated;
- To promote native and traditional breeds and varieties;
- To maintain and update the biological safety system;
- To protect the agricultural landscape with cross-compliance mechanisms and by raising the awareness of farmers regarding such;
- To promote extensive grazing in areas where grazing has been abandoned in recent years;
- To conserve, establish and maintain margin habitats (e.g. hedges);
- To consistently implement agricultural practices within the green component, particularly supervision of the preservation of sensitive permanent grassland (the prohibition of ploughing or changing the use);
- To participate in the improvement of the capacities of farmers regarding the application of traditional knowledge in the conservation of biodiversity.

Directed to forestry:

- To improve the fulfilment of the specific requirements of some specialised Natura 2000 qualifying habitat types in forest management;
- To determine particularly valuable habitats for animals of forest environments or eco-cells with a view to conserving biodiversity;
- To implement biodiversity protection measures as a priority in state-owned forests;
- To declare forest reserves for the protection of biodiversity.

Aquaculture

In Slovenia, aquaculture is defined as the breeding of all aquatic organisms, freshwater or marine (mariculture). Production of molluscs and seaweed is gaining importance for both food and cosmetic purposes. In Slovenia any use of water for the cultivation of aquatic organisms requires a special authorisation that is issued by the Environmental Agency of the Republic of Slovenia

All aquaculture facilities and commercial ponds for sports fishing must be recorded in the **Central Register of Aquaculture and Commercial Ponds** which is managed by the Ministry of Agriculture, Forestry and Food. Similarly, each aquaculture production should be approved by the regional unit of the Veterinary Administration of the Republic of Slovenia. For captive breeding of fish intended for the repopulation of fresh waters, the holder must have a special permit issued by the Minister of Agriculture, Forestry and Food. In recent years, organic aquaculture is becoming increasingly important and requires special certification of an authorized entity. According to the 2018 data from the Register, there are currently 337 aquaculture and commercial fish ponds in Slovenia. Of these, 27 are marine aquaculture facilities, while the rest are freshwater. In total aquaculture production in Slovenia, there are 65% fresh-water fish and 35% marine fish and molluscs. According to the **Statistical Office of Slovenia**, approximately 1162 tons of freshwater fish were produced in 2016 of which 946 tonnes of salmonids and 216 tons of cyprinids species. The actual amount of freshwater fish is higher, as all fish farmers do not report data on the quantities to the Statistical Office. In Slovenia, most freshwater fish farms are grown in conventional concrete pools and new technologies of closed recirculation systems are being introduced. In most cases, fish are sold on the local market, while larger farms sell the fish to wholesalers. In Slovenia, most fish farms supply the needs of local demand. Such

local production and short transportation lines have very encouraging effect on change in production-consumption patterns.

Please describe other activities contributing to the achievement of the Target (optional)

Training for farmers who have joined the Agri-environment climate change measure was carried out in October and November 2016 at the Agricultural and Forestry Institutions in Slovenia. They covered the topics of Management of grasslands with nature-conservation importance, large carnivores and genetic resources. <https://www.program-podezelja.si/si/infoteka/sporocila-za-javnost/544-4-5-2016-obvezna-usposabljanja-za-vkljucene-v-ukrep-kmetijsko-okoljsko-podnebnih-placil-kopop-za-let-2016>

Cohesion projects for a better conservation status of Natura 2000 sites. On the agri-food fair AGRA in August 2016, the Ministry of the Environment and Spatial Planning organized a workshop on projects from European Cohesion Policy funds to improve the status of Natura 2000 species and habitat types. These projects should focus on best results in the field. In this regard, it is important to search for synergies with other sectors, in particular agriculture, as most projects are in Natura 2000 sites with grasslands as the most important habitat types. http://www.natura2000.si/index.php?id=87&tx_ttnews%5Btt_news%5D=564&cHash=043fc8c7055d0dc5a870d72760ec58f8

The Ministry of Agriculture, Forestry and Food in cooperation with the Institute for Nature Conservation issued a publication entitled **Invasive Plants in the Agricultural Landscape**. In this booklet, the nine most common invasive alien plants that occur on agricultural land are presented with information on where and why these plants came to us, what problems they can cause, and what each of us can do to limit their dissemination. <https://www.program-podezelja.si/si/knjiznica/101-invazivne-rastline-v-kmetijski-krajini/file>

Management plans for farms. Within the framework of the LJUBA project, three sample farms were selected at the Ljubljansko barje. The concept of integrated management plans for individual farms has been developed for the purposes of planning the management of agricultural land in a protected area. The final result is the upgraded farm business plan which establishes harmonious development between agro-production and nature conservation objectives. <http://www.ljuba.si/novice/celostni-nacrti-upravljanja-kmetij-na-ljubljanskem-barju/>

International Conference on Nature Protection and Agriculture. The Ministry of the Environment and Spatial Planning, the Ministry of Agriculture, Forestry and Food and the European Working Community for Rural Development and the Restoration of the Villages, prepared an international conference entitled *»Nature Conservation and Agriculture - From the quarrelsome pair to the towed horse of rural development in Europe«*. The conference was attended by about a hundred participants from seven Central European countries. http://www.mop.gov.si/nc/si/medijsko_sredisce/novica/6678/

In February 2016, the National Assembly adopted the **Law on the Management of Forests Owned by the Republic of Slovenia**. This legal act is expected to contribute to the achievement of the objectives of nature conservation, in particular the achievement of the objectives of the Natura 2000 sites and protected areas. The funds of the Forest Fund will also be used to finance measures in Natura 2000 sites in private forests. http://www.natura2000.si/index.php?id=87&tx_ttnews%5Btt_news%5D=540&cHash=a95b030c21e0671c60a9a63e8a2255c1

In August 2015, the Ministry of Environment and Spatial Planning together with the Ministry for Agriculture, Forestry and Food organized a **Green Agenda in agriculture and forestry** at the AGRA fair. They also presented opportunities in the area of protected area management and the green economy and examples of good practices in protected areas. The participants also learned about the results of the LIFE project in the

Škocjanski zatok and DINBEAR project.

http://www.mop.gov.si/si/medijsko_sredisce/novica/6164/

Training of farmers for environmental measures was carried out by the Chamber of Agriculture and Forestry. The Ministry of Agriculture, Forestry and Food has selected the Chamber as a provider of training for beneficiaries of agri-environmental-climate payments. During the commitment period, beneficiaries must annually complete a minimum 4-hour training program on agro-environmental content.

<http://www.natura2000.si/aktualno/enatura/enatura/article/620/>

In 2015, the Ministry of Agriculture, Forestry and Food issued an updated brochure on **Agri-environment-climate payments 2015-2020** which is in line with the published Decree on payments for the measure COPD. During the harmonization of this Regulation, some general provisions, provisions for individual requirements and certain amounts of payments have changed.

<https://www.program-podezelja.si/sl/knjiznica/213-kmetijsko-okoljska-podnebna-placila-za-obdobje-2015-2020/file>

The National Institute of Biology organized annual consultations on pollinators with the emphasis on wild pollinators. They also issued a brochure and a leaflet on bumblebees and solitary bees.

<http://www.nib.si/images/stories/novice/oprasevalci-bevk.pdf>

<http://www.nib.si/aktualno/novice/872-strokovni-posvet-cmrliji-in-cebele-samotarke-prezrti-oprasevalci>

Challenges:

In Slovenia the most prominent among the identified pressures and threats to biodiversity are those related to agriculture and anthropogenic changes to aquatic ecosystems. The negative changes for biodiversity in agricultural land are the result of the abandonment of less attractive and the intensification of more productive agricultural land. With regard to genetic resources for agriculture and the food industry, the globalisation of the agricultural market is the main threat to the genetic diversity of domestic breeds and varieties. The current system needs updating and improvements. Re pollinators, awareness-raising and protection initiatives are very focused on honeybees and the Carniolan honeybee subspecies, with little attention to wild pollinators. Despite more than 500 wild bee species and very high biodiversity there are not many pollinator experts in the country and there is no list of wild pollinators currently available. Apart from habitat protection, there are no protection targets for specific wild pollinator species.

The status of forest habitat types is still mostly favourable, although the pressures on the forest environment are also increasing. We can also expect more conflicts between large carnivores and people, because of increased human presence due to recreation and the expansion of pastures into the ranges of large carnivores. Measures to protect small ruminants and the current methods of management of large carnivores are a case of constant conflicts between conservationists and farmers and some local communities. Regulations that prescribe protection measures and enable affected breeders to obtain appropriate protective equipment or to draw subsidies for such equipment urgently need to be amended. In forestry, more attention should be devoted to the implementation of Natura 2000 site management. The system should be upgraded with active and payable measures to improve the specific requirements of certain qualifying species or habitat types. With climate change and the intentional or unintentional introduction of non-indigenous species, the impact of invasive species on forest ecosystems is likely to increase

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http://www.mko.gov.si/si/delovna_podrocja/program_razvoja_podezelja/

<http://www.program-podezelja.si/sl/strateski-dokumenti/strateski-dokumenti/slovenija>

http://www.mkgp.gov.si/si/delovna_podrocja/ribistvo/akvakultura/
<http://evem.gov.si/info/dovoljenja/dejavnost/13154/dovoljenje/12380/prikaziDovoljenje/>

Aichi Biodiversity Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

Emissions into the air

According to the Environmental Agency of the Republic of Slovenia, air pollution by sulphur dioxide in populated areas is no longer hazardous to human health and the critical annual concentrations for vegetation have not been exceeded during the reporting period. The improved situation should be attributed to the continuous use of better-quality fuels, desulphurisation devices used by thermal power plants, and the use of cleaner fuels in home heating systems. The most worrying aspects are the levels of air pollution by ozone and particles, particularly during the winter season.

In 2016, the CO₂ emissions increased by 3.8% in relation to 2015, and the NO_x emissions by 4.5%. The PM₁₀ particulate matter emissions increased by 2.8% in the same period. The amount of NO_x emissions in 2016 increased by 4.5% from 41,200 to 43,000 tonnes compared to the year before. In 2016, the largest share of NO_x emissions originated from transport and storage (43.5%), 14.2% of NO_x emissions originated from agriculture and forestry, 9.3% from electricity, gas and steam supply, 8.0% from manufacturing, and 4.7% from other activities. 20.3% of all NO_x emissions originated from households. Almost three quarters of PM₁₀ emissions occurred in households in 2016 due to the use of heating and cooling devices. In 2016, 14,000 tonnes of PM₁₀ emissions were generated, which is 2.8% more than in 2015. 9.8% of PM₁₀ emissions were generated in manufacturing, 7.5% in transport and storage, 2.6% in activities for electricity, gas and steam supply, 5.2% in agriculture and forestry and 1.8% in other activities. In 2016, only the quantities of SO_x and SF₆ emissions (by 11% and 0.3%) were reduced compared to 2015. On the other hand, the increase in PFC emissions (by 25.7%) and NO_x (by 4.5%) was the highest.

Waste water

In recent years, increasingly more wastewater has been treated by secondary and tertiary treatment and less only in primary treatment. Through the implementation of EU directives, the impacts of agriculture on water resources have also been reduced owing to the prohibition of the application of fertilisers or phytopharmaceuticals on riparian land, although it is not always complied with in practice. The quantity of sludge from municipal wastewater treatment plants is increasing as expected. Pollution due to the discharge of urban wastewater and polluted watercourses into the sea has been reduced with the operation of new treatment plants. Owing to the large number of tourist vessels, pollution of seawater by waste water and oil is also significant during the summer months.

In the case of industrial wastewaters, there are occasional discharges of hazardous substances which, particularly in a dry period, can have a considerable impact on the biodiversity of some watercourses. There is also a continuous thermal watercourse pollution which affects the biodiversity of rivers that are used for the cooling of power plants. According to the Environmental Agency, water status monitoring in Slovenia is a basis for the assessment of the chemical and ecological status of surface waters, the quantitative and chemical status of underground waters, and the status of water in areas with special requirements. The basic principles of the monitoring and assessment of water status are laid down in *Directive 2000/60/EC of the European Parliament and of the Council (the Water Framework Directive)* and some other directives concerning waters.

The *Water Framework Directive* determines common principles for the monitoring and assessment of the water status for all EU Member States. The regular monitoring of water quality is carried out by the Slovenian Environment Agency (ARSO).

In 2017, 217.7 million m³ of waste water was discharged from the public sewage system, which is 8.5% more than in 2016. Almost two thirds of waste water was treated in the treatment plants before releasing it into the environment. Of total, 6% of wastewater originated from industrial activities, 9% from other activities and 27% from households while 58% was other waste water (precipitation, backwater, ingressions, etc.). Households produced 58.8 million m³ of municipal waste water in 2017, or 9.5% more than in 2016. Unpurified water presented 28% of which almost 97% was released directly into surface water, about 3% in groundwater, and less than 1% at the sea. The purified waste water was released into the environment in almost equal proportions: 97% in surface waters, about 1% on the coast, and just over 2% in groundwater.

Waste

According to environmental indicators managed by the Slovenian Environment Agency, the recycling of municipal waste continued to rise during the reporting period. In Slovenia, almost 6.2 million tons of waste was generated in 2017, of which about 987,000 tons (16%) was municipal waste (an average of 478 kg *per capita*). This is a 15% increase of waste originating from production and services and 3% more municipal waste than in 2016. Compared to the previous year, the total amount of generated waste in Slovenia increased (in particular the volume of construction waste). Of this, 48% originated in production activities, about 42% in service activities and about 10% in households. During this period almost 133,000 tons of hazardous waste was generated, which is 11% more than in 2016. Its majority (74%) was generated in manufacturing activities, 22% in service activities, and just under 4% in households (decreasing). The largest was the quantity of construction waste (44%), followed by waste from thermal processes (18%), municipal waste (16%), waste from overall processing and processing of metals and wood (9%) and sludge from waste treatment facilities (5 %). Other types of waste together accounted app. 8% of all generated waste. In 2017, almost 691,000 tonnes of municipal waste was collected separately. The share of separately collected municipal waste increased from 68% to 70% compared to 2016. Approximately 5.6 million tonnes of waste has been processed and approximately 390,000 tonnes of waste has been disposed of. Processed waste (mainly construction waste) increased by 26% according to 2016 and the amount of waste disposed was 5% higher than in 2016. Approximately 159,000 tons of waste was deposited at the landfill sites. 90% of it was disposed of at municipal landfills, 7% on industrial and 3% in hazardous waste landfills. Imports and exports of waste also increased in relation to 2016; imports by 7% and exports by 17%.

In Slovenia we also monitor the following environmental risks:

- excessively polluted areas in the past,
- noise in the environment,
- biosafety,
- handling of hazardous chemicals,
- environmental pollution by electromagnetic field,
- light pollution

Excessively polluted areas

In the past, there were several attempts to systematically regulate excessively polluted areas in Slovenia arising from mining and the operation of heavy industry in the past. In the 1980s, excessively contaminated areas showed up mainly due to illegal and inappropriate waste disposal. Abandoned gravel pits and karst caves are a special problem in Slovenia. So far, there has been no plan for the long-term rehabilitation of these areas, nor have permanent financial resources been provided for this purpose.

In order to overcome that situation the following objectives are proposed in the new National Environmental Protection Program 2030:

- the start of the remediation of the most heavily contaminated areas in 2019,
- the establishment of record of excessively polluted sites by 2020,
- remediation of at least one third of excessively polluted sites by 2030,
- incentives for the development of innovative methods for remediation of contaminated sites.

Noise pollution

Comparatively, the environment in Slovenia is relatively moderately burdened with noise. The noise pollution is mainly due to traffic and to a lesser extent the industrial activities. The burden on environment by noise is mainly due to ascending transport and partly inadequate maintenance of the transport infrastructure and the fact that the settlements have grown around the transport routes. Among the more exposed are the inhabitants in the larger cities and those living along the more frequent traffic routes. The same can be said for wildlife, but due to the different sensing of sound frequencies, the load on fauna can be quite different and would require more detailed analysis. Measures such as use of silent vehicles, limitation of driving speeds, active noise protection and slowing down of traffic outside of urban areas have a positive impact on reducing noise pollution and consequently reduce disturbances on wildlife.

Measures in this area are focused on the quality of human life and at the same time have positive effects on wider biodiversity. The objectives of the proposed National Environmental Protection Program 2030 are as follows:

1. a reduction in the number of people living with noise above the noise indicators $L_{dvn} = 55\text{dB (A)}$ and $L_{nch} = 50\text{dB (A)}$,
2. increase of the number of people who are not burdened by noise at night above the value of noise indicator $L_{nch} = 40\text{dB (A)}$.

Biosafety

In Slovenia a biosafety system is in place in relation to modern biotechnology and its products which assures the required transparency, risk assessment and compliance with the precautionary principle. The majority of activities in biotechnology are carried out in closed systems and to a noteworthy extent for the experimental release into the environment. The activities are mostly focused on the development of medicines and human health. Due to rapid development and innovation in the field of biotechnology and GMOs, the existing biosafety system and its administrative framework must be continuously upgraded in order to effectively ensure the safe use of new techniques and products and to prevent and reduce possible short-term and long-term adverse effects on the environment, biodiversity and human health. Such solutions should be sought in order to ensure safe use of new techniques and activities in the field of biotechnology in Slovenia (e.g. new breeding techniques, synthetic biology, etc.)._The objectives of the proposed National Environmental Protection Program 2030 will provide:

- an efficient and transparent biosafety system,
- effective protection of biodiversity and human health,
- responsible management of products of modern biotechnology at all levels (consumers, users, industry, research, development and innovation),
- Favourable socio-economic effects of modern biotechnology and its products.

Hazardous chemicals

The field of hazardous chemicals is regulated by EU-wide legislation, followed by national legislation. The key EU regulations in this area are the REACH Regulation (Registration, Evaluation, Authorization and Restriction of Chemicals), the CLP Regulation (Classification, Labelling and Packaging of Chemicals) and the Biocidal Products Regulation. In addition, this area is also governed by international conventions, including the Stockholm Convention on Persistent Organic Pollutants, the Minamata Convention on Mercury, the Rotterdam Convention on the Prior Approval Procedure and the Basel Convention on Waste Management. The implementation of EU legislation and international conventions in the field of chemicals is a key challenge for Slovenia as it involves numerous and complex procedures that are not yet effectively implemented. For Slovenia as a small country there is an even greater sensitivity to pollution with hazardous chemicals. Circular economy associated with chemicals; in particular the presence of substances of high concern, other substances that are subject to prohibition, or substances contained in electrical and electronic devices is also a very big challenge.

The objectives of the proposed National Environmental Protection Program 2030 in this area are the following:

- use of less hazardous alternative substances,
- compliance with the principle of green chemistry in industrial plants,
- reduced hazardous chemicals in the environment, preferably those that cause great concern,
- responsible society regarding the handling of chemicals that pose a threat to the environment at all levels (consumers, professional users and industrial plants).

Electromagnetic radiation

Electromagnetic field (EMP) sources are present everywhere in natural and residential environments. The human being is exposed to EMP loads from natural and man-made sources in the frequency range between 0 and 300 GHz. In comparison with the natural electromagnetic field, the intensity of artificially created fields has increased greatly, as we are faced with new sources that use different parts of the electromagnetic spectrum. The challenge is also the local excessive burden on the EMP, which, although not constituting a violation of the regulation, is not consistent with the basic purpose of environmental protection: to provide an environment that will contribute to the well-being and health and quality of life.

The proposed National Environmental Protection Program 2030 has the following objective in this field:

- Improve the awareness of the population about the burden on the EMP and ensure that the EMP is treated in accordance with best available scientific knowledge.

Light pollution

Slovenia, as one of the few countries, regulates the area of light pollution at national level (Decree on Limit Values of the Light Pollution in the Environment (Official Gazette of the Republic of Slovenia, Nos. 81/07, 109/07, 62/10 and 46/13). Light pollution is increasingly burdening the environment and biodiversity. During the reporting period this was noticeable due to increased installation of illuminated advertising facilities in and outside of settlements. The other problem is the illumination of road infrastructure outside the settlements or in areas where that is not really justified. The new technological development of energy-saving light devices has a positive impact on energy consumption, but this savings; on the other hand, allow the installation of a larger number of lamps. The end result of this trend is comparable energy consumption and increased environmental illumination which may locally pose significant negative impacts on biodiversity.

The proposal of the National Environmental Protection Program 2030 has the following objective in this field:

- Reduce light pollution in settlements and in outdoor areas where there is no need for all day long illumination.

Challenges:

Despite many positive steps and trends, pollution remains one of the significant threats to biodiversity in Slovenia. Cave ecosystems are particularly sensitive to both underground and above-ground activities that have an impact on the subterranean environment. Pollution due to the discharge of urban wastewater and polluted watercourses into the sea has been reduced. Agriculture remains one of the main sources of pollution of watercourses and underground water in addition to the untreated urban and industrial wastewaters. Locally, municipal waste management is still a cause for concern, although the landfilling of waste has been declining and incineration has remained minimal. In coastal areas there is still some pollution by pesticides and fertilisers, which affects the structure of benthic invertebrate communities. Due to the increased levels of production, services and tourism, both personal and freight transport are increasing, which has a negative impact on biodiversity. In the area of biosafety, it is necessary to better integrate sectors relevant to research and development, human health, agriculture, food production and industry in its implementation. The area of hazardous chemicals is closely related and overlapping with "waste" and the issue of "end of waste" criteria is still not solved in Slovenia (implementation of the REACH Regulation). Currently, there is no adequate traceability of substances contained in hazardous waste. The placement of new sources of electromagnetic radiation in the vicinity of residential areas is a major challenge, as it causes discomfort and outrage among the population while the impacts on biodiversity are usually not sufficiently known and adequately addressed.

Sources:

<http://www.arso.gov.si/varstvo%20okolja/odpadki/poro%c4%8dila%20in%20publikacije/>
http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/odpadki/povzetek_porocila_ijs_odpadki_09.pdf
http://www.mkgp.gov.si/fileadmin/mkgp.gov.si/pageuploads/zakonodaja/fitofarmacevtska_sredstva/nap_fitofarmacevtska_sredstva_2012_2022_en.pdf
http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/odpadki/gradivo_za_ucitelje_2018.pdf
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http://www.mop.gov.si/si/medijsko_sredisce/novica/7793/
<https://www.stat.si/StatWeb/Field/Index/13/113>
<https://www.stat.si/StatWeb/Field/Index/13/70>
<https://www.stat.si/StatWeb/Field/Index/13/96>

Aichi Biodiversity 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

Compared with the preceding reporting period, the greatest **threats** to biodiversity in Slovenia are the same. However, the negative impacts of the spread of invasive non-native species and climate change are more pronounced.

Non-native species are being recognised as a great threat to biodiversity in Slovenia. In 2012, the Neobiota Slovenije study of invasive non-native species in Slovenia and their impact on biodiversity conservation and the sustainable use of resources was concluded. It showed that the amount of knowledge of Slovenian experts is good and constitutes a good basis for action, but that we are often powerless in the face of this problemⁱⁱ. Although detailed analyses have not been made, it is evident that invasive plant species are spreading fast along rivers and traffic routes. Wetland ecosystems are the most threatened by invasive non-native species, as two thirds of the most problematic invasive species are spread exclusively by and along waters. This is most prominent along the large rivers (the Sava, Drava, and Mura) and their tributaries, where in the second half of the 20th century about 20 invasive plant species spread to such an extent that they

completely replaced the natural vegetation in many large areas. In the following years, we are planning to step up our efforts in this field, as on 1 January 2015 Regulation (EU) No. 1143/2014 on the prevention and management of the introduction and spread of invasive alien species entered into force.

Despite the lack of data, several activities raising awareness regarding non-native species have been carried out in the last few years for various target groups. Campaigns for the disposal of invasive species are also on the rise. They are mostly organised by non-governmental organisations, but increasingly also by the managers of protected areas and the Institute for Nature Conservation within its projects (e.g. Wetman, Climaparks, Ljuba, Suport).

There is not enough information on the situation regarding invasive non-native species in Slovenia and long-term monitoring scheme has not yet been established. From 2010 to 2012, a research project was carried out entitled "Neobiota Slovenije", which was a study of invasive non-native species in Slovenia and their impact on biodiversity conservation and the sustainable use of resources. Its aim was to collect the existing data on invasive non-native species in Slovenia and examine their impacts on biodiversity. As an EU Member State, Slovenia is obliged to implement *Regulation (EU) No. 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species* in 2016. The European Commission has published a study entitled: *The Framework for the identification of invasive alien species of EU concern*, which brings new scientific knowledge on invasive species and will probably be one of the basis for compiling a list of invasive non-native species. Due to the lack of human and financial resources, a comprehensive national system for managing invasive non-native species has not been set up yet. Supervision, monitoring, research and administrative procedures which do not exist at present should be set up at the national level and inter-sectoral cooperation established and improved.

Operational Programme – The Strategy for the Management of Non-native Invasive Species.

OBJECTIVE: To preserve the natural composition of ecological community, as far as possible. The Operational Programme (in terms of content also a strategy) includes detailed measures and their implementation for achieving the objective. It has not been adopted yet.

Detailed national target 3: By 2020 the invasive alien species and their pathways will be identified. By 2025, the invasive alien species and their pathways will be brought under control

Measures for inter-sectoral cooperation regarding invasive non-native species:

- To coordinate work related to non-native invasive species among sectors, as well as non-governmental organisations, local communities, experts and private companies, institutes and other stakeholders;
- To educate and raise the awareness of the general public as regards the issue of non-native invasive species (what they are, why they pose a problem, what every person can do, etc.);
- To include the public in the prevention of the introduction and spreading of non-native invasive species (acquire support in and for the implementation of measures) and the gathering of data on these species;
- To set up a system for monitoring warnings and providing information, which will be supported by the system for monitoring (with an emphasis on key introduction points) and inspection;
- To set up a rapid response system when the introduction of a non-native invasive species is detected or a warning regarding such a species is received (determining activities for prevention, disposal, control or keeping);
- To supplement the deliberate introduction system in cooperation with other sectors (health, the veterinary sector, customs, agriculture);
- To promote and participate in the strengthening of capacities, and the performance and effectiveness of institutions and individuals involved in biodiversity conservation.

http://www.mop.gov.si/si/delovna_podrocja/narava/invazivne_tujerodne_vrste_rastlin_in_zivali/rastline_invazivne_tujerodne_vrste/navadna_barvilnica_phytolacca_americana/navadna_barvilnica_phytolacca_americana/
http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/invazivke/Orjaski_dezen_2018.pdf

Please describe other activities contributing to the achievement of the Target (optional)

In 2018 the expert proposal for the program of measures for controlling invasive species *Asclepias syriac* and *Trachemys scripta* were published on the website "Invasive alien species".

http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/invazivke/sirska_svilnica_strokovne_podlage.pdf
http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/invazivke/popisana_sklednica_strokovne_podlage.pdf

In 2018, the Administration of the Republic of Slovenia for Food Safety, Veterinary and Plant Protection carried out a wide information campaign on the mandatory control of *Ambrosia artemisiifolia*. They issued a leaflet and a poster containing basic information about this species, and forwarded them to specific target groups across Slovenia.

http://www.uvhvvr.gov.si/fileadmin/uvhvvr.gov.si/pageuploads/DELOVNA_PODROCJA/Zdravje_rastlin/2017/Nevarni_SO/Ambrozija_Zlozenka_TISK.pdf

In June 2018, the first action was taken to remove selected non-native plants under the LIFE ARTEMIS project. The goal of the project is to contribute to the reduction of the harmful impacts of invasive alien species on biodiversity by increasing public awareness and by setting up an effective early warning and rapid response framework for invasive alien species in forests.

<https://www.tujerodne-vrste.info/2018/06/08/odstranjevali-smo-tujerodne-rastline/>
<https://www.program-podezelja.si/si/knjiznica/217-upravljanje-s-travisci-in-problematika-invazivk-v-kmetijstvu/file>

In 2018, an article entitled "Remote Sensing of Invasive Plants" was published online.

<http://dirros.openscience.si/lzpisGradiva.php?lang=slv&id=8220>

In 2017, within the framework of the LIFE ARTEMIS project, an application for reporting data on non-native species was developed. By the end of 2017, observers reported 2246 entries via mobile and web applications and 5783 entries were reported by the end of 2018,

<https://www.invazivke.si/start.aspx>

In 2017 the Fisheries Research Institute of the Republic of Slovenia issued the study for the program of measures for controlling freshwater invasive alien species *Pseudorasbora parva*, *Pacifastacus leniusculus* and *Orconectes limosus*

http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/invazivke/Invazivne_vrste_januar_2017_porocilo.pdf

At the end of November 2017, a meeting of the LIFE platform on invasive alien species was held in Milan (IT), organized by the European Commission's LIFE Unit and the Lombardy Region with the support of the Neemo EEIG external team. The participants of the LIFE ARTEMIS project also participated. The Biological Institute of the Slovenian Academy of Sciences and Arts analyzed the occurrence of non-native species in different habitat types in Slovenia using an extensive database of phytocoenological descriptions.

https://hrcak.srce.hr/ojs/index.php/periodicum_biologorum/article/view/5183

In November 2017, projects carried out by several NGOs (the Herpetological Society - Societas herpetologica slovenica, the Slovenian Odonatological Society and the Speleobiological Society) were completed. Projects were aimed at raising awareness and preventing the negative impact of invasive species on European endangered species.

http://www.natura2000.si/index.php?id=87&no_cache=1&tx_ttnews%5Btt_news%5D=739&tx_ttnews%5BbackPid%5D=50

Within the framework of the LIFE Artemis project, the publication "Field Handbook for Identification of Non-Indigenous Species in Forests" was published as one of the key tools for the implementation of the Early

Warning and Rapid Response System. The handbook covers non-native species of plants, fungi, insects and mammals.

<https://www.invazivke.si/dat/prirocnik.pdf>

In 2017 a master's thesis entitled "Knowledge and attitude to invasive alien species of animals" was published
<https://dk.um.si/IzpisGradiva.php?id=66991&lang=slv>

In 2017, a Public Opinion Survey on Invasive alien species in Slovenia was published under the auspices of the Slovenian Forestry Institute.

https://www.tujerodne-vrste.info/wp-content/uploads/2018/01/LIFE-ARTEMIS_Javnomnenjska-raziskava-2017.pdf

In 2016, the LIFE project on negative impacts of invasive alien species in forests, involving the Slovenian Forestry Institute, the Forest Service, the Nature Protection Institute of the Republic of Slovenia and the Symbiosis Institute, started. The main objective of the project is to contribute to reducing the negative impacts of invasive alien species on biodiversity by raising public awareness and establishing an effective early warning system and rapid response for non-native species in the forest.

http://www.natura2000.si/index.php?id=87&tx_ttnews%5Btt_news%5D=561&cHash=a6e45e8d01e4e5a9e0ba15e4e0b2d2dd

In 2015, the final report of the project "Preparation of expert background for measures related to the treatment of invasive alien species and awareness rising" has been published.

http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/invazivke/strokovne_podlage_ukrepi_ITV_koncno_porocilo.pdf

Aichi Biodiversity Target 10: 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

During the reporting period, Slovenia made various efforts to reduce anthropogenic pressures on its vulnerable ecosystems and has thus indirectly contributed to reduced pressure on vulnerable ecosystems elsewhere (incl. coral reefs). Slovenia, as many other countries is faced with the fact that consequences of climate change appear faster than measures for their mitigation and general awareness and attitude of decision-makers.

Slovenia lies in a temperate geographical and climate zone. The climate and weather conditions vary considerably here, as the influences of the Mediterranean, Alpine and continental climates mix. This is the area with the largest number of storms in Europe and extreme weather events each year. Climate change projections for the coming decades indicate that severe weather and extreme climate and hazardous events will occur more frequently than in the past. We can expect summer droughts, which will have a considerable impact on local biodiversity and will affect arable farmlands and in some places endanger drinking water resources. Consequently, climate change is becoming a significant threat to biodiversity in Slovenia. Overall, there is enough precipitation but in some regions the distribution of precipitation over the year differs considerably, which sometimes causes even drought and the other extreme – flooding and landslides. These problems are likely to continue with climate change and we can expect even more frequent and intense storms. One of the consequences of the catastrophic 2014 ice storm that affected 50% of forest in Slovenia is a permanent change in species' composition. According to current trends, the quantity of precipitation is increasing in autumn and decreasing in summer, when it is needed the most. Warm and green winters, i.e.

winters without snow in the lowlands, are becoming more common and have direct impact on biodiversity (disturbed hibernation patterns, the expansion of thermophilic species, etc.). The effects of climate change can arise in the form of losses of forest and agricultural land, loss of species and / or large surface disturbances in forests and forest fires, the arrival of new (invasive) plant and animal species etc. In coming years this has to be taken into account seriously as a part of adaptive biodiversity management.

Analysis of trends from the past has shown changes of climate variables across Slovenia. Uneven changes show that we can't simplify and unify future climate change for the whole of Slovenia. The Environmental Agency of the Republic of Slovenia has already prepared scenarios for changes in the long-term average temperature and precipitation for the territory of Slovenia by the middle of the 21st century. In order to assess the phenomena of climate change such as extreme precipitation, drought, heat load, heat waves and changes in growth factors, as well as the assessment of impacts of expected climate change over a longer period of time (up to 2100), more detailed data sources are being prepared and will be adjusted for further use. This will represent the basis for planning of adaptation measures for climate change.

As regards measures, according to the analysis made by the **Climate Mirror Project**, Slovenia successfully fulfils the goals set so far. The emission productivity in Slovenia increased by 6% in 2017 - emissions have decreased and economic activity has increased, which is why the strategic development goals are followed successfully. The share in the contribution structure of greenhouse gases is the following: transport contributes almost 51%; followed by agriculture (16%), building (11%), industry (10%), electricity and heat production (5%) and waste management sector (5%). Slovenia has already undertaken an obligation to reduce emissions by 15% by 2030 compared to 2005, in order to further increase its ambitions. The rural development program through Agri-environment-climate payments promotes a number of agricultural practices that contribute to more efficient nitrogen cycling.

Climate targets are also implemented by municipalities. In Slovenia, there are 37 municipalities that have set goals to reduce GHG emissions by 2020. Specifically, the targets for reducing emissions by renovation of buildings have been defined and the efficiency of incentives has also been improved. Municipalities play a very important role, especially in the areas of mobility, waste, buildings, exploitation of renewable resources and land use. In 152 municipalities, public buildings were renovated by incentives from the European Cohesion Fund. In addition, households were considerably involved through incentives from the Slovenian Environmental Public Fund, which contributed 161 million EURO during the 2011-2018 periods.

The ongoing LIFE Climate Path 2050 project "Slovenian Path Towards the Mid-Century Climate Target" is intended to monitor progress and plan climate action to reduce GHG emissions. The project builds on the development and complementation of the existing system for the preparation of projections and monitoring the implementation of measures.

Strategic measures

After considering the best practices of European and other reference countries and challenges associated with administrative capacity, human resources and the availability of funds, Slovenia decided to prepare a strategic framework as a guide for future efforts. In December 2016 the Government of the Republic of Slovenia adopted the **Strategic Framework for Adapting to Climate Change**.

Slovenia is in favour of ambitious greenhouse gas emission reduction targets on national, EU and global levels, which would enable to achieve the goal of limiting the growth of the global temperature below 2°C compared to preindustrial levels in accordance with commitments of Paris Agreement from 2015. In order to achieve that target it is necessary to take into account the principle of common but differentiated responsibility and respective capabilities of individual countries as well as active assistance of developed countries with the implementation of measures in developing countries. Slovenia is aware that this is necessary for the preservation of biodiversity, and to avoid major climate imbalances.

The main document containing measures for reducing greenhouse gas emissions in Slovenia over the reporting period has been the **Operational Programme for Reducing Greenhouse Gas Emissions until 2020 with a View to 2030 (OP TGP-2020)** that was adopted by the Government in December 2014. The document follows EU position and defines the needs and possibilities of Slovenia in this field. The majority of measures

in different sectors have been implemented in accordance with the expectations of this programme with the exception of the transport sector, where the emissions of carbon dioxide are still very high.

An important potential to reduce greenhouse gas emissions in Slovenia is an increase in efficiency of final energy consumption in all sectors. The implementation of energy efficiency measures is being promoted and facilitated by raising public awareness, informing and educating energy consumers, and encouraging investments in efficient energy consumption and renewable energy sources.

The area of transport is one of the main sources of greenhouse gas emissions in Slovenia, which can be attributed to the geographical position of Slovenia as a transit country, dispersed settlement and relatively undeveloped public transport. Therefore, it is necessary to promote and disseminate good practices in the field of sustainable mobility in Slovenia. Taxation of motor vehicles can influence the behaviour so that, due to more favourable taxation, users would be stimulated to buy environmentally friendly vehicles with lower emissions of CO₂ and other pollutants. The situation is more rapidly improving at the local level with many examples of good practice within the reporting period, as well as a more comprehensive strategic mobility plan that follows modern trends and addresses climate change as one of the central guides for some municipalities. In Slovenia, the largest number of activities for the promotion of good practices is concentrated in the European Mobility Week, which takes place in a number of Slovenian cities each year in mid-September. In recent years Ministry of Infrastructure has been more actively involved in the sustainable mobility at the local level, which, through incentives for the development of integrated transport strategies, has significantly contributed to sustainable mobility planning in many Slovenian municipalities.

Beside the transport sector, the agriculture sector is the second largest source of greenhouse gas emissions in Slovenia and is not included in the European Emissions Trading Scheme. Agricultural discharges are only slowly decreasing, while on the other hand the sector is very sensitive to extreme weather conditions due to climate change.

In Slovenia, we have exceptional opportunities for use and processing of wood as an abundant and easy accessible source, instead of other energy sources. The more we substitute fossil sources with wood, to a greater extent we contribute to reducing CO₂ emissions. Sound and sustainable use of wood can therefore strongly contribute Slovenia's transition to a low-carbon society.

Emissions of greenhouse gasses and actions for their reduction

According to the **7th National Communication and 3rd Biennial Report** from Slovenia under the UN Framework Convention on Climate Change, CO₂ emissions in 2015 represented 80.8% of overall emissions of greenhouse gases. CO₂ emissions followed the consumption of energy and with regard to their fraction exerted a major impact on total emissions. Compared to 1986, they decreased by 18.3% in 2015. CH₄ emissions represented 12.1% of total emissions in 2015 (12.5% in 1986) and were by 20.3% lower than in 1986. N₂O emissions represented 4.9% of total emissions and were by 11.4% lower than N₂O emissions in 1986. F-gases represent 2.2% of total 10 emissions and some gases (HFCs and SF₆) have shown significant increases since 1995 (base year for F-gases), while PFC decreased drastically in 2008 and has continued to decrease in 2009. Since then a slow increase of emissions has been observed.

In the period until 2020, Slovenia has set itself a goal of reducing GHG emissions within the policy and legal order of the EU. Emissions from sources that are included in the GHG emissions trading scheme should be reduced, at EU level, by 21% compared to 2005. Other sources are subject to national objective that emissions will not increase by more than 4% by 2020, as compared to 2005. Annual goals in the period 2013-2019 are also defined. Objectives for the period after 2020 are still being developed.

The **OP TGP-2020 Program** is based on the adopted sectoral and development programs defining the activities for the reduction of GHG emission to 2020. Environmental protection policies at local level are important for the preparation and implementation of measures for the reduction of GHG emissions, especially

aimed at the use and local supply of energy, waste management and sustainable mobility. As an EU member state, Slovenia has also undertaken to implement the **European climate policy** and implement joint measures. According to the projections, emissions in 2020 amount to 18,009 kt CO₂ eq, they are reduced to 16,351 kt CO₂ eq until 2030 and until 2035 to 15,378 kt CO₂ eq. In 2020, emissions are by 7.0% higher than in 2015, in 2030 and 2035 emissions are by 2.8% and 8.6% lower. Compared to 2005 emissions are 12.1% lower in 2020 and in 2030 they are 20.2% lower. Emissions from international aviation are expected to increase by 79% and emissions from navigation by 154% by 2035. The total effect of all measures (implemented and adopted) amounts to 1.1 Mt CO₂ eq in 2020 and 4.5 Mt CO₂ eq in 2030. CO₂ emissions and transport sector represent the largest share in the reduction. The largest uncertainty for Slovenia in the preparation of projections stems from the transport sector.

In the period since the last National Report, Slovenia has made major steps in the field of climate change impact assessment, which have made possible further progress in assessing vulnerability and then the preparation and adoption of the first cross-cutting strategic document on climate change adaptation. **The Strategic Framework for Climate Change Adaptation** provides guidelines for the planning and implementation of climate change adaptation measures. An **Inter-Sectoral Working Group on Climate Change Adaptation** was established in 2016 and the project titled “**Assessments of Climate Change Impacts in the 21st Century**” started at the Environmental Agency of the Republic of Slovenia. The project already offers appropriate expert groundwork and first estimates of the effects of climate change in the coming period, which will then enable the preparation of an Action Plan on Climate Change Adaptation in the future.

Climate finances

Since the last national report, Slovenia has been increasing its climate finances. In 2016, Slovenia contributed EUR 3 million for climate assistance in developing countries (shown as part of the official development assistance (ODA)), which represents an increase of 26% as compared to 2015. Slovenia will strive to maintain the climate change assistance on the level of around EUR 3,500,000 by 2020.

The volume of Slovenia's climate finance in recent years:

2013 – EUR 1,960,525
2014 – EUR 2,266,840
2015 – EUR 2,393,155
2016 – EUR 2,976,505
2017 - EUR app. 3,500,000

In 2016, Slovenia has for the first time added resources from the “**Slovenian climate change fund**” (around EUR 1 million per year), where resources are gathered from the sale of allowances from the EU-ETS greenhouse gas emissions trading scheme. The aim is to allocate at least EUR 1 million per year for climate finance from the fund by 2020.

In 2016, Slovenia has devoted around EUR 1 million to multilateral assistance in the form of grants; and almost EUR 2 million for bilateral assistance, especially for projects in the Western Balkan countries (mainly Kosovo, Albania, Montenegro, and Northern Macedonia). In this respect, Slovenia has tried to offer about half of the assistance to projects for adaptation to climate change, while the other half targeted projects regarding the reduction of the greenhouse gas emissions, including projects that concern both areas, some of which include the transfer of knowledge, technologies or good practices from Slovenia to these countries.

In the draft **Assistance Programme for Developing Countries**, which also includes climate finance, Slovenia plans to increase the annual contribution from its climate fund by 2030 in order for the total climate finance to reach between EUR 6 and EUR 7 million in 2030. The current share of climate finance in 2016 amounts to around 15% of the total ODA, and by 2030, it would be expected to increase at least to 30%, which is twice the increase in the share of climate finance, both in absolute amount and in the share of all ODA resources. In

the field of climate finance, Slovenia will also follow joint decisions and guidelines, both at EU and UNFCCC levels.

In 2019 the Ministry of the Environment and Spatial Planning started preparations of the **National Climate Strategy by 2050**.

Challenges:

In order to achieve the ambitious goals a more systematic promotion is needed. Substantial resources are allocated to measures to reduce GHG emissions without monitoring the effects achieved. One of the key recommendations of the 2018 Climate Mirror is that in the future, for each measure, quantitative targets for reducing GHG emissions should also be defined. Among the agri-environment-climate payments measures that would significantly reduce methane emissions have not been fully successful.

Sources:

http://www.mf.gov.si/fileadmin/mf.gov.si/pageuploads/javne_objave/2018-sept-P3_ZelenaProracunskReforma_2_.pdf
http://www.arso.gov.si/podnebne%20spremembe/poro%c4%8dila%20in%20publikacije/klimatska_ranljivost.html
http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/zakonodaja/varstvo_okolja/operativni_programi/sklad_podnebni_program_1_5_16.pdf
<https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-and-biennial-reports-annex-i-parties/third-biennial-reports-annex-i>
http://www.mop.gov.si/si/delovna_podrocja/podnebne_spremembe/dokumenti/slovenija_je_pripravila_7_drzavno_porocilo_in_3_dvelet_no_porocilo_o_podnebnih_spremembah/
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<http://meteo.arso.gov.si/uploads/probase/www/climate/text/sl/publications/PSS-Glavne-znacilnosti-gibanja-temperature-zraka-1961-2011.pdf>
http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/podnebne_spremembe/SOzP_ang.pdf
http://www.mop.gov.si/si/medijsko_sredisce/novica/8694/
<https://www.podnebnapot2050.si/>

Aichi Biodiversity Target 11: By 2020, at least 17 per cent of terrestrial and inland water, 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

In Slovenia, the possibilities for the expansion of protected areas are exhausted and are only possible to a lesser extent. The protected areas cover 14% of the territory of Slovenia. There are 51 wider protected areas (1 national park, 3 regional parks, and 47 landscape parks) and 1,335 narrower protected areas (1 strict nature reserve, 56 nature reserves, 1,164 natural monuments and 114 landscape areas). According to the draft **National Environmental Protection Program by 2030**, the new protected areas will be set up in the most sensitive areas with the greatest need for protection and management. Wider protected areas will preferably be established in some of the remaining important nature conservation sites, which would increase the total surface of protected areas for app. 2%.

Options to further increase the surface of marine protected areas in Slovenia have been almost completely exhausted and therefore the target concerning the extent of marine protected areas will not be reached. There are not many coastal and marine habitat types on the Slovenian coast and considering the very short shoreline

and small extent of the territorial sea on one hand and the great pressures of many activities on the other, it is not likely that this target will be achieved. However, it is important to mention that in July 2017, the Government of the RS adopted the **Marine Environment Management Plan 2017-2021**. The purpose of this document is to promote the sustainable use of the sea and the conservation of marine ecosystems and to achieve a good condition of the marine environment by 2020. Various areas intended for biodiversity conservation cover a large part of the endangered coastal habitats and species, but the majority of these areas have the status of a natural asset or Natura 2000 site. According to Slovenian Environment Agency, only 25% of the Slovenian coast is still in its natural state, 38% is moderately modified and 37% is considerably changed (ports, marinas, urban areas). As the sub-Mediterranean biogeographical region is very restricted in Slovenia, it can be concluded that urbanisation has had a great impact on its biodiversity. Threats to coastal and marine ecosystems remained more or less the same in the reporting period (habitat degradation and fragmentation). We can expect that the pressure on marine and coastal ecosystems will increase in the future, since there are numerous activities (tourism, fishery, transport, ports, urban areas, etc.) carried out in this very small area. The coastal region is also under great pressure owing to non-native species.

Natura 2000 sites

With the latest update of the Natura 2000 network in Slovenia in 2016, its development is concluding. All land areas that are important for conservation and achievement of the favourable status of birds under the Birds Directive have been designated. Species and habitats listed under the Habitats Directive are also sufficiently included in the network (the sufficiency indicator of the Slovenian Natura 2000 network is 0, 97). Further additions to the Natura 2000 network are unlikely to significantly change the boundaries of individual sites. Since 2016, Natura 2000 sites account 37.16% of the surface area of Slovenia (the highest among the European Union member States). There are 355 areas identified, of which 324 are established under the Habitats Directive and 31 under the Birds Directive. The total area of all Natura 2000 sites covers 7,681 km², of which 7,675.5 km² on land and 5.5 km² at sea. Forests cover 71% of Natura 2000 sites, 5% of areas are above the timberline, 23% of surface is agricultural and overgrown land, water areas represent 1%, while 2% of areas is built-up land. 29% of the Natura 2000 sites lie within the existing protected areas and about 128,000 residents are registered in these areas.

Areas designated during the reporting period

63 new areas of ancient and pristine beech forests in ten European countries were nominated as UNESCO's World Heritage. Two sites, the **Krokar and Snežnik-Ždrocle primeval forests** were added to this list as the second entry for Slovenia. These forests represent the extension of the previously recognized and listed forests in Germany, Slovakia and Ukraine called the "Beech Forests of the Carpathians and the ancient forests of Germany". The World Heritage Committee has recognized the particular and universal values of these forests as they together represent evidence of the exceptional development and influence of beech ecosystems in Europe since the last ice age. On the occasion of the International Day for Biological Diversity Biodiversity, on May 22, 2018, UNESCO awards were given to Krokar and Snežnik-Ždrocle Forest Reserves. The awards were taken over by the Slovenian Forest Service as the manager of these two sites.

Another important achievement was the proclamation of the **Mura Biosphere Reserve** by UNESCO. The recognition of this site represents a regional (Central European) milestone in protection of this very valuable river and landscape associated with it. This is the beginning of the sustainable development of the Mura river basin, where on one hand municipalities are actively involved in its conservation and management and rewarded by economic benefits on the other. At the same time, it is also a clear signal of commitment of local population towards a healthy environment and protest against the planned use of the river for energy generation. As a part of the Natura 2000 network, the Mura Biosphere Reserve extends from the Austrian-Slovenian border to the Croatian-Hungarian border. The river basin covers the largest flood forest in Slovenia and is especially rich in fish and bird species. It covers surface of 29,000 hectares divided into three protection

and development zones and includes 16 municipalities. The central protection zone captures almost 8000 hectares of water ecosystems where biodiversity is particularly high. The second zone of almost 8,500 hectares is devoted to achieve protection and development objectives while a transitional zone which covers almost 12,500 hectares is dedicated to sustainable development.

Of marine areas, the wider area of **Debeli rtič peninsula** was proclaimed a landscape park in June 2018. It covers the entire peninsula between Valdoltra and Sv. Jernej within the boundaries of the Ankaran municipality, the bay of St. Jernej and 250 to 450 meters wide sea belt between them. The area is divided into three zones according to their natural features, threats and the existing use and urbanization. The first conservation area comprises land and sea with a shoreline on the outermost part of the cape, the upper edge of the cliff and the coastal sea belt with an underwater reef. The second zone includes a forest in the hinterland of St. Jernej and areas of naturally preserved sea and shore. The third zone, with the mildest regime, covers urbanized parts, the ridge of the peninsula with agricultural areas and individual settlements as well as parts of the coastal sea and shore.

Another area that was added to the protected areas network is the **Ormož Lagoons Natural Reserve** (66 hectares). This Natural Reserve was established by the Government of the Republic of Slovenia in May 2017. The management of the reserve is entrusted to the Ministry of the Environment and Spatial Planning which contracted the guardian of the area.

At the beginning of 2019, a new protected area (natural park) was added to protected areas network by the Municipality Središče ob Dravi. It covers 438 hectares of the **Drava River flood plains**. The uniqueness of this area is that the fields above the reach of floods are the only habitat of European hamster (*Cricetus cricetus*) in Slovenia. There is also a constant presence of otters (*Lutra lutra*), while beavers (*Castor fiber*) are repopulating the area.

Please describe other activities contributing to the achievement of the Target (optional)

In 2017, the European Commission presented an overview of the implementation of environmental policy in the EU. The Commission estimates that among the three main challenges in Slovenia is the maintenance of the extensive Natura 2000 network in Slovenia. The Commission highlighted the challenges of enforcement on the ground and the lack of will to support effective integration of Natura 2000 sites into other policies. http://www.natura2000.si/index.php?id=87&tx_ttnews%5Btt_news%5D=584&cHash=51d996afc822da97a427eb70997b4b0e

The boundary of the Sečoveljske soline Nature Park has changed so that its western border runs along the national border between the Republic of Slovenia and the Republic of Croatia, as determined by the final judgment of the arbitral tribunal. The area of the park is consequently reduced by 48.3 ha or 6.7%. http://www.mop.gov.si/index.php?id=1333&L=0&tx_news_pi1%5Bnews%5D=8375&tx_news_pi1%5Bcontroller%5D=News&tx_news_pi1%5Baction%5D=detail

In 2017, an article “Slovenian Natura 2000 in numbers” summarizing the results of some spatial analyses of the Natura 2000 network with other spatial data (population, land use, altitude and inclination, other nature conservation areas, forest reserves, protective forests, road network, municipalities and statistical regions) was published. http://www.zrsvn.si/dokumenti/63/2/2017/Petkovsek_4946.pdf

In November 2017, the Institute of the Republic of Slovenia for Nature Conservation organized a conference titled “Protection of the Slovenian Sea - Status and Perspectives” http://www.zrsvn.si/sl/informacija.asp?id_meta_type=73&id_informacija=896

In October 2017, the Court of Auditors published an audit report on the Management of Natura 2000 sites. They reviewed the effectiveness of the management of Natura 2000 sites in 2015 and 2016. The Court focused on the effectiveness of the Government of the Republic of Slovenia (the Ministry of the Environment and Spatial Planning) and the Institute of the Republic of Slovenia for Nature Conservation. The Court considers that the management of Natura 2000 sites was partially effective and could be improved.

http://www.natura2000.si/index.php?id=87&tx_ttnews%5Btt_news%5D=725&cHash=6c199161ac4ed6dafcb03fce2f22f4b2

In September 2017, an international conference was held on the connectivity of habitats and effectiveness of green infrastructure. Experts from the LIFE DINALP BEAR Project presented the problem of fragmentation of the bear habitat and other large carnivores and highlighted the importance of cross-border reconnections of the habitat.

<http://dinalpbear.eu/life-dinalp-bear-na-alpgov-posvetu-o-povezljivosti-habitatov-in-zeleni-infrastrukturi/>

In July 2017, the Government of the Republic of Slovenia adopted the Marine Environment Management Plan 2017-2021. The purpose of the plan is to promote the sustainable use of the sea and the conservation of marine ecosystems and to achieve a favourable status of the marine environment by 2020.

<https://www.uradni-list.si/glasilo-uradni-list-rs/vsebina/2017-01-2130?sop=2017-01-2130>

The “Mediterranean Coast and EU Macro-regional Strategies Week – Living with the sea” was held in September 2017. The traditional event brought together interested public and stakeholders to discuss the potentials, impact and risks on the sea and coastal area at the local, national, regional and macro-regional level.

<http://registration.adriatic-ionian.eu/eu-macroregional-strategies-conference-on-media-and-communication/introduction/>

On May 4, 2017 the Government of the Republic of Slovenia adopted a regulation on the Ormož Lagoon Nature Reserve. The reserve covers 66 hectares.

http://www.natura2000.si/index.php?id=87&no_cache=1&tx_ttnews%5Btt_news%5D=589&tx_ttnews%5BbackPid%5D=50

In 2015, the Master's thesis titled “Potential for the establishment of a cross-border marine protected area in the Piran Bay and its surroundings, the North Adriatic” was published.

https://www.famnit.upr.si/files/zakljucna_dela_repo/370

In September 2016, a symposium on Geographic Information Systems - Spatial Data was held, which included a session on the establishment and management of protected areas.

<http://giss.zrc-sazu.si/>

In March 2016, the Government of the Republic of Slovenia adopted amendments to the Natura 2000 network in order to eliminate shortcomings identified. In some of the existing sites, EU-wide important species and habitat types have been added and others have been excluded. With these addition, the surface of Natura 2000 sites increased by 1.3 km². The Government also adopted a Plan for determining the impacts of the Natura 2000 sites and the determination of development measures.

http://www.natura2000.si/index.php?id=87&no_cache=1&tx_ttnews%5Btt_news%5D=549&tx_ttnews%5BbackPid%5D=50

In October 2015, a workshop on the management of selected Natura 2000 sites along the Mura River was held.

<http://goformura.gozdis.si/delavnica-projekta-goformura-za-sirso-javnost/>

In August 2015, the Ministry of the Environment and Spatial Planning and the Ministry for Agriculture, Forestry and Food organized a conference devoted to the “Green Agenda in agriculture and forestry”. They also presented opportunities in management of protected areas for the green economy with several examples of good practices.

http://www.mop.gov.si/si/medijsko_sredisce/novica/6164/

In March 2014, a workshop titled “Biodiversity in the Mediterranean Basin” was held. , Koper. was held

<https://conferences.matheo.si/event/13/?ovw=True>

In 2015, the Institute of the Republic of Slovenia for Nature Conservation identified the internal zones of habitats of species and habitat types as graphically defined parts of the Natura 2000 sites.

http://www.natura2000.si/index.php?id=87&no_cache=1&tx_ttnews%5BbackPid%5D=50&tx_ttnews%5Btt_news%5D=478

The results of WETMAN project were presented on the occasion of the World Wetlands Day 2015.

http://www.wetman.si/modules/simplemod/uploads/files/koncna_verzija_tisk_small.pdf

Challenges:

With regard to protected areas, effective management of existing sites should be ensured and strengthened where it already exists. The implementation of nature protection measures in protected areas should be prioritized prior to the implementation of other activities. These measures should be better coordinated between various actors dealing with conservation, agriculture, forestry, infrastructure, tourism, cultural heritage and others. The public services responsible for these areas shall take a more active role in the preparation, implementation and co-financing of management plans. The activities in protected areas should support the achievement of the conservation objectives, including through the implementation of the development plans of all key sectors. Designation acts of protected areas adopted before 1999 (more than 200) should be updated, preferably those with inadequate protection regimes according to the state of nature today. It is important to further reduce the industrial, agricultural and urban pollution to a level that does not threaten biologically diverse or well-preserved habitat types and the habitats of endangered or endemic plant and animal species. Efforts to restore degraded habitat types to a favourable status, where possible and prevent the introduction of non-native species and the spread of already introduced non-native species to ecologically important areas should continue.

Sources:

http://www.natura2000.si/fileadmin/user_upload/Primerjava_N2K_2004_2016_20160725_MOP.pdf

<http://www.natura2000.si/o-naturi-2000/natura-2000-v-sloveniji/>

http://www.mop.gov.si/index.php?id=1333&L=0&tx_news_pi1%5Bnews%5D=8277&tx_news_pi1%5Bcontroller%5D=News&tx_news_pi1%5Baction%5D=detail

http://www.zrsvn.si/dokumenti/63/2/2017/Petkovsek_4946.pdf

http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/osnutki/biosferno_obmocje_Mura.pdf

https://ec.europa.eu/info/news/european-union-meets-target-conserving-10-europes-seas-2020-2018-oct-29_en

<http://www.natura2000.si/aktualno/novice-in-dogodki/novica/article/781/50/>

Aichi Biodiversity 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

According to the available data, no known endangered species of wild fauna and flora became extinct in Slovenia in the reporting period. Despite that fact, the conservation status of many taxa and their habitats is a matter of serious concern (i.a. birds, butterflies, amphibians, some plants, endemic and rare species etc.). Many measures aimed at improving the status of numerous species have been implemented under ecosystem protection programmes and management programs, particularly for some umbrella species, such as large carnivores. Strategies and action plans for bear, wolf and lynx have been drawn up. With the application of new methods, knowledge on the populations of large carnivores has improved significantly. As within the previous reporting period, the main reason for the unfavourable status of a number of species in Slovenia remains

habitat loss caused by human activities. Among the umbrella species, large carnivores should be highlighted. The most worrying is the status of the lynx. The lynx in Slovenia belongs to the Dinaric–Southeastern Alpine population, which is isolated from other lynx populations in Europe. As the entire population originates from six specimens (introduced to Slovenia in 1973), there is a high rate of inbreeding. This presents an additional threat to the population, which is already in decline in terms of numbers and range.

Demographic growth in Slovenia does not pose a direct threat to wildlife, unlike in some other parts of the World. Nevertheless, it can be expected that the pressures on the natural environment will continue to increase and the status of plant and animal species will decline in relation to the decrease in ecosystem diversity. Over this reporting period the fragmentation and deterioration of natural habitats continued, owing to the construction of roads, energy facilities, intensified agriculture, urbanisation and industrial development. The introduction of non-native species remained an important threat factor, as well as the excessive gathering of some species (e.g. medicinal plants, fungi (mushrooms)). Pollution continued to abate owing to the implementation of new measures concerning the treatment of urban and industrial wastewaters and air pollution. Nevertheless, the impacts of pollution remain a cause for concern, as in some cases they only become evident after a certain time due to accumulation. In the long term, this can be reflected in populations becoming less successful and their density starting to decline. Within the indicative species, bats are among the most threatened due to the loss of habitat, food resources, shelters and wintering sites. The habitats of birds suffer pressures, particularly due to the disappearance of extensively cultivated agricultural land and some landscape elements (e.g. hedges, treelines and riparian shrubs). Water birds are under threat due to the draining of wetlands and the destruction of riparian vegetation. The expanded scope of recreation in nature also increased the pressure on certain species due to disturbances. For amphibians greatest threats are the continuation of the fragmentation and shrinking of their habitats and increased mortality owing to new transport infrastructure and increased traffic. With regard to fish, most populations are threatened by habitat loss, mostly due to the regulation of watercourses and the construction of hydropower plants and less due to water pollution. Non-native species are being recognised as a great threat to biodiversity in Slovenia. Despite many efforts during the reporting period, this area still remains weak point since it is evident that invasive species are spreading, particularly along rivers and traffic routes.

In Slovenia a special attention is given to large carnivores due to their importance as key species. Large carnivores require vast undisturbed areas and therefore by implementing ecosystem approach, the Government of the Republic of Slovenia with its public institutions, academia and NGOs considerably contributed to achievement of ABT 12. For the long-term conservation of large carnivores, it is not enough to maintain a favourable status of their populations and habitats, but also the proper social acceptability of the species should be taken care of. By implementing measures for large carnivores and their habitats, conservation of countless species bonded to these habitats is also being assured.

Additional information on numerous activities on large carnivores within the reporting period is accessible at dedicated web-page:

http://www.mop.gov.si/en/areas_of_work/nature/large_carnivores_in_slovenia_brown_bear_wolf_lynx/

Several key documents have been adopted in the reporting period, among which we would like to highlight the following two:

In 2015, the Government of the Republic of Slovenia adopted the **Operational Programme for Biodiversity Conservation with the Natura 2000 Site Management Programme**. The aim of this programme is to maintain a high level of biodiversity and halt biodiversity loss with the following goals:

- to maintain and/or achieve the favourable conservation status of endangered species and habitat types;
- to maintain and/or achieve the favourable status (scope and quality) of species habitats and habitat

- types (ecologically important areas, Natura 2000 sites, Ramsar sites);
- to ensure coordinated nature conservation in protected areas with management plans and other measures;
- to improve the standards for specimens of wild animal species in captivity;
- to ensure the sustainable use of biodiversity components and activities affecting nature.

http://www.natura2000.si/fileadmin/user_upload/LIFE_Upravljanje/PUN_ProgramNatura.pdf

In 2016, the Government of the Republic of Slovenia adopted the **Strategy for conservation and sustainable management of Eurasian Lynx (*Lynx lynx*) in Slovenia 2016-2026**. The purpose of the strategy is to define the legal, organizational and substantive framework and measures for maintaining of the long-term favourable conservation status of lynx in Slovenia (also bound by the legislation of the European Union). The strategy was prepared with the support of the expert working group.

The Strategy defines the following conservation objectives:

- genetically stable and vital population, which will be managed at the population level in cooperation with neighbouring countries
- the presence of lynx in a suitable habitats in Slovenia by strengthening vital centres of reproduction and the restriction of habitat fragmentation,
- the acceptance of the presence of lynx (maintenance of tolerance) by different stakeholders, in particular agriculture, hunting and infrastructure.

http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/velike_zveri/strategija_ris_2016_2026.pdf

Pollinators

Another important area where Slovenia has achieved considerable progress in contribution to ABT 12 is pollinators. Pollinators in Slovenia are primarily protected by conservation of their habitats. The Carniolan honeybee subspecies (*Apis mellifera carnica*) has been protected since 2014 under the Livestock Breeding Act. The Ministry of the Environment and Spatial Planning has drawn up a National Environmental Protection Programme (NEPP) to 2030 which will re-establish long-term goals for environmental protection. This will include pollinator initiatives with integration of the protection of wild pollinators into strategic and program documents, *inter alia*, in nature protection measures. The NEPP defines pollination as an important ecosystem service and a part of natural capital that provides conditions for human existence. The National Institute of Biology in Slovenia is setting up a monitoring programme for pollinators supported by the EU-funded SUPER-B COST Action project. It also issued several publications on wild pollinators such as bumblebees and the solitary bees. Key successes in protection of pollinators in Slovenia are: the extensive Natura 2000 network and nationally protected areas, awareness-raising through World Bee Day means the public is aware of the importance of honeybees for food security and the threats to them, a pollinator monitoring programme is being initiated, although it depends on whether sufficient government funding is allocated.

Please describe other activities contributing to the achievement of the Target (optional)

The project entitled “Carnivora Dinarica” aims at cross-border cooperation for long-term conservation of wild carnivores in the northern Dinarides” (Javorniki-Snežnik and the Notranjska triangle in Slovenia and the areas of Gorski kotar and Northern Lika in Croatia). The project is led by the Biotechnical Faculty of the University of Ljubljana, and will be conducted by the end of February 2021.

<http://www.natura2000.si/aktualno/novice-in-dogodki/novica/article/787/50/>

A report on the habitat suitability and connectivity of the areas in the Alps and the Dinarides for brown bear

was published in 2018.

http://dinalpbear.eu/wp-content/uploads/A3_avg_2018_Spatial-connectivity-and-environmental-impact-assessment-guidelines.pdf

In September 2018, an International Conference on Bear Research and Management titled "Life with bears" was held. Specific conference topics were designed in a way to welcome recent research results, technical advances, and case studies on a wide spectrum of issues relevant to ensuring a long-term coexistence of bears and humans.

<https://lifewithbears.eu/conference/>

The Interreg project for green infrastructure titled "Conservation and improvement of the status of endangered species and habitat types along the rivers Vipava and Soča" was approved. Under the auspices of the project a long-term plan for the development of green infrastructure for the Soča river basin will be prepared.

<http://www.natura2000.si/aktualno/projekti/projekt/article/782/>

In April 2018, the Slovenian Chamber of Agriculture and Forestry and the National Council organized a conference entitled "Managing Large Carnivores in the Future". Representatives of the LIFE DINALP BEAR project presented the ways of protecting livestock within a number of projects. They were put into practice for those breeders who want to cooperate in wish to minimize damage to domestic animals. Evidence shows that damages are reduced for those users who decided to implement such protection measures.

<http://dinalpbear.eu/life-dinalp-bear-predstavil-rezultate-svojih-prizadevanj-v-drzavnem-svetu/>

Reports have been published on culling of brown bear and wolf for the fourth quarter (October - December) in 2017 and for the first trimester (January - March) in 2018

http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/velike_zveri/porocilo_rjavi_medved_volk_oktober_december2017.pdf

http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/velike_zveri/porocilo_rjavi_medved_volk_januar_marec2018.pdf

The project "Restoration and Conservation of Wetlands at Ljubljansko barje – PoLjuba" received financial support from the European Union. The aim of the project is to improve the status of qualifying habitat types and species on that Natura 2000 site. Through various measures, the project should directly improve the status of natural habitats and revitalize the cultural landscape.

<http://www.natura2000.si/aktualno/novice-in-dogodki/novica/article/762/50/>

In November 2017, within the framework of the LIFE DINALPBEAR project, a third consultation was held with stakeholders - managers, farmers, hunters, researchers and nature conservationists. Guidelines on management of brown bear at the population level in the Alpine and Northern Dinarides have also been published in English.

<http://dinalpbear.eu/smernice-za-poenoteno-upravljanje-rjavega-medveda-na-obmocju-alp-in-severnih-dinaridov-so-pripravljene/>

Amendments to the Decree on the Course of Conduct in Trade of Protected Animal and Plant Species have been adopted in 2017 (Official Gazette of the Republic of Slovenia, No. 58/17). Due to the very increased international trade in elephant ivory and drastic decline of some populations these amendments were necessary. In recent years increased re-export of ivory from European countries, notably to East Asia has been registered and the EU has committed itself to halt such trade. The Government of the Republic of Slovenia adopted measures in order to prohibit such activities.

http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/zakonodaja/ohranjanje_narave/trgovina_zivalske_rastlinske_vrste_obrazlozitev_17.pdf

In order to reduce the number of traffic accidents with bears (on average, this number is 15 per year), noise disruptors and dynamic traffic signs were installed on several sections of the railway and state roads in the framework of the LIFE DINALP BEAR project. The problem and the measures for its reduction was also presented in the new leaflet issued in September 2017.

<http://dinalpbear.eu/o-preprecevanju-povoza-medvedov-v-novi-zlozenki/>

In February 2017, the Ministry of Agriculture, Forestry and Food carried out the seventh workshop of the envisaged fourteen titled: "Coexistence of people and wildlife". Short summaries from the previous consultations have also been published on the internet, including the warnings for damage caused by protected species.

http://www.mkgp.gov.si/si/medijsko_sredisce/novica/9187/

In January 2017, the results of the project "Monitoring the protection of wolves in Slovenia in the season 2015/2016" were presented. They show that the wolf population in Slovenia is stable or even in a slight increase since 2010. Therefore, experts have determined the conservation status of the wolf as favourable. They estimate that in Slovenia there are app. 50 wolves in 11 packs.

http://www.natura2000.si/index.php?id=87&tx_ttnews%5Btt_news%5D=582&cHash=8b1544f4e5284d1fd512a432ceccc4f4

In 2016, the Forestry Research Institute of Slovenia prepared a report "Measures to Prevent Damage Caused by Large Carnivores to Human Property"

http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/velike_zveri/ukrepi_preprecevanje_skod.pdf

In the framework of the LIFE DinAlpBear project, the first bear-proof composters were installed in the Sodražica municipality in early October 2016. Priority was given to the residents who experienced problems due to visits of bears on their property and the aim of this project is to reduce their frequency.

<http://dinalpbear.eu/prvi-medovarni-kompostniki-so-ze-na-terenu/>

In September 2016, a leaflet was issued under the LIFE DinAlpBear project "Let's prevent the bear from accessing food of human origin". The easily accessible sources of human food in the vicinity of settlements are the main cause of conflicts between people and bears.

http://dinalpbear.eu/wp-content/uploads/SLO_Anthropogenic_Food_and_Bears_WEB_V1.pdf

In 2016, the Ministry of agriculture, Forestry and Food in cooperation with the Slovenian Forest Service issued a brochure titled: "Raising domestic animals in coexistence with large carnivores". It presents the basic characteristics of the large carnivores, their behaviour at meeting with grazing animals and the three possible ways of protecting them: electric fences, shepherd dogs and supervised pasture.

http://www.program-podezelja.si/images/Varovanje-zivali-pred_zvermi03082016.pdf

Within the framework of the DINALPBEAR project, the "Handbook for Understanding and Resolving Conflicts between Men and Large Carnivores: Strategies and Tips for Successful Communication and Collaboration with Local Communities" was issued in 2016. This manual was prepared by the American expert dr. Seth M. Wilson and is intended for field operators who are involved in the management and conservation of large carnivores.

http://dinalpbear.eu/wp-content/uploads/SLO_Guidebook_Seth_Wilson_WEB.pdf

Within the framework of the DINALPBEAR project sound deterrence devices were installed in the roadside pillars on the regional road Ljubljana - Kočevje. The audible deterrents operate only at the time when the vehicle is approaching the section and animals that are on the road at that time are alerted of the coming danger.

<http://dinalpbear.eu/zvocna-odvracala-sedaj-pomagajo-medvedom-da-se-hitreje-izognejo-avtomobilom/>

In 2016, within the framework of the DINALPBEAR project a brochure titled "Brown bear in the Dinarides and the Alps" was published. The brochure provides information about the brown bears, the threats for this species in Central Europe, the management of bear population and ways to improve the human-bear coexistence.

http://dinalpbear.eu/wp-content/uploads/Brosura_Rjavi_medved_WEB3.pdf

In April 2006 experiences from LIFE DINALP BEAR project were presented in Berlin at third regional workshop of the EU Platform for the Human-Large Carnivores coexistence. The presentation was titled "Preserving spatial connectivity and facilitating transboundary monitoring at the edge of an expanding brown bear population".

http://ec.europa.eu/environment/nature/conservation/species/carnivores/pdf/12_Skrbinsek.pdf

In July 2016, the results of the first scientific study on the effects of the spread of Jackal on wildlife and people in Europe were published in the article “Jackals as cleaners: Ecosystem services provided by a mesocarnivore in human-dominated landscapes”.

<https://www.sciencedirect.com/science/article/abs/pii/S0006320716301641>

In 2016 the Ministry of the Environment and Spatial Planning of the Republic of Slovenia and the Ministry of Agriculture, Food and the Ministry of the Environment of the Kingdom of Spain have signed the Technical Agreement for the Relocation of Brown Bear from Slovenia to Spain. The Government of Catalonia took over all the costs of preparing, capturing, transporting and settling of one male bear. The project is part of the implementation of the joint strategy of France, Spain and Andorra to preserve the brown bear population in the Pyrenees.

http://www.mop.gov.si/si/medijsko_sredisce/novica/6822/

In February 2016, within the framework of the DINALPBEAR project the guidelines for responsible non-consumable use of bears in tourism were published. The aim of the guidelines is to ensure a unique and safe experiencing of bears in their natural environment in a way that has the least impact on them.

http://www.natura2000.si/index.php?id=87&no_cache=1&tx_ttnews%5Btt_news%5D=538&tx_ttnews%5BbackPid%5D=50

In 2015, The Faculty of Law (Legal Clinic for the Protection of the Environment) has published the Analysis of the state of the protection of wolf in Slovenia 1014/15

http://www.pf.uni-lj.si/media/analiza_stanja_varstva_volka_v_sloveniji_2014-2015.pdf

Report on the impact of mortality due to traffic accidents on Slovene – Croatian population and its spread into Alps. The analysis identified groups of bears at greatest risk of this mortality, the time trends of the accidents, and its impact on the alpine part of the brown bear population.

<http://dinalpbear.eu/wp-content/uploads/2015/09/Poro%C4%87ilo-o-vplivu-smrtnosti-medvedov-v-prometu-na-slovensko-hrva%C5%A1ko-populacijo-in-njeno-raz%C5%A1irjenje-proti-Alpam.pdf>

In June 2015, the “Action Plan for the Implementation of the Mitigation Measures for Reducing Road Mortality of Brown Bear in Slovenia” was published.

<http://dinalpbear.eu/wp-content/uploads/2015/07/Action-plan-for-the-implementation-of-the-mitigation-measures-in-Slovenia-30.6.2015-l-final.pdf>

In June 2015, the Ministry of the Environment and Spatial Planning organized a workshop on the topic of effective means of protecting property from the attacks of large carnivores and the possibility of obtaining subsidies for such protection. The workshop was dedicated to the evaluators of damage caused by protected species and agricultural advisors in the areas of presence of large carnivores. The experts from the Slovenian Forest Service also presented the possibilities for obtaining protective measures under the LIFE DINALP BEAR project.

<http://dinalpbear.eu/delavnica-mop-o-nacinih-varovanja-drobnice-pred-napadi-velikih-zveri/>

In February 2015, The National Institute of Biology organized expert workshop titled “Bumblebees and wild bees - ignored pollinators”. At this occasion, they also presented a dedicated leaflet.

<http://www.nib.si/aktualno/novice/872-strokovni-posvet-cmrlji-in-cebele-samotarke-prezrti-oprasevalci>

Challenges:

Awareness-raising and protection initiatives are very focused on honeybees and the Carniolan honeybee subspecies, with little attention to wild pollinators. Slovenia is a small country so despite having more than 500 wild bee species and very high biodiversity there are not many pollinator experts, and there is no list of wild pollinators currently available. Apart from habitat protection, there are no protection targets for specific wild pollinator species.

Sources:

http://www.ff.uni-lj.si/sites/default/files/DatotekeVsebin/Novice/mesec_prostora_povzetki_koncni.pdf

<https://www.routledge.com/Large-Carnivore-Conservation-and-Management-Human-Dimensions/Hovardas/p/book/9781138039995>

Aichi Biodiversity 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

The implementation of measures for the conservation of native breeds and varieties can be assessed as positive, as the situation has considerably improved over the last decade. A public service dedicated to the conservation of Slovenian genetic resources for farmed and domesticated animals is well-functioning. The operation of the relevant public service of gene bank for plant resources is also adequately coordinated.

Farmed and domesticated animals

Within this reporting an elementary document has been adopted: **The program for the protection of biodiversity in livestock farming for the period 2017-2023**. In accordance with Article 67 of the Livestock Breeding Act, biodiversity in livestock production represents all breeds of domestic animals in the Republic of Slovenia.

<http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO1548>

The protection of biodiversity in livestock production is carried out as a public service for the genetic bank in livestock production in accordance with the seven-year program, which includes the assessment of the situation and sets out the objectives and directions for:

- the conservation of all breeds of domestic animals on the territory of the Republic of Slovenia, with special emphasis on autochthonous breeds in their original environment
- conservation of breeds of domestic animals in the original environment (*in situ in vivo*) or outside the environment in which they occurred (*ex situ in vivo* and *ex situ in vitro*);
- establishment and operation of gene banks in livestock production;
- compliance with international obligations;
- education and training on conservation of biodiversity in livestock production;
- raising public awareness of the importance of conserving biodiversity in livestock production;
- linking with other programs in the field of agriculture

The program also defines the financial framework for the implementation of the protection of biodiversity in livestock farming, such as: means for carrying out scientific work, direct payments and other support for farmers and owners who carry out the maintenance of genetic resources in livestock production. Special measures are also foreseen for cases of sudden threat for a particular breed or of a significant number of animals of the breed being endangered. The priorities in the Program are determined in accordance with the Rules on the Conservation of Biodiversity in Livestock Production (Official Gazette of the Republic of Slovenia, No. 90/04 and 88/14). A more detailed description and scope of tasks in the field of long-term biodiversity conservation activities in livestock production is defined by the contractor of the Public Service in a specific annual program. Each annual program includes short-term objectives and their indicators.

http://www.mkgp.gov.si/fileadmin/mkgp.gov.si/pageuploads/zakonodaja/kmetijstvo/PROGRAM2017_2023_objava.pdf

Agricultural plants

The **amendments to the Agriculture Act** (Official Gazette of the Republic of Slovenia, No. 27/17 of 2 June 2017) set new developments in the field of public services, including the public service of the plant genetic bank. The by-law on the **Public Service of the Plant Genetic Bank** (Official Gazette of the Republic of Slovenia No. 60/2017) defines the tasks, the method and the area of performing public service, the obligations that must be met by the public service provider, the programs, the manner of financing and reporting.

As of 1 January 2018, the Slovenian Agricultural Institute and the Biotechnical Faculty were appointed as the public service contractor, while the Institute of Hop Research and the Faculty of Agriculture and Biosystems Sciences, Maribor, continued to be the subcontractors. The Agricultural Institute of Slovenia is responsible for genetic resources of fodder plants, potatoes, vegetables, hops, berries and vines and the Biotechnical faculty is responsible for collections for genetic resources of cereals, fruit plants and medicinal and aromatic plants. The Agricultural Institute of Slovenia was appointed for the technical management and coordination of the public service.

In order to maintain biodiversity in agriculture, the following public tasks were continuing during the reporting period, subject to availability of funds:

- collection, recording and conservation of native plant genetic material;
- reproduction and ensuring the sustainability of Plant Genetic Resources (PGR);
- evaluation of accessions according to international descriptors;
- administrative-technical coordination in recording of PGR;
- coordination, education, training and public awareness;
- cooperation with international organizations and networks in research and development.

These are the long-term tasks to ensure sustainable use in a professional, uniform and efficient way and to assure more effective coordination and transfer of results to the public service of agricultural advisors, farmers and other interested parties.

http://www.mkgp.gov.si/si/delovna_podrocja/kmetijstvo/rastlinski_genski_viri/javna_sluzba_nalog_rastlinske_genske_banke/

In this reporting period, a new **Public Service Program of the Plant Genetic Bank for the period 2018-2024** was adopted. The purpose of the Program is to implement the long-term conservation of plant genetic resources and to ensure their sustainable use in a professional, uniform and efficient manner.

Goals of the program are to:

- ensure the long-term and safe storage of PGR in the most appropriate way;
- document and evaluate the collected PGR;
- enable the sustainable use of PGR with an appropriate system of controlled sharing of accessions (by implementing a multilateral PGR exchange system);
- ensure the continuous collection of PGR and information on their origin, and methods of their production, use, storage and reproduction;
- contribute to agricultural biodiversity, taking into account the current state of PGR in the natural environment;
- increase the cooperation and responsibility of all stakeholders involved in the conservation and sustainable use of PGR

Maintaining and complementing the genetic resources of crops is a permanent task of National Plant Gene Bank. It involves the storage of seed accessions in controlled conditions and plants in plantations as well as subsequent collection of populations and old varieties. The latter is very limited in most crops today due to the

abandonment of the production of certain species and the prevailing use of modern varieties. This task is carried out according to international standards for the conservation of plant genetic resources. The reproduction of genetic resources from seed material is closely linked to their preservation, as storage conditions allow only short-term survival of seeds (20 to 30 years). It is therefore necessary to regenerate the seed by proliferation in isolated conditions. For gene sources of permanent species maintained in plantations, however, it is necessary to have spare plants which, if necessary, replace dead ones in the base collection.

http://www.mkgp.gov.si/fileadmin/mkgp.gov.si/pageuploads/podrocja/Kmetijstvo/Rastlinski_genski_viri/Program_JSRGB_2018-2024.pdf

Central information system of the National Plant Gene Bank

The central information system enables a regular collection of basic data on plant genetic resources of agricultural plants in Slovenia. Publically available data includes information on the origin, the curator and the accessibility of individual populations and old varieties of agricultural plants. The system is continuously upgraded. **Informing the public** on the activities of the National Plant Gene Bank with an emphasis on the importance of preserving the genetic resources of agricultural plants is the obligation of the institutions involved. Increased awareness of individuals on the loss and conservation of genetic resources contributes to better understanding of society as a whole.

A Conference on the Conservation and Sustainable use of Plant Genetic Resources is organised by the competent institutions each year. The following meetings have been held during this reporting period:

The fifth Conference was held in May 2019 at the Agricultural Institute of Slovenia, co-organized by the Ministry of Agriculture, Forestry and Food, and the Public Service of the Plant Gene Bank. The main topic of the meeting was the importance of evaluating genetic resources from the plant genetic bank for further use in selection, breeding and research, as well as in the process of registration of varieties.

http://www.mkgp.gov.si/si/medijsko_sredisce/novica/10465/

The fourth Conference was held in June 2018 at the Faculty of Agriculture and Biosystems of the University of Maribor. The main focus was on conservation of genetic resources of fruit plants and vines. Discussions were held on the use of plant genetic resources, local varieties and the new legislation in the field of plant genetic resources in connection with public services.

http://www.mkgp.gov.si/fileadmin/mkgp.gov.si/pageuploads/podrocja/Kmetijstvo/Rastlinski_genski_viri/Program_4_posveta_JSRGB_19.6.2018.pdf

The third Conference was held in June 2017 at the Institute of Hop Research and Brewing. The meeting was intended to discuss the current situation and the future priorities of conservation and sustainable use of plant genetic resources on farms (*in situ*).

http://www.mkgp.gov.si/fileadmin/mkgp.gov.si/pageuploads/podrocja/Kmetijstvo/Rastlinski_genski_viri/POSVET_rastlinski_genski_viri_2017_vabilo_in_program.pdf

The second Conference was held in May 2016 at the Biotechnical Faculty. The main themes were the exchange of genetic resources (the so-called Multilateral System for the Exchange of Plant Genetic Resources and the Nagoya Protocol) as well as the possibility of integrating plant genetic resources from the Slovenian Plant Genetic Bank into breeding programs.

http://www.mkgp.gov.si/fileadmin/mkgp.gov.si/pageuploads/podrocja/Kmetijstvo/Rastlinski_genski_viri/POSVET_SRGB_2016_brez_noge_blede_ozadje.pdf

The first Conference was held in March 2014 at the Agricultural Institute of Slovenia. The programs of the Slovenian Plant Genetic Bank were presented at all four institutions with national collections. Special attention

was paid to relevant research and international cooperation.

http://www.mkgp.gov.si/fileadmin/mkgp.gov.si/pageuploads/podrocja/Kmetijstvo/Rastlinski_genski_viri/POSVET_SRGB_2016_brez_no_ge_blede_ozadje.pdf

Aichi Biodiversity Target 14: 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

In Slovenia, the ecosystems providing key services to people are mostly protected or managed pursuant to sectoral legislation (e.g. water protection areas, protective forests, protected natural areas, and Natura 2000 sites). Although many of these areas have not been declared primarily for the purposes of biodiversity conservation, they play an important role in the maintenance of vital ecosystems. Their main objective of the **Natura 2000 sites** which cover 37.16% of the country's territory is to keep the biodiversity for future generations by preserving animal and plant species and habitats that are rare or already endangered on the territory of the European Union. In addition, protected forests and forest reserves play a special role in the provision of the ecosystem services of forests. These are forests protecting steep slopes from water erosion, forests exposed to strong winds, forests preventing excessive outflow of water in torrent areas, thus protecting the land from erosion and landslides, water, avalanches and landslides, and forests at the upper treeline. As regards the water supply in Slovenia, pursuant to the **Waters Act**, the Government designates water protection areas with a view to protecting water bodies that are used, or intended to be used, for the public supply of drinking water against contamination or other types of pollution that might affect the quality of water or its quantity. In addition to these, measures determining restricted agricultural use exist. More than 1000 water supply systems supply drinking water to more than 90% of the population. There are also many individual or small water supply systems with only a small share of the population. Small water supply systems are often not quite adequate, which is reflected in the poorer quality of water. The needs of the local communities and vulnerable groups are increasingly taken into account in the planning and implementation of projects (e.g. projects under the EEA and Norwegian Financial Mechanisms).

In Slovenia, like elsewhere, the examples of biodiversity benefits can be seen, for instance when genetic resources are used directly. This is the case in the development of pharmaceuticals, and the establishment and maintenance of genetic banks for agriculture, forestry and industry. It is expected that the economic value of genetic material will grow as the use of biotechnology rises. Another large group of values related to biodiversity are the indirect values provided by ecosystem services. The preservation and maintenance of areas including forests, grasslands and aquatic systems contribute to the continuous provision of ecosystem services. The value of these services is immeasurable. However, we can assess their economic value if we calculate how much it would cost to replace them with substitutes that we ourselves would make. It is hard to show the relationship between ecosystem services and biodiversity. We can nevertheless claim that biodiversity in Slovenia is underrated, as we continue with spatial uses and development that reduce biodiversity. At the local level, the loss of biodiversity can be measured by the loss of the natural environment. If the lost natural environment was a wetland, the result could be more frequent and severe floods. Various very costly anti-flood measures are used to solve this problem that often further degrade the environment. An important aspect in biodiversity valuation is the use of nature for recreation and aesthetic enjoyment. It is extremely valuable for people's quality of life. In Slovenia, people enjoy nature for trekking, gathering plants and mushrooms, cycling, running, fishing, photography, etc. Recreation in a natural environment maintains and improves people's health, which reduces the cost of healthcare. A special aspect of biodiversity, which is harder to define, is the

sense of the moral obligation to protect other species from extinction.

Ecosystem goods in Slovenia include plant and animal species important for food and agriculture, water, wood, etc., while ecosystem services include the purification of water and air, the natural recycling of waste, soil formation, pollination and regulatory mechanisms that control climatic conditions (e.g. precipitation and consequently floods) and populations of organisms. It might be imperceptible at first, but every activity resulting in reduced biodiversity has far-reaching consequences for ecosystem services. Although in some circles in Slovenia the conviction that biodiversity is important for ecosystem services and therefore for human well-being is strengthening, the awareness of decision-makers does not always follow this.

During this reporting period several projects have been carried out in relation to systematic mapping and economical valuation of ecosystem services. However, as already mentioned in NR5, a number of studies have been conducted focusing on particular sites.

Perhaps the most important overarching project was the 2015 – 2018 project titled: "**AlpES - Alpine ecosystem services - mapping, conservation, and management**". The purpose of this project was to collect, analyse and distribute information on ecosystem services in the Alpine arc. The project was implemented by a group of ten partners from six Alpine countries (Austria, France, Germany, Italy, Liechtenstein and Slovenia). Its findings were tested with the activities of interested stakeholders in nine pilot regions in the Alpine arc. It was co-funded by the European Regional Development Fund. The AlpES project is dedicated to organizations that are involved in governance and the protection of ecosystems and their services, including state authorities, policy makers, non-governmental organizations, researchers and economic operators. The overall goal of the project was to introduce a common understanding of ecosystem services within a regional and transnational context management of the environment and training and support to target groups in order to understand, evaluate and manage ecosystem services. The AlpES project has helped in transfer of the ecosystem services concept into the decision-making process and expanded the number of stakeholders who understand and use this concept.

https://www.alpine-space.eu/projects/alpes/downloads/alpes_final_publication_si.pdf

During this reporting period a special focus was given to the conservation of **pollinators and soils**.

Pollinators

Slovenia signed a Declaration on the Willing on Pollinators at the edge of the CBD COP13 in 2016 as a founding member. In December 2018 on the initiative by the Republic of Slovenia, the UN General Assembly adopted a resolution to proclaim May 20 as the World Bee Day. The main purpose of the World Bee Day is to devote particular attention of the world's public about the importance of bees and other pollinators for prevention of hunger and sustainable development of humanity in general. For this purpose, an action plan was drawn up that defines the operation of the Government of the Republic of Slovenia and competent stakeholders by 2022. Special attention is paid to the identified priorities and objectives that will be supported by various activities. The plan of activities which promotes the objectives of the World Bee Day on the one hand, and the implementation of political commitments at all levels on the other, contains the following points:

- promotion and awareness of the importance of bees and other pollinators,
- drawing attention to the importance of bees and other pollinators in the context of international cooperation,
- drawing attention to the importance of bees and other pollinators for stable food production and the conservation of biodiversity,
- measures to reduce the threats for pollinators and their habitats,
- development of research, innovation and domestic knowledge and their transfer into practice,
- education and knowledge transfer in the field of beekeeping,

- the integration of beekeeping and the protection of pollinators in educational content,
- conservation of Slovenian beekeeping cultural heritage,
- the integration of the beekeeping and the protection of pollinators into other policies,
- international multilateral and bilateral activities,
- other activities

Pollinators in Slovenia are primarily protected by conservation of their habitats and the Carniolan honeybee subspecies (*Apis mellifera carnica*) has been protected since 2014 under the Livestock Breeding Act.

The Slovenian Ministry of the Environment and Spatial Planning has drawn up a National Environmental Protection Programme (NEPP) to 2030 which will establish long-term goals for environmental protection. These will include pollinator initiatives with integration of the protection of wild pollinators into strategic and program documents, *inter alia*, in nature protection measures. The NEPP defines pollination as an important ecosystem service and a part of natural capital that provides conditions for human existence.

The National Institute of Biology (NIB) is setting up a monitoring programme for pollinators supported by the EU-funded project. The NIB also issued several publications on wild pollinators such as bumblebees and the solitary bees. Members of the National Beekeepers' Association launched a book called 'No bees, no life' to promote World Bee Day, which includes information on bees, beekeeping and threats they are currently facing. Some projects tackling this topic were already financed and finished (e.g. Project titled: »The importance of wild pollinators for crop pollination and sustainable management in agriculture to ensure reliable pollination«), some are being implemented (e.g. »Exposure of wild pollinators to pesticides«) or proposed (e.g. »Knowledge transfer on wild pollinators to fruit farmers«). Initiatives to support the creation of pollinator habitat (e.g. agri-environmental schemes, green infrastructure projects, etc.) have been carried out through indirect agri-environmental payments for grasslands and butterflies within the Natura 2000 projects from the EU cohesion policy funds and Integrated Life project for enhanced management of Natura 2000 in Slovenia for the period 2019-2026. In addition, a number of actions have been carried out on raising awareness, engaging society-at-large and promoting collaboration aimed at farmers, foresters and other stakeholders. Slovenian Beekeeper's Association is also doing some work on this topic (e.g. list of garden plants for honey bees and other pollinators was being promoted). During the first celebration of the World Bee Day a large private company for honey bee products »Medex« was involved in these activities as well. Actions included the promotion of plants and agricultural practices that are beneficial for pollinators such as restricted use of pesticides and diverse flowering grasslands.

Conservation of biodiversity in soils and their ecosystem services

In Slovenia, organisms in the soil have until recently not been included in conservation measures, despite the fact that biodiversity of the soil is exceptional. Due to the specific nature of soil ecosystems and soil biota, the strategies for protecting biodiversity of the soil have focused on the protection of its ecosystem services. Processes, interactions and biota in the soil have a significant effect on the above-ground biotic diversity. The soils provide ecosystem services, of which some are the basis for entire terrestrial ecosystems, while others are more important for human well-being, and for the properties, potentials and appearance of the local environment. In terrestrial ecosystems, soil has a significantly larger role than has been recognized so far, thus it should be protected and managed with sustainable management in a way as to preserve its diversity, quality and the ability to provide ecosystem services.

Threats to soils vary in individual regions of Slovenia. They include pollution with inorganic pollutants (mainly metals and polymers such as cadmium, lead, zinc, arsenic, copper) and organic pollutants from industry and transport (e.g. polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAH) and mineral oils) and agriculture (e.g. residues of plant protection products), and soil erosion. The latter occurs locally and is most often conditioned by relief, use and type of soil and climatic characteristics. The largest recognized threats to

soil in Slovenia are its coverage with various impermeable materials (e.g. asphalts, concrete) and soil compaction. Covering with impermeable materials represents a permanent loss of soil as a natural source and of ecosystem services that it provides.

Sustainable soil management, including sustainable land management, and the rehabilitation and revitalization of degraded soils is therefore a key and integral part of ensuring sustainable development, especially in terms of an integrated approach to the renovation of degraded areas. Unsustainable soil management endangers soil fertility (mainly by reducing organic matter and nutrients) and causing erosion of the soil, which affects the state's nutritional safety, reduces biodiversity and the ability of water filtration for sources of drinking water. Agriculture and forestry therefore have a key role in preserving this natural resource in Slovenia. Of special importance is the integrated approach in the spatial planning process at all levels, which considers the soil as a limited natural resource and the basis for providing key ecosystem services. The preservation of quality agricultural land represents, in particular, the potential for food supply, while adequate urban planning provides a high quality living and working space. In this regard, it should be taken into account that, in addition to food supplies and the associated food sovereignty of Slovenia, the soil on agricultural land is also important for the implementation of other ecosystem services such as: the biodiversity, the atmospheric carbon sink and the greenhouse gases, the retention, filtration and neutralization of pollutants, and purification of precipitation.

The awareness of the importance of the soil and of the ecosystem services it provides must be reinforced. To this end, the knowledge of the soils should be fully upgraded and awareness of their importance in the environment and society. A special chapter in the 2030 NEPP is dedicated to soil with the following goals on increased ability to implement soil ecosystem services by:

- managing the degradation processes associated with the reduction of soil organic matter,
- preventing soil erosion and contamination
- rehabilitation and revitalization of degraded areas with sustainable soil and land management, including a reduced net annual growth in built-up area of 25% by 2030 and with a view to zero growth of the areas of built-up areas by 2050;
- enhanced data and soil status information;
- increased awareness of the importance of soil.

http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/publikacije/tla_v_okolju.pdf

On the occasion of the World Earth Day, on 5 December 2017, the Slovenian Partnership for Soil was established. The partnership is a voluntary association of organizations and individuals who want to contribute to sustainable management and protection of the soil as an important non-renewable natural resource in Slovenia.

http://www.mop.gov.si/si/delovna_podrocja/tla/slovensko_partnerstvo_za_tla/

Please describe other activities contributing to the achievement of the Target (optional)

In 2017, DOPPS – Birdlife Slovenia issued a report titled »Riparian ecosystem restoration of the lower Drava River in Slovenia«

http://livedrava.ptice.si/wp-content/uploads/2018/01/2018_12_1_LIVEDRAVA_Laymans_report_web_v2.pdf

In 2016, the doctoral dissertation titled “Economic evaluation of ecosystem services for the development of policies for the sustainable use of forest resources” was published online

http://www.digitalna-knjiznica.bf.uni-lj.si/gozdarstvo/dd_japelj_anze.pdf

The Environmental Agency has set up an eVode web portal to bring together all records, studies and other data on water use and water management in one place.

Challenges:

In the reporting period, the awareness that healthy ecosystems bring benefits to people rose in Slovenia, at both the local and state levels. Nevertheless, decisions are often not made on the basis of the awareness of the importance of biodiversity. It is necessary to combine efforts and harmonize cross-sectoral approaches to sustainable land use. In a constructive dialogue between sectors, the sustainable use of land is not a development barrier, but rather a development opportunity. In order to achieve a balanced environmental concern with the concern for the proper air and water quality, the Slovenian public should also have knowledge of the role of soil in the environment.

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Aichi Biodiversity Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has 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 Biodiversity Target and summarize the evidence used to support this description:

As already mentioned in our NR5 the two significant processes, i.e. urbanisation and forest expansion due to the abandonment of agricultural use, have continued over the reporting period. Nevertheless, Slovenia made every effort to preserve its vital ecosystems.

According to the Global Footprint Network, Slovenia ranks **24th place among 188 countries in Ecological Footprint** with the average of 4.7 global hectares per person, the same as the average in the European Union. However, that is more than two times the bio capacity of Slovenia, and nearly three times of what's available globally per person. The carbon Footprint makes up about 60 percent of Slovenia's Ecological Footprint. According to the latest data, Slovenia has the region's earliest Country Overshoot Day – the date on which Earth Overshoot Day would fall if all of humanity consumed like the people in this country. Slovenia's **2018 Country Overshoot Day is May 12**. Slovenia is among more than a dozen countries that have used the Ecological Footprint to help guide its environmental policy. This information will be used to help guide future policy and investment decisions for Footprint reduction. In 2017 the Government made a commitment to reduce Slovenia's Ecological Footprint for 20% by 2030. Slovenia is also bound by the European Union's goal, under the 2015 Paris Climate Agreement, to **reduce carbon emissions for 40% by 2030**. The two targets are obviously connected and Slovenia is currently in the process of assessing that interplay and identifying the policies that can help it achieve both of them. In Slovenia the main areas for reducing the Ecological Footprint are transportation, energy, and forest management. More specifically, we are looking at promoting the use of

electric vehicles in conjunction with decentralized solar power generation and battery storage, and ensuring energy efficiency for commercial buildings. Slovenia already achieved a substantial reduction of carbon emissions from residential buildings between 2000 and 2015, in large part thanks to improved insulation of buildings triggered by subsidies. Gazole and gas were also substituted by firewood – a policy that has relied on the tradition of sustainable forest management. Most of the bio capacity in Slovenia is provided by sustainably managed forests and analyses are being carried out on how the productivity of forests can be further increased. This is complicated by the emerging negative impacts of climate change to forests in terms of extreme weather, drought and bark beetle expansions, leading to increased sanitary harvesting in the recent years. More active silviculture will be required to improve the resilience and carbon sequestration of the forests.

The land use, land use change and forestry ('LULUCF') sector has the potential to provide long-term climate benefits, and thereby to contribute to the achievement of the greenhouse gas emissions reduction target, as well as to the long-term climate goals of the Paris Agreement. The LULUCF sector also provides bio- materials that can substitute fossil or carbon-intensive materials and therefore plays an important role in the transition to a low greenhouse-gas-emitting economy. In accordance with the Regulation (EU) 2018/841 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework, the **Slovenian national forestry accounting plan** was submitted in December 2018, including a proposed forest reference level for the period from 2021 to 2025. Regarding the state of forests, we must point out that in 2014, 51% of all forest areas in Slovenia were heavily affected by gills, and additionally in 2017 by strong winds. According to the 2018 – 2022 **Plan for the Rehabilitation of Damaged Forests**, prepared by the Slovenian Forest Service, the restoration of damaged forests is planned for almost 5,500 hectares, of which planting is planned for 430 hectares. For this, 920,000 seedlings of trees should be provided with the total value of the planned works estimated at EUR 7 million. To this end, since 2017 every year an afforestation campaign is organized by company "Slovenski državni gozdovi" in which volunteers plant 10,000 seedlings of different tree species.

<https://www.footprintnetwork.org/2018/09/25/ecological-footprint-is-a-fair-metric-for-slovenia-to-achieve-its-climate-goals/>

The only way for Slovenia to develop sustainably is to intensify its efforts in reducing the ecological footprint in terms of ecosystem capacity, while also moderately increasing/maintaining prosperity. In 2017, **Slovenia's Development Strategy** introduced an ambitious objective involving a reduction of the ecological footprint by 2030. The Strategy lays down the goal of reducing the ecological footprint by 20%, i.e. from 4.7 global hectares per capita in 2013 to 3.8 in 2030. This objective is also included in the proposed **National Environment Protection Program by 2030** in order to measure current natural resource supply and demand and better understand historic trends. As regards Slovenia's ecological footprint, the carbon footprint represents the greatest issue, resulting from households and their use of fossil fuels, and traffic. In reducing the ecological footprint, two targets must be pursued: resources should not be used faster than they can be regenerated and waste should not be generated faster than nature can decompose it. Slovenia can achieve its objective of reducing the ecological footprint only through coordinated measures implemented in multiple areas, including measures to improve the energy efficiency of households and buildings. In its efforts for conservation of biodiversity, Slovenia established a very comprehensive system of "*In situ*" conservation with different types of protected areas covering close to 50% of the country's territory. According to the 2017 EU-wide research, the Natura 2000 sites have, on average, 10% more carbon in their topsoil than non-protected areas. They also generally have lower economic value for agriculture. The results suggest that there is significant potential to develop win-win biodiversity conservation and climate change mitigation efforts within the EU.

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Aichi Biodiversity 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

Republic of **Slovenia is not yet a Party to the Nagoya Protocol** (RS signed the Protocol in October 2011). As a Member state of the European Union, the Republic of Slovenia is bound to its common rules. In 2014, the European Parliament and the Council adopted the Regulation ((EU) No 511/2014) which entered into force on 9 June 2014 and all of its provisions apply since 12 October 2015. **The EU ABS rules apply** when genetic resources and traditional knowledge associated with them are used in research and development for their genetic properties and/or biochemical composition, including through the application of biotechnology. The EU Commission Implementing Regulation (EU) 2015/1866 contains measures on some specific aspects, as provided for in the EU ABS Regulation No 511/2014, in particular registered collections, best practices and monitoring of user compliance. It was adopted by the Commission on 13 October 2015, with entry into force on 9 November 2015. With regard to the monitoring of user compliance, a web-based application (DECLARE) was created by the European Commission to allow users' submission of due diligence declarations online and assist Member States in implementing their tasks under the EU Regulation.

At the moment, there are no general national provisions regulating access to genetic resources. Restrictions apply only to endangered wild fauna and flora (access permit) or in cases where access may pose threat to biodiversity (prior authorization). However, access regulation may be introduced in the coming years.

Regarding the establishment of institutional structures for the implementation of the Nagoya protocol, in November 2015, the Government of the Republic of Slovenia adopted a Decision on the Appointment of the **Inter-Ministerial Working Group (IMWG)** for issues related to Nagoya Protocol and the implementation of Regulation (EU) No 511/2014. The role of the IMWG is, *inter alia*, to provide a common coordinated action in developing administrative, organizational and legal solutions. The Decision designates the following competent authorities and defines their areas of competence:

competent authority	area of competence
Ministry of the Environment and Spatial Planning*	Genetic resources of species of wild flora and fauna
Ministry of Agriculture, Forestry and Food	Genetic resources for agriculture, forestry and food
Ministry of Health	Genetic resources for pharmaceuticals and health
Ministry of Education, Science and Sport	Research of genetic resources

* Authority responsible for submitting information to the Nagoya Protocol's Clearing House Mechanism.

According to the abovementioned Decision, Each Competent Authority is responsible for the use of traditional knowledge associated with genetic resources under its area of competence and for the research of GR that it finances. In the period since its inception, the IMWG met six times. Where necessary, the IMWG members further coordinated electronically. The IMWG has carried out the following tasks:

- preparation of a National Decree Implementing Regulation (EU) 511/2014 on measures to meet the obligations of users of the genetic resources and the fair and equitable sharing of the benefits arising from their use,
- informing users of genetic resources about the legal provisions and requirements (consultations and thematic meetings, participation of IMWG representatives in workshops etc.),
- dealing with requests for genetic resources from the industry and research organizations,
- dealing with applications for the registration of best practices of users of genetic resources,
- participation in the preparation of the EU-wide guidelines for users of genetic resources,
- participation in the development of the application for declarations, communication of information and reporting to the European Commission on the application of Regulation (EU) 511/2014 and the transmission of information to the ABS Clearing House,
- preparation of positions and participation of national representatives in the various fora at the EU level and internationally,
- preparation of a report on the application of Regulation (EU) 511/2014

In accordance with the decision on the appointment of IMWG, the chair submits to the Government a report on the application of the Regulation (EU) 511/2014, which also contains information on the work of the IMWG within the time limits laid down in Article 16 (1) of Regulation (EU) 511/2014. The first national report has been adopted by the Government and submitted to the European Commission by the deadline of 1 November 2017.

In 2015 a specific **Government Decree** has been adopted in order to strengthen compliance with the Regulation (EU) 511/2014 implementing Nagoya Protocol in the Union and to meet specific national requirements. Beside designation of the competent authorities and definition of their areas of competence, the National Decree determines the role of authorities responsible for supervision, checks of user compliance and registered collections of genetic resources, exchange of information and penal provisions. The competent authorities designated by this Regulation are the same as under decision to establish IMWG, with the change of the Ministry of Education, Science and Sport, which was replaced by a body in its composition - the Slovenian Research Agency. The regulation also stipulates that the Ministry of the Environment and Spatial Planning is responsible for the coordinated operation of the competent authorities and for providing information to the European Commission, other countries and the ABS Clearing House.

The regulation includes, inter alia, penalties for violations of relevant provisions of Articles 4 and 7 of the Regulation (EU) 511/2014. For offenses, legal persons, entrepreneurs and their responsible persons, as well as responsible persons in a public body or local authority, as well as individuals, may be punished. The range of penalties is up to EUR 50,000 for a legal entity, up to EUR 20,000 for an entrepreneur, up to EUR 2,000 for a responsible person and up to EUR 1,000 for an individual.

On the basis of Art. 4 of the National Decree, the competent authorities shall carry out checks referred to in Article 9 in a coordinated manner. Regular checks on user compliance shall be carried out at least once every two years from the entry into force of National Decree. Following a compliance check, the competent authority shall draw up a record of findings. If any shortcomings are found during a check, the competent

authority shall caution the user and call upon them to take remedial action. If the user does not remedy the shortcomings within the specified deadline for so doing, the competent authority shall inform the designated inspection service thereof.

On the basis of Art. 5 of the National Decree on the Implementation of the Regulation (EU) 511/2014, the competent authorities shall carry out verifications referred to in Article 5(4). The regular checks on registered collections shall be carried out at least once a year; the first check shall be carried out one year after the entry into force of this Decree. In accordance with Article 6(2) of the National Decree, the Ministry of the Environment and Spatial Planning shall be responsible for cooperation with other countries and the ABS Clearing House. Other competent authorities shall, without delay, provide any relevant information to the Ministry of the Environment and Spatial Planning.

All competent authorities have the authority to request recipients of research funding involving the utilisation of genetic resources and traditional knowledge associated with genetic resources to declare that they exercise due diligence in accordance with Regulation (EU) 511/2014. Under Article 2 (2) of the National Decree, the competent authorities are responsible for research and programs that fall under their area of competence and which are financed by themselves. The Ministry of the Environment and Spatial Planning shall ensure the coordinated action of the authorities.

Currently, provisions governing genetic resources are also contained in the *Nature Conservation Act (NCA)* (Official Gazette of the Republic of Slovenia, Nos. 96/04, 61/06 and 46/14). The NCA lays down overall rules on gene banks and the use of genetic material. Genetic material shall be used in accordance with the rules on the use of natural resources. The NCA also lays down fines ranging from EUR 2,000 to EUR 10,000 to be imposed on a legal person who acts contrary to its provisions.

Representatives of relevant collections, particularly the ones under sectors where majority of the users of genetic resources were recognised in Slovenia (agriculture, forestry, food and biotechnology sectors) have been informed directly through workshops and mailing lists on provisions for registered collections under Art. 5 of Reg. 511/2014. Notices with invitation to workshops organized by the European Commission for the preparation of sectoral guidelines for holders (managers) of collections and research organizations have been transmitted to potential candidates.

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Aichi Biodiversity 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

When considering the transposition of global biodiversity targets into national systems, different cycles of adoption of strategic documents and significant differences in levels of biodiversity conservation that

countries have achieved should be taken into account. In Slovenia, global commitments are being implemented through national and EU strategic documents and legislation (e.g. **EU Biodiversity Strategy by 2020 and various national sectoral strategic documents**). During the reporting period goals of the first National Biodiversity Strategy and the National Environment Protection Program (NEPP) which, *inter alia* sets out national priorities in biodiversity conservation were existing.

Despite the fact that Slovenia has not updated its national biodiversity strategy, the global goals of biodiversity are being implemented through a well-established legislative and institutional system. These tasks are detailed in existing specific operational programs and strategies, namely:

- **Program for the Management of Natura 2000 sites.** It was adopted in order to maintain the main part of biodiversity (plant and animal species and habitat types that are a common concern of the EU) at more than 37% of the national territory,
- **Strategies and Action Plans on Large Carnivores** (Brown Bear, Wolf, European Lynx)

As explained in detail under the NR5, in Slovenia, biodiversity is integrated into all fundamental strategies, plans and programs, as well as into various sectoral strategic documents. In addition, "*in situ*" conservation in Slovenia is also taken care of at an exemplary manner (app. 50% of the country's territory). Therefore, absence of a revised NBSAP does not mean that this is in any way detrimental to our biodiversity.

In 2014, expert groundwork for a new NBSAP was carried out on the basis of a series of workshops, and the draft NBSAP has been drawn up in 2015. Compared with the previous strategy, its targets are focused on the achievement of global goals. Advanced draft NBSAP as well as mapping of proposed national targets to Aichi targets has been forwarded to the CBD Secretariat in 2015. The proposed targets of the updated NBSAP were presented in detail in Section 5.4 of our NR5 and are not included in this report (available at: <http://www.biotskaraznovrstnost.si/>). Unlike the previous one, the new NBSAP will be more focused on the implementation of global goals and a timetable will be determined for its measures. In addition to strategic targets, the new Strategy proposal includes implementation measures and determines the bodies responsible for its implementation. One of the weakest points of the previous Strategy was the absence of an implementation level and available human and financial resources were taken into account in the planning of a draft NBSAP. In order to be feasible, the new NBSAP also includes a financial plan (under a general NEPP provisions on financing of biodiversity) and indicators for the monitoring of its implementation.

Adoption of that document would fulfil the Aichi target 17 easily. However, due to differences in national to global cycles and wish for a long-standing document with integrated Agenda 2030 targets, **the NBSAP was merged with the preparations of a 2030 NEPP** which were initiated in 2015. Therefore, in order to avoid duplicating of procedures, it was decided that NEPP will also include a revised NBSAP. NEPP is the basic strategic document in the field of environmental protection and its aim is to improve the environment and quality of life with the protection of natural resources. To this end, the program targets in specific areas for certain periods of time with priorities and actions to achieve these goals. The new NEPP, *inter alia*, sets out national priorities and actions in biodiversity conservation and will as far as possible take into account all relevant Aichi targets. The period of validity of the new NEPP coincides with the Agenda 2030 and implementation of its goals will therefore be easier to follow. Since the NEPP will be adopted by the National Parliament, the document will gain greater importance with clearer responsibilities for its implementation.

The NEPP defines the scope of the public interest in conservation of biodiversity and valuable natural assets. For this purpose, the NEPP 2030, in addition to the environmental, nature and water content, also defines guidelines for planning and implementing policies that affect environmental protection. It also states out the support measures that cover all thematic areas that contribute to the achievement of objectives, including guidelines and measures for the implementation of international commitments and contribution to the planning and implementation of the international environmental policy.

Biodiversity is the substantive cornerstone of the NEPP for which the objectives and guidelines are set out. They will be implemented in practice through measures of the Program for the Protection of Plant and Animal Species, Their Habitats and Ecosystems, as well as the Program for the Establishment of Protected Areas and

the Strategic Plan for Biodiversity, which will be annexed to the NEPP. In order to preserve biodiversity and protect the natural values, the NEPP contains conservation measures and supportive measures for fulfilling international obligations, education and training, public awareness as well as provisions on financial resources for the implementation of biodiversity goals. These measures will be supported by the measures listed out in the general chapter of the NEPP, particularly in the areas of education, public awareness, research and international cooperation.

NEPP 2030 includes the following specific national biodiversity targets:

1. Favourable status of native wild species achieved,
2. Favourable status of volume and quality of habitat types, especially those in ecologically important areas and Natura 2000 sites achieved,
3. Invasive alien species and their spread identified, their introduction and dissemination prevented,
4. Landscape diversity and those landscape features of specific importance for biodiversity recognized, evaluated and preserved,
5. Extent of monitoring that enables the insight into conservation status of important EU-wide key indicator species and habitat types achieved,
6. Surveillance and management of wild species in captivity, cultivation, public display, trade or other purposes improved,
7. Fair and equitable sharing of benefits from utilization of genetic resources and their subsequent marketing achieved,
8. ecosystem services and their values mapped and evaluated and taken into account in the preparation and adoption of development, spatial and other strategic and operational documents,
9. Important green infrastructure established and maintained,
10. Knowledge of biodiversity and its importance increased at all levels of society.

The Biodiversity Strategic Plan annexed to the NEPP should be considered together with the long-term objectives and guidelines in the field of nature conservation and other chapters of NEPP (e.g. soil, water, pollution, and biosafety) and associated support activities. The NEPP 2030 will therefore, as a whole, and in particular in sections dealing with the contents of Article 94 of the Nature Conservation Act, serve as national strategic document in the field of biodiversity conservation with the view of achieving the global Aichi and Agenda 2030 targets.

Sources:

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<http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/narava/biotska.pdf>

Aichi Biodiversity 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

ABT18 in its stricter sense is not relevant to Slovenia since there are no indigenous communities. In principle, all natural persons and legal entities, including the local communities can participate in the adoption and

implementation of biodiversity measures. At the local level, these can be bodies responsible for a public service or other bodies that exercise public powers. Involvement of local communities, particularly in preparation and adoption of planning documents is explained in detail in our NR 5 under the following chapters: 7.2. *Plans and strategic and planning documents*, 7.4. *Financing mechanisms*, 8.3. *The integration of biodiversity in planning and spatial planning mechanisms*, 9. 1.3. *Activities supporting biodiversity conservation and sustainable use*, and 9. 2.1. *Nature protection measures*.

Aichi Biodiversity 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

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

The basic national document in this area is **the Resolution on the Research and Innovation Strategy of Slovenia 2011-2020**. This resolution is based on the **Slovenian Development Strategy** and is aimed at achieving synergy effects in line with Europe 2020 documents and other initiatives at EU level. It is meaningfully related to the **National Program for the Development of Tertiary Education 2011-2020** which reflects the further development of Slovenian society. In its preparation, studies of an international group of experts under the auspices of the Organization for Economic Co-operation and Development (OECD) and the Group under the Open Method of Coordination of the European Union were also taken into account. In its vision, the Resolution states that by 2020 a responsive research and innovation system will be established, this will be co-shaped by all stakeholders and open to the world. This system will be firmly anchored in society and respond to the needs and aspirations of its citizens, and will enable it to solve the major social challenges of the future, such as climate change, energy, resource scarcity, health and aging. As a result, the reputation and attractiveness of researchers, developers and innovators should increase in society. The legal framework for the operation of such a system was set up in 2012. The resolution envisages a research and innovation system as an open space for dialogue and its management as democratic and economical. Stakeholder involvement will prevent duplication, while all actors should benefit from the free flow of knowledge and technology. The resolution foresees that the gaps between research, education and innovation will blur, and their common denominator will include partnership, lifelong learning and sustainable development. Improved infrastructure and normative circumstances would also enable the efficient and successful implementation of the most demanding research. The research institutions will have strategic, financial and managerial autonomy and will also be responsible for some socially important missions. The country will spend 1.5% of GDP for research and development by 2020. This vision is underlined in the resolution with specific objectives for which the measures, competent institutions, deadlines and indicators are defined. National action frameworks in this area are being set up and an analysis of the achievement of the objectives of the resolution will be carried out after its expiry, therefore assessment of its effectiveness cannot yet be given.

In Slovenia, research programs represent a public service under specific fields which are expected to applicative over a longer period of time and which are of national importance. The public service is implemented by program groups in public research institutes, education institutions established by the Republic of Slovenia and program groups organized by private and public legal entities. To the latter, research program is awarded on the basis of a public tender.

Another fundamental strategic document with the significant effect on research in Slovenia is the **National Reform Programme**. It determines strategic development areas and national priorities for financing research and development activities and the content and scope of public services, the scope of research and development activities, and training for research at universities and other research and development

institutions, so as to establish a link between the research and economy sectors. The Programme is implemented by carrying out basic research, applicable research, pre-competitive development activities, industrial research, technical feasibility studies, knowledge transfer, and other activities related to research and development policy. Among the key long-term aims of Slovenia regarding nature and the environment included in the National Reform Programme for the Implementation of the Lisbon Strategy are halting the loss of biodiversity and ensuring the sustainable use of its components, primarily by linking measures of key areas for biodiversity conservation. The programme acknowledges the importance of biodiversity as an economic and developmental advantage and opportunity.

The key biodiversity-related document adopted during the reporting period – the National **Natura 2000 Management Program for the period 2014-2020** devotes a special chapter to “Research and development of technologies”. In order to better transfer knowledge into practice, this program lists the research activities of basic and applied sciences that are implemented and financed as a priority because they are indispensable for improving the knowledge of the ecology of species and habitat types. This research is aimed at improving knowledge of the status of habitats and habitat types, ecology of plant and animal species their habitats and population parameters as well as ecosystem services. The expected results are, *inter alia*, the development of technologies (for example, the use of natural resources) which further preserve biodiversity, thereby enabling the same. The annex to this document lists the research topics needed to better achieve the protection goals or to improve implementation of its measures and management. This is reflected in the allocation of funds for research programs and projects, targeted research projects, applied research or other relevant tenders. The basic financial source for funding is the EU's Framework Program for Research and Innovation (Horizon 2020) supported by other funds (such as the European Cohesion Policy Funds, the Agricultural Fund for Rural Development and Fisheries). Specific research contents will also be supported by Targeted Research Programs. The ministry responsible for nature conservation also has some limited resources available for funding the specific studies and smaller research projects.

Slovenia has not yet developed a specific programme for biodiversity research. The lack of directed action in research is reflected in relatively modest support for biodiversity research projects. The central organisation issuing tenders for programmes and projects is the Slovenian Research Agency. Biodiversity is not classified separately, so the data on the number of projects concerning biodiversity are not readily available. Social and economic studies conducted in relation to biodiversity are still relatively scarce, but their number is growing.

The first **National Biodiversity Strategy** devoted a special chapter to research and development of technology with a view to expand studies on biodiversity components and causes for their decline. It also laid down specific directions to develop tools and alternatives for partners in biodiversity conservation to ensure access to research results and studies in order to facilitate decision-making. Its aim was also to improve comparison of information and knowledge, their upgrading and integration as well as prevention of duplication of work. These directions were partly and in some aspects unsatisfactorily implemented.

In addition to measures stipulated under the **National Environment Protection Program** (NEPP), the proposed NBSAP includes detailed national targets related to knowledge and research on biodiversity in support of the overall national target: "By 2030, financial resources will be provided for research programmes and projects supporting the conservation and restoration of biodiversity ". Knowledge, understanding and awareness on biodiversity and its importance will increase at all levels of society with the implementation of the following specific targets:

- a national program on research and monitoring of biodiversity will be established,
- the biodiversity will be a part of compulsory education programmes,
- public will be adequately informed about importance of biodiversity,
- promotion of biodiversity will increase and good practices that support it will be rewarded,
- the interdisciplinary and cross-sectoral cooperation and application of comprehensive approach will

- improve,
- traditional knowledge, scientific research, innovations and new technologies will be involved into conservation of biodiversity

These NBSAP targets are being supplemented by specific measures with defined indicators, funding, competent authorities and deadlines for their implementation

It is expected that the proposed **NEPP with the integrated NBSAP** will create an important milestone in the knowledge, the science base and technologies relating to biodiversity. One of the program's aims is to establish an information system and raise awareness about biodiversity at all levels of society. Data on the presence of species, their habitats and habitat types are essential for determining the status of biodiversity and for monitoring the effectiveness of the measures taken for informing the public and reporting. It is also important for assessing the consistency of plans, programs and projects in administrative procedures as well as for assessing environmental impacts. Information system shall create a national node of data and information crucial to the implementation, monitoring and the planning of a nature conservation policy that will be accessible to the public and adequately maintained. NEPP sets the following guidelines in this area:

- regular monitoring of the status of biodiversity components by internationally comparable methods and extent,
- the biodiversity monitoring system should be upgraded to ensure that conditions, pressures and trends to all Natura 2000 plant and animal species are identified,
- improve and upgrade indicators of the status of biodiversity

The NEPP devotes a special chapter to **Research, Development and Innovation for Environmental Protection**. Challenges in the field of research, development and innovation related to environmental objectives show that in Slovenia (as a constituent part of the European innovation ecosystem) there are many but not well-connected mechanisms and instruments that contribute to the same fundamental objectives:

- better understand the environment, therefore to improve the knowledge and data base for the environmental policy of Slovenia and to implement this policy through various stakeholders and at different levels;
- develop and adopt innovative technologies and non-technological innovations that will accelerate the transition to green, low-carbon and resource efficient economy and society.

The **Smart Specialization Strategy** already addresses this long-term goal for narrow priority areas that do not include development and innovation activities in all areas of transition to the green economy. In order to support the implementation of the objectives of NEPP in the field of research, development and innovation for environmental protection by 2030, the following objectives are laid down:

- Slovenia is ranked as an innovation leader regarding indicators of environmental innovations and technologies,
- the knowledge gap is filled by the targeted investment in research and development,
- 60% of research contributes to sustainable development and 35% to climate change management and adaptation in the programming period 2021-2030.

Measures to achieve research, development and innovation objectives for environmental protection are further elaborated in the NEPP.

Sources:

<https://www.uradni-list.si/glasilo-uradni-list-rs/vsebina?urlid=201143&stevilka=2045>

<http://www.natura2000.si/en/life-management>

http://www.mop.gov.si/si/priprava_nacionalnega_programa_varstva_okolja_2030/priprava_nacionalnega_programa_varstva_okolja/

http://www.mf.gov.si/fileadmin/mf.gov.si/pageuploads/docs/Razvojni_dokumenti/NRP20192020fin.pdf

http://www.mf.gov.si/fileadmin/mf.gov.si/pageuploads/docs/Razvojni_dokumenti/NRP_2018.pdf
<https://www.arrs.si/sl/progproj/rprog/predstavitev.asp>
http://www.svrk.gov.si/si/delovna_podrocja/strategija_pametne_spezializacije/

Aichi Biodiversity Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.

Please describe how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target and summarize the evidence used to support this description:

According to the **National Statistic Office**, in 2018 Slovenia entered the fifth year of economic recovery. The 2018 real growth of gross domestic product was 5.1%, which is even more than the GDP growth in 2017. The economic recovery in Slovenia accelerated in 2017, after two years of declining investments. Relatively strong economic activity, supported by domestic demand, is also the result of the contribution of net exports, reflecting the positive international trade balance, which is characteristic of the Slovenian economy during the recovery period. The Slovenian economy is focused on the path of balanced economic growth with average growth, similar to the one in 2006-2008. Balanced recovery is reflected in the continuous improvement in some areas. Despite these positive trends, biodiversity and nature conservation in general only recently received perceptible financial stimulations, which will hopefully contribute to more effective implementation of biodiversity targets.

As explained in detail under **chapter 7.4 of NR5**, in Slovenia, nature protection is, as a rule, a non-profit activity that must be provided by the state and local communities in line with their responsibilities. The financing thereof is generally carried out through the state budget. Important additional sources of funding are the European Regional Development Fund, the European Agricultural Guarantee Fund, the Rural Development Programme, the LIFE programme, the Cohesion Fund, the EEA and Norwegian Financial Mechanisms and the Swiss contribution. In this reporting period, financing has reached around 20 M EUR per year. Slovenia has not yet developed payment for ecosystem services, which is a potential source of financing for biodiversity conservation measures. The Business & Biodiversity Mechanism has not been fully realised in Slovenia. The establishment of new protected areas is generally financed from the state budget. One of the basic new elements introduced by the reform of the EU agricultural policy for the 2015–2020 period is an increase in the funds within agri-environmental and climate payments. The aim of these measures is to reduce the negative impacts of agriculture on the environment. Systemic financing that would allow for prompt data entry and maintenance of databases has not been established yet. Awareness-raising activities are part of the regular work of all public institutes and public service providers operating in nature conservation in Slovenia and financed from the state budget and other sources.

Table: Financing of Nature Conservation in Slovenia from the state budget (only MESP budget lines) in the reporting period (figures represent the valid budget)

	Core budget (EUR)	LIFE Program co-financing	Subtotal
2015	6.577.425,00	510.160,00	7.087.585,00
2016	6.827.334,00	962.203,00	7.789.537,00
2017	6.956.429,00	982.482,00	7.938.911,00
2018	7.684.066,00	1.137.980,00	8.822.046,00
Total	28.045.254,00	3.592.825,00	31.638.079,00

According to the abovementioned data, it can be concluded that contributions from the state budget to direct and indirect measures for biodiversity conservation have increased at app. 24 % within the reporting period (2015 – 2018). Taking into account the given economic and public finance situation that increase was substantial from the level in 2015 and therefore the realization of the Aichi target 20 is on its way.

It is expected that on the basis of the **National Environment Protection Program by 2030** (NEPP), the funding of nature conservation policy apart from the state budget as a permanent and stable source will also include funds from dedicated funds (e.g. climate). This financing, which was significantly weakened during the 2008 – 2013 economic crises, is complementing in particular the project funding from EU funds and financial instruments, and to a lesser extent from donor funds and other sources, such as income from state-owned forestry management and municipal budgets. Given the objectives of the global and European biodiversity conservation policies, the measures and structures for their implementation will be financed as a priority. Implementation and consequent funding, however, need to be strengthened in practically all areas. According to the NEPP 2030, the following priority areas will be financed to a greater extent:

- the preservation of the European ecological network Natura 2000,
- conservation of nationally important biodiversity which is not covered by Natura 2000 (including the establishment of green infrastructure),
- management of protected areas,
- protection of valuable natural features and landscapes important for biodiversity,
- prevention of introduction and spread of non-native species and their control,
- regulation of access to genetic resources and implementation of fair sharing of benefits from their utilisation,
- education and awareness-raising activities,
- international cooperation,
- monitoring and maintenance of databases,
- evaluation of ecosystem services.

The total estimated needs for financing the abovementioned measures is **EUR 53 million EUR per year**, with the envisaged resources being: the RS budget, EU funds and other EU financial instruments.

In order to achieve the goals of the NEPP, *inter alia*, more effective mobilization of **climate finances** will be necessary. Slovenia intends to double the funds for climate finance, which are intended for developing countries and will allocate 157 million euros for the climate fund in 2019. In this respect, the Ministry of the Environment and Spatial Planning has already begun to prepare the National Climate Strategy by 2050. It is also worth mentioning that in 2018, EUR 75 million EUR of **green bonds** were sold to investors. The green bond is based on the form and method of financing environmental projects through the capital market. The funds raised through the issuance of green bonds can be used for eco-efficient products, technologies and processes, pollution prevention and control, sustainable management of living natural resources, sustainable management of water resources, renewable energy, energy efficiency and clean transport. Green bonds are intended to large companies and small and medium-sized enterprises that raise funds for new or existing ecologically sustainable projects.

Please describe other activities contributing to the achievement of the Target (optional)

In 2018, the Government of the Republic of Slovenia adopted the Annual Program for the use of the budgetary funds for forests. In 2018 EUR 1,182,216 was foreseen for actions in Natura 2000 sites.

http://www.vlada.si/fileadmin/dokumenti/si/Sporocila_za_javnost/2019/05/sevl32.pdf

In 2017 a special report of the European Court of Auditors was published entitled "*To exploit the full potential*

of the Natura 2000 network, more efforts are needed". According to the report, it is necessary to improve the management, financing and monitoring of Natura 2000, as the EU exemplary biodiversity program. The Court acknowledges that the Natura 2000 program plays an important role in protecting biodiversity. It identified management weaknesses and a lack of reliable information on costs and funding since financing was not sufficiently adapted to the needs of the areas.

https://www.eca.europa.eu/Lists/ECADocuments/SR17_1/SR_NATURA_2000_SL.pdf

The website of the LIFE capacity building project was launched to raise awareness of the LIFE program, promote its results, motivate new applicants and improve the efficiency of Slovenia in implementing the LIFE program.

<https://lifeslovenija.si/>

The European Commission has published the report "*Integration of Natura 2000 and biodiversity into EU funding*". It summarizes the findings on how Natura 2000 and biodiversity measures have been integrated into rural development programs and operational programs for the period 2014-2020. 101 programs from 16 countries, including Slovenia, were analysed.

http://ec.europa.eu/environment/nature/natura2000/financing/docs/Natura2000_integration_into_EU%20funds.pdf

In February 2016, the National Assembly passed the *Law on the Management of Forests Owned by the Republic of Slovenia*. It is expected that this legal act will contribute to the achievement of the objectives of nature conservation, in particular the achievement of the objectives of the Natura 2000 sites and protected areas. According to its provisions, the funds of the Forest Fund will also be used to finance measures in Natura 2000 sites in private forests.

<http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO7109>

In January 2016, the Government of the Republic of Slovenia adopted the Program for the use of the Fund for Climate Change funds. These funds are also intended to finance the promotion of sustainable mobility for visiting nature conservation areas.

<http://vrs->

[3.vlada.si/MANDAT13/vladnagrada.nsf/71d4985ffda5de89c12572c3003716c4/4530566f04e9764ac1257ce50046994f/\\$FILE/60sv5.doc](http://3.vlada.si/MANDAT13/vladnagrada.nsf/71d4985ffda5de89c12572c3003716c4/4530566f04e9764ac1257ce50046994f/$FILE/60sv5.doc)

In 2015, the Ministry of the Environment and Spatial Planning received seven nature conservation project proposals for co-financing from the LIFE program. The Ministry has confirmed co-financing for two of them on nature and biodiversity, and one on environmental management and information.

<http://www.natura2000.si/aktualno/enatura/enatura/article/618/>

In 2015, with the support of the EEA, projects whose activities will directly or indirectly benefit the Natura 2000 network in Slovenia were launched.

<http://www.natura2000.si/aktualno/enatura/enatura/article/621/>

Sources:

http://www.mf.gov.si/si/delovna_podrocja/ekonomsko_upravljanje_in_nacrtovanje/programi_stabilnosti/

http://www.mop.gov.si/si/medijsko_sredisce/novica/8694/

<https://www.sid.si/velika-podjetja/financiranje-zelenih-projektov-iz-zelene-obveznice>

http://e-clip.pressclip.si/novi_eclip/article.aspx?SEED=b04e6eb6-da5a-4676-9a42-fb08c9ca2fb26486245

http://www.vlada.si/fileadmin/dokumenti/si/Sporocila_za_javnost/2019/05/sevl32.pdf

SECTION V. DESCRIPTION OF THE NATIONAL CONTRIBUTION TO THE ACHIEVEMENT OF THE TARGETS OF THE GLOBAL STRATEGY FOR PLANT CONSERVATION (COMPLETION OF THIS SECTION IS OPTIONAL)

Does your country have national targets related to the GSPC Targets?

Yes. Please provide details on the specific targets below:

Details on national targets related to GSPC are provided under Sections II and IV and NR5. Slovenia does not have a specific plant conservation strategy and plant conservation is integrated into various cross-sectoral and sectoral program and strategic documents:

Please provide information on any active networks for plant conservation present in your country.

In this section we provide information on specific activities carried out in ex-situ conservation and other activities reported by the University Botanic Gardens Ljubljana (UBGL). The UBGL collects Seeds of plants under their maintenance for its own needs and for exchange with other botanical gardens. The exchange of seed indices (*Index seminum*) with 293 gardens annually, which amounts to about 18% of all botanical gardens in the world. It is a matter of a well established exchange of seeds which, free of charge, serves various research and educational purposes. The UBGL possesses a seed bank of the plants grown in its premises as well as plants from natural habitats.

Please describe the major measures taken by your country for the implementation of the Global Strategy for Plant Conservation.

Target 1: An online flora of all known plants

The UBGL maintains an online inventory of all plant species growing at its surfaces and premises (native and non-native) with basic data about species. The inventory is available at: (<http://www.botanic-gardens-ljubljana.com/en/plants>) and at Botanic Garden Conservation International Plant Search webpage: <http://www.botanicgardens.eu/>

Target 2: An assessment of the conservation status of all known plant species, as far as possible, to guide conservation action

During its field work the UBGL carries out monitoring of plant species and habitats and suggests management activities for conservation of species concerned. Such examples are: population monitoring of endemic plants *Pastinaca sativa* var. *fleischmanni* (<http://www.botanic-gardens-ljubljana.com/en/fleischmann-s-parsnip>), *Hladnikia pastinacifolia*, *Primula carniolica*, *Sempervivum juvenii*, *Scopolia carniolica* subsp. *hladnikiana*, *Campanula justiniana*, *Iris sibirica* subsp. *erirrhiza*, some plants with locus classicus *Gentiana pannonica*, *Arabis scopoliana* and others; some plants on Red list *Eryngium alpinum*, *Pulsatilla grandis*, *Gladiolus illyricus*, *Fritillaria meleagris*, *Scilla litardierei* and others. UBGL also provides advice on conservation of grassland biodiversity: (<http://www.botanic-gardens-ljubljana.com/pdf/books/meadows-green-surfaces-or-colourful-gardens.pdf>); <http://www.botanic-gardens-ljubljana.com/pdf/books/meadow-clary-salvia-pratensis-l-in-slovenia.pdf>; <http://www.botanicni-vrt.si/pdf/books/seeds-collecting-for-in-situ-and-ex-situ-purpose.pdf>)

Target 6: At least 75 per cent of production lands in each sector managed sustainably, consistent with the conservation of plant diversity

UBGL hosts 2 ha of dry meadows for *in-situ* conservation of dry grassland plant species.

Target 7: At least 75 per cent of known threatened plant species conserved in situ

UBGL provides *in-situ* conservation for 150 dry meadow plant species.

Target 8: At least 75 per cent of threatened plant species in ex situ collections, preferably in the country of origin, and at least 20 per cent available for recovery and restoration programmes

In addition to *in-situ* conservation, the UBGL also performs ex-situ conservation by growing plants in the plant collection. The list of plants can be accessed at the following web page: <http://www.botanicni-vrt.si/rdeciseznam>. UBGL has more than 20 percent (702 native plant species) of native plants in permanent seed gene bank and even more in dry seed bank. The inventory of this ex-situ collection is accessible at: <http://www.botanicni-vrt.si/pdf/books/botanic-gardens-and-gspc-target-8.pdf>. The UBGL possesses 12000 seed bags (dry form) with approximately more than 3000 different plant species (native and not native).

Target 10: Effective management plans in place to prevent new biological invasions and to manage important areas for plant diversity that are invaded

With its expertise and numerous examples of good practice, the UBGL advises different authorities, institutions and societies about invasive plant species and their management and eradication.

Target 11: No species of wild flora endangered by international trade

Being at the meeting point of four biogeographic regions, Slovenia is a home for many species of interest for cultivation, medicinal use, consumption and other purposes. Such are: all kinds of spring bulbs (*Galanthus nivalis*, *Leucojum vernum*, *Leucojum aestivum*), *Gladiolus* all species, Orchidaceae family, Primulaceae family, *Helleborus* species, medicinal plants and some others. These species are protected under national legislation and there is no evidence that they are threatened by international trade.

Target 13: Indigenous and local knowledge innovations and practices associated with plant resources maintained or increased, as appropriate, to support customary use, sustainable livelihoods, local food security and health care

The UBGL organizes varied workshops related to ethnobotany and publishes articles on plants and their traditional use.

14. The importance of plant diversity and the need for its conservation incorporated into communication, education and public awareness programmes

The UBGL carries out public lectures about importance of plant biodiversity and of native plant conservation. It also provides guided tours to present native plants and organizes international conferences on plant biodiversity (publications: <http://www.botanicni-vrt.si/autochthonous-plants-in-the-urban-environment> ; <http://www.botanicni-vrt.si/pdf/books/botanic-gardens-in-the-year-of-european-green-capital.pdf>; <http://www.botanicni-vrt.si/botanic-gardens-and-biodiversity>, <http://www.botanicni-vrt.si/cvetne-formule-rastlinskih-druzin-v-botanicnem-vrtu-univerze-v-ljubljani>. The UBGL is currently a partner in LIFE project: LIFE NATURAVIVA "Biodiversity for life" where one of the the main topics are to represent endemic plant species to wider public. The UBGL got a Conservation Practitioner Accreditation and BGCI Botanic Garden Accreditation.

15. The number of trained people working with appropriate facilities sufficient according to national needs, to achieve the targets of this Strategy

Three people are trained to do this work at UBGL.

SECTION VI. ADDITIONAL INFORMATION ON THE CONTRIBUTION OF INDIGENOUS PEOPLES AND LOCAL COMMUNITIES (COMPLETION OF THIS SECTION IS OPTIONAL)

This section in its stricter sense is not relevant for the Republic of Slovenia since there are no indigenous communities. In principle, all natural persons and legal entities, including the local communities can participate in the adoption and implementation of biodiversity measures. At the local level, these can be bodies responsible for a public service or other bodies that exercise public powers. Involvement of local communities, particularly in preparation and adoption of planning documents is explained in detail in our NR 5 under the following chapters: 7.2. *Plans and strategic and planning documents*, 7.4. *Financing mechanisms*, 8.3. *The integration of biodiversity in planning and spatial planning mechanisms*, 9. 1.3. *Activities supporting biodiversity conservation and sustainable use*, and 9. 2.1. *Nature protection measures*.

SECTION VII. UPDATED BIODIVERSITY COUNTRY PROFILES

Biodiversity facts

Status and trends of biodiversity, including benefits from biodiversity and ecosystem services and functions:

Slovenia is situated in the southern part of central Europe where four biogeographic regions meet (the Alps, Pannonian Plain, Dinaric Mountains and the Mediterranean), forming a large variety of eco-regions and habitats. The country's territory comprises 20,254 km², with 40% covered by karst areas and 16% by quaternary sediments.

Forests cover 1.2 million hectares or 58,2 % of Slovenia's surface (approximately 0.6 hectare per capita); 36% is agricultural land and 3.5% urban areas, while the remainder consists of wetlands, waters and areas with no vegetation cover. There are 514 natural and anthropogenic habitat types that have been identified and documented in Slovenia. Landscape categories are extremely rich, comprising coastal and marine types, inland waters, scrub and grasslands, forests, marshes, rocky habitats and caves, as well as agricultural and urbanized landscapes. The principal characteristic of the landscapes is the intertwining of small units and their mosaic structure. Large areas of one habitat type are rare.

To date, around 15,000 animal species, 6,000 plant species and 5,000 species of fungi have been identified and documented. The degree of endemism is considerably high. Among vascular plants, there are 40 endemic taxa, including 22 narrow endemics with predominant distribution in Slovenia. There are 850 endemic taxa of fauna, including cave animals above all. Approximately 10% of ferns and higher plants and 56% of vertebrates are endangered, including 64% of the 81 species of indigenous freshwater fish. Threatened species of vertebrates comprise 36% of mammals, 49% of birds, 73% of amphibians and 48% of fish and hagfish.

At least nine breeds of indigenous domestic animals have been classified as endangered. Biodiversity conservation is focused at *in-situ* conservation, with most biodiversity conservation goals achieved through sustainable land use, such as low-intensity farming. Besides agriculture, forestry is the principal land use activity affecting biodiversity that has significant economic importance.

The benefits of vital ecosystems, such as a stronger and sustainable economy and positive impacts on human health, have been broadly recognized in the country. Ecosystem services in Slovenia include basic

regulatory services (e.g. water quality, soil quality, air quality, natural hazard regulation). There are however numerous services specific to Slovenia (e.g. provision of food, production of timber and fuel, areas for recreation and ecotourism, carbon sequestration, provision of habitats for pollinators).

Main pressures on and drivers of change to biodiversity (direct and indirect):

The main threats to biodiversity are driven by anthropogenic activities which result in habitat fragmentation and ecosystem degradation. The most prominent of these anthropogenic threats are the pressures caused by urbanization and the non-sustainable use of wetland ecosystems, inland waters, coastal and marine ecosystems, subterranean ecosystems and extensively cultivated cultural landscapes. In addition, the spread of invasive species, new diseases and climate change are beginning to impact Slovenia's ecosystems and biodiversity more significantly. According to the recent report on the status of habitat types, inland waters and agricultural ecosystems are the most threatened habitat types in Slovenia. The main cause of a relatively poor status of some species in Slovenia is habitat loss due to human activity (fish, reptiles, and some arthropods are of greatest concern). The conservation status of more than 40% of vascular plants and more than 30% of mammals is favourable.

Measures to enhance implementation of the Convention

Adopted in 2001, the first NBSAP's overall objective was to gradually achieve a long-term vision by implementing a range of measures at all levels of operation. An updated NBSAP has been drawn up and will cover all relevant Aichi Biodiversity Targets tailored to national circumstances. The fundamental strategic document in the area of environment is the National Environmental Protection Programme (NEPP). The third NEPP which is scheduled for adoption by the end of 2019 includes a chapter titled "National Nature and Biodiversity Conservation Programme" detailing the extent of public interest in biodiversity conservation for by 2030 with specific contribution to CBD implementation. The global biodiversity targets are being implemented through a well-established legislative and institutional system. These tasks are detailed in existing specific operational programs and strategies, such as the Program for the Management of Natura 2000 sites. It was adopted in order to maintain the main part of biodiversity (plant and animal species and habitat types that are a common concern of the EU) at more than 37% of the national territory and Strategies and Action Plans on Large Carnivores as well as other sectoral strategic documents.

In general, biodiversity in Slovenia has been relatively successfully mainstreamed in relevant sectoral and cross-sectoral strategies, plans and programmes. Key cross-cutting policy instruments, particularly the ones under review, and various sectors integrate biodiversity in their strategic documents. Biodiversity is also well integrated in planning mechanisms. However, continued mainstreaming and improved implementation of these provisions are needed. The Environmental Impact Assessment (EIA) is a well-established system in Slovenia. EIA has to be carried out for all plans or interventions that might impact on the environment. The National Development Strategy 2014-2020 defines prosperity as its main target while, at the same time, highlights that development should not be limited to economic growth only but also to preserving the country's natural capital through investments in green infrastructure.

Forest management is regulated by the Law on Forests and the Forest Development Programme. In accordance with the law and adopted management plans, landowners are obliged to sustainably manage their forests. The National Research and Development Programme and the reform Programme for the Implementation of the Lisbon Strategy are core strategic documents in the area of scientific research. Among others, these programmes contain directions for halting the loss of biodiversity and sustainable use of its components.

The fundamental strategic document of the energy sector is the National Energy Programme 2010-2030,

whose vision is to create conditions for the country's transition to a low-carbon society.

Regardless of measures adopted, especially in relation to the extended scope of protection measures and the establishment of the Natura 2000 site network, the general condition of biodiversity in Slovenia is in many cases not favourable. The main objective of Natura 2000 is to preserve and increase biodiversity within the territory of the European Union for future generations by enabling responsible sustainable development and stimulating the traditional coexistence of people and nature. Following the accession of the Republic of Slovenia to the European Union in 2004, the Natura 2000 network became a major mechanism for biodiversity conservation in the country. Over the past ten years, 354 Natura 2000 areas have been designated (covering 37% of Slovenia's territory). The new Natura 2000 Operational Programme 2014-2020 provides the mandatory platform for the management of Natura 2000 sites and the preparation of a prioritized action framework for the corresponding financial period.

Overall actions taken to contribute to the implementation of the Strategic Plan for Biodiversity 2011-2020:

Awareness-raising and communication (Aichi Biodiversity Target 1) are key support activities ensuring the understanding of and support for biodiversity conservation measures in Slovenia. It can be concluded that funds dedicated to awareness raising activities from state budget and other sources are adequately used for the purpose. One of the challenges in Slovenia is to still strengthen the awareness-raising capacities of public services active in the field of biodiversity conservation and the management of its components (e.g. agriculture, forestry, water management, energy, spatial planning, and tourism). In relation to Aichi Biodiversity Target 2, biodiversity has been relatively successfully mainstreamed into relevant sectoral and cross-sectoral strategies and programmes (this will continue to be one of the key targets of the revised NBSAP). However, the situation on the ground is often not satisfactory and considerable efforts are necessary to assure better implementation of these measures by all sectors concerned. One of the main measures taken for the conservation of biodiversity in Slovenia relates to the sustainable use of resources (Aichi Biodiversity Targets 3, 4, 7). These actions include a variety of initiatives, such as agri-environmental measures within the Rural Development Programme which aims to popularize farming practices that protect human health, ensure sustainable use of natural resources and preserve the biodiversity and typical features of Slovenian landscapes. It is important to emphasize that in practice these measures did not prove to be particularly successful.

In relation to Aichi target 5, In Slovenia, two processes are evident, on one side natural habitats are disappearing due to anthropogenic causes, and on the other hand, they emerge as a result of the abandonment of agriculture in rural areas and some industrial and other activities. The demographic growth in Slovenia does not threaten biodiversity, unlike in some other places in the world, as forecasts for the country are unfavourable. Nevertheless, it can be expected that the pressures on the natural environment will continue to increase.

Regarding implementation of Aichi target 6, the fisheries management in Slovenia can legally and institutionally be used as an example of good practice. Nevertheless, efforts are also necessary to manage waters in an integrated manner, taking into account their dynamics and natural processes and mutual dependency of habitat types.

Despite many positive steps and trends, pollution (Aichi Target 8) remains one of the significant threats to biodiversity in Slovenia. Cave ecosystems are particularly sensitive to both underground and above-ground activities. Pollution due to the discharge of urban wastewater and polluted watercourses into the sea has been reduced. Agriculture remains one of the main sources of pollution of watercourses and underground water in addition to the untreated urban and industrial wastewaters.

In relation to Aichi Biodiversity Target 9 (Invasive Alien Species), Slovenia is taking steps to identify and prioritise IAS and their pathways. The country has also made numerous efforts towards Aichi Biodiversity Targets 10 and 11 by building a strict spatial land use planning policy, which contributes to decreased degradation of natural habitats and has specific measures for biodiversity protection. Municipal spatial development strategies are also being prepared. A system of Environmental Impact Assessment (EIA) is fully in place and being well implemented. Since 2004, an additional system on impact assessments has been in place for protected areas and Natura 2000 sites. Regarding Aichi Biodiversity Target 11, taking into account the Natura 2000 sites, Slovenia exceeded the 17% baseline for terrestrial protected areas by far. However, in a stricter sense, some may argue that Natura 2000 sites could not be considered as protected areas but rather as OECM (other effective area-based conservation measures). Protected areas have been designated under different protection regimes, including 47 National, Regional and Landscape Parks as well as numerous Nature Reserves and Natural Monuments. Slovenia also has three marine protected areas, two World Heritage Sites (Škocjanske jame, the two forest reserves), two Man and Biosphere (MAB) areas (Karst, Julian Alps) and three Ramsar sites (Sečoveljske soline, Škocjanske jame, Cerkniško jezero).

Slovenia carried out several ecosystem services assessments, mainly at local level (Aichi Targets 11 and 14). The government is currently collecting projects and research on ecosystem services to prepare a database of case studies. The results of Slovenia's national assessment will feed into its first map of ecosystem services. Activities on non-forested habitat types will continue (70 % of the first cycle is complete) and land-use data of forested and agricultural areas will continue to be updated every 4 years.

In relation to Aichi Biodiversity Target 12 and the conservation of threatened species, all commercial activities, including export, import, sale, offer for sale, etc., are prohibited for nationally protected species as well as for EU or internationally protected species. In addition to the Nature Conservation Act, regulations on the protection of endangered wild flora and fauna were adopted in 2004 in order to transpose the EU's Birds and Habitats Directives in Slovenia's legal system and have regularly been amended. According to these Directives, species found in Slovenia, including all native bird species, have to be maintained in the favourable conservation status. Because the country has many caves in karst areas, a Cave Protection Act was also adopted in 2004. The protection of autochthonous inland water fish species is addressed in 12-year management programmes and six-year action plans. Specific programmes on the repopulation of certain threatened fish species are being implemented. Due to collection pressures, special measures have been taken to protect alpine species. Slovenia signed the Nagoya Protocol in 2011 but has not yet ratified it (Aichi Biodiversity Target 16). As a member state of the EU, Slovenia implements the common EU regulation to cover the obligations of users, while the area of access to genetic resources may additionally be regulated at the national level. In 2017 a specific by-law was adopted to implement the EU Regulation. Regarding Aichi Biodiversity Targets 17, 19 and 20, a revised NBSAP will pay particular attention to knowledge, science base and resource mobilisation. It is expected that the proposed National Environment Protection Programme with the integrated NBSAP will create an important milestone in the knowledge, the science base and technologies relating to biodiversity. One of the programme's aims is to establish an information system and raise awareness about biodiversity at all levels of society.

Agri-environment payments that contribute towards achieving Aichi Biodiversity Targets 3, 7 and 13 include subsidies for organic farming, breeding of traditional breeds of domestic animals, and production of traditional varieties of agricultural plants, sustainable breeding of domestic animals, maintaining extensive grasslands, breeding of domestic animals in the central areas of occurrence of large carnivores, conservation of special grassland habitats, conservation of meadows outgrown with birch fern communities and bird conservation in extensive humid meadows at Natura 2000 sites. Small-scale farmers are involved in conservation through programmes of organic farming and through Natura 2000 public awareness programmes. There are also programmes supporting traditional farming in protected areas.

Contributions from the state budget to direct and indirect measures for biodiversity conservation have increased at app. 24 % within the 2015 – 2018 period. Taking into account the given economic and public finance situation that increase was substantial achievement towards the realization of Aichi Target 20. It is expected that on the basis of the National Environment Protection Program by 2030, the funding of nature conservation policy apart from the state budget as a permanent and stable source will also include funds from dedicated funds (e.g. climate).

Support mechanisms for national implementation (legislation, funding, capacity-building, coordination, mainstreaming, etc.):

The Republic of Slovenia is a Party to all biodiversity-related MEAs concerned (Bern Convention, CBD, CITES, CMS (including relevant Agreements), International Whaling Commission (IWC), Ramsar Convention, World Heritage Convention). In 2004, Slovenia became a Member State of the EU and thus undertook commitments for the conservation and sustainable use of biodiversity in accordance with the acquis of the Union.

EU environmental legislation, such as the Habitats Directive, the Birds Directive and the Wildlife Trade Regulations, play a considerable part in supporting national implementation of the Aichi Biodiversity Targets in Slovenia, as well as in providing monitoring mechanisms for species conservation.

In Slovenia, nature conservation is, as a rule, mainly a non-profit activity by its nature, which must be provided by the state and local communities in line with their responsibilities. This definition places nature conservation activities within the public financing system that is generally implemented through the national budget. Relevant funds from the national budget are earmarked for conservation initiatives, but funding is also available through various funds, international governmental and non-governmental organizations, conventions secretariats and the European Union which has several financing instruments.

The results of the National Capacity Self-Assessment for the Global Environmental Management (NCSA) project for the three Rio conventions were published in 2005. There has also been great emphasis on hands-on field education and training through collaborative efforts between the National Education Institute and the Ministry of the Environment and Spatial Planning. As a part of its activities, the Institute for Nature Conservation carries out systematic communication and training activities for its staff and partners. Managers, project leaders and media are involved in implementing the Institute's guidelines on natural resource management. Three ministries are involved in the development, protection and management of landscapes: Ministry of the Environment and Spatial Planning, Ministry of Culture and the Ministry of Agriculture, Forestry and Food. Biodiversity issues have been considerably integrated in numerous sectoral and cross-sectoral areas such as agriculture (through the use of agri-environment payments), forestry, fisheries, water management, industry and energy, transport, and tourism.

Mechanisms for monitoring and reviewing implementation:

At the national level, the Biodiversity Working Group of the Council for Sustainable Development was established to monitor to what degree the objectives of the first NBSAP have been achieved. Although the Working group has not been active it has not been formally abolished. At the EU level, when appropriate, implementation of the NBSAP is presented at the meetings of committees and expert groups and at the EU Council's Working Party on International Environment Issues and the meetings of the EU environment ministers. Under Article 17 of the Habitats Directive, EU Member States must report on implementation of measures laid down by this Directive every six years. The progress on implementation of CITES and the EU Wildlife Trade Regulations and ABS Regulations are also being reported regularly at the EU and global levels.

The implementation of the new National Environment Protection Programme with updated NPSAP as its integral part will be monitored at two levels:

- a) The Ministry of the Environment and Spatial Planning (MESP) will review, every two years, the implementation of the NEPP and the progress made towards achieving the targets, and will, if necessary, provide for measures to accelerate the achievement of the targets,
 - b) The MESP will, twice during the programming period (2023 and 2027), provide a mid-term review of the implementation of the NEPP and progress towards the objectives and inform the Government of the review findings. If the findings show deviations from the planned implementation of the NEPP, it will propose appropriate changes.
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