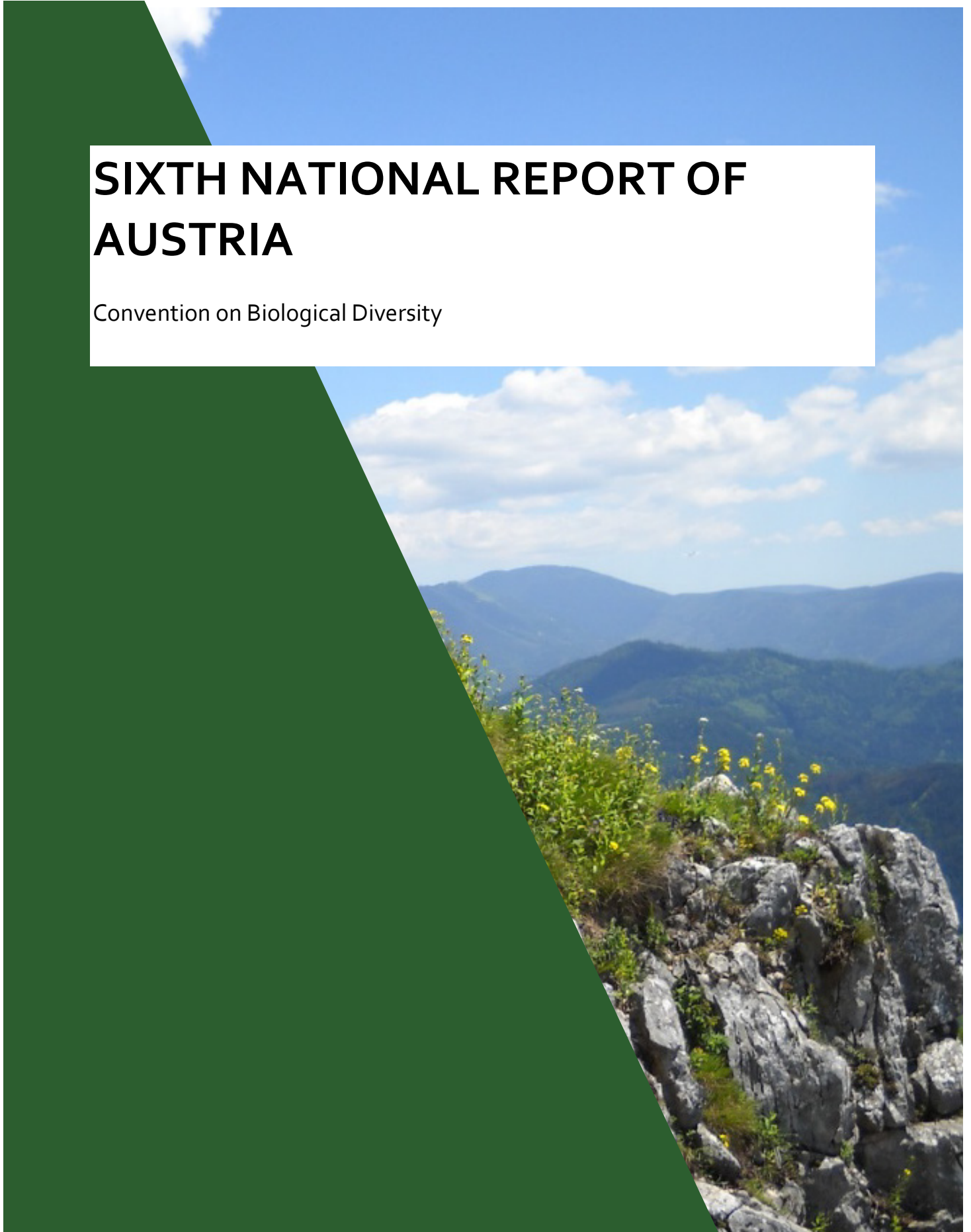


SIXTH NATIONAL REPORT OF AUSTRIA

Convention on Biological Diversity



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Vienna, December 2018

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Executive Summary

This 6th National Report to the Convention on Biological Diversity provides an overview of activities carried out to implement the national biodiversity strategy “Biodiversitäts-Strategie Österreich 2020+”. The 6th National Report follows the guidelines for national reporting according Decision XIII/27 of the 13th Conference of the parties in Cancun, Mexico.

The report presents information about the national biodiversity targets and an assessment of progress towards the national (sub-) targets. The implementation measures taken are described and their effectiveness is reported. Furthermore the national contribution to the achievement of each global Aichi Biodiversity Target and of the targets of the global strategy for plant conservation is described.

The Biodiversity Strategy Austria 2020+ sets out five main areas of action; (1) Knowing and acknowledging of biodiversity, (2) Sustainable use of biodiversity, (3) Reducing pressures on biodiversity, (4) Conserving and developing biodiversity and (5) Securing global biodiversity. The national strategy has twelve biodiversity targets which are specified in 50 sub-targets. The Austrian biodiversity strategy was adopted by the National Biodiversity Commission in October 2014; it is aiming at implementing the CBD Strategic Plan for Biodiversity 2010 - 2020.

The assessment of the national sub-targets shows that many are on track to achieve their specific goals; however, there are areas where targets relating to status and trends of biodiversity show no significant change or are moving away from target.

Many activities have been carried out in particular to strengthen awareness on biodiversity and its importance for society. Activities like the national biodiversity campaign “vielfaltleben” and an advertising campaign of National Parks Austria have been successful and have led together with a wide range of activities for mainstreaming biodiversity into other sectors, like business, health, agriculture and to the youth to an increase in appreciation of biodiversity among Austrian citizens.

The activities for biodiversity research and monitoring have been extended; the number of publications with the participation of authors working in Austria has risen steadily, monitoring activities provide additional data on species and habitats. A biodiversity monitoring of the Austrian cultural landscapes has been developed and a baseline survey has been already conducted. Austria works on recording the genetic diversity of all Austrian animal, plant and fungus species via DNA barcodes (ABOL). The Austrian Ornithological

Centre (AOC), a scientific institution for the research of all biological and ecological aspects of birds, has been established.

The Austrian Rural Development Programme aims at strengthening the incorporation of environmental objectives and forest policy to guarantee services provided to the society. The Austrian Agri-Environmental Programme (ÖPUL) plays a major role for biodiversity. Around 80% of the agricultural area is managed under this scheme. Currently 22% of the agricultural land is managed organically, placing Austria at the top of an EU-wide ranking. Particularly biodiversity promoting measures are applied on 6.8% of the agricultural land.

The proportion of deadwood has almost doubled since 1990s, but is still at an insufficient rate. The game situation adversely affects the natural regeneration of forest stands, thus can lead to a reduction in forest biodiversity. The status of farmland birds shows no improvement, the populations have remained at an index value of approximately 60% since 2013, starting with 100% in 1998. The assessment of the ecological status of water bodies shows progress between 2013 and 2009; the share of rivers in very good and good ecological status and with good potential is under 40%. The chemical status of surface waters is in almost all water bodies good.

Austria's diverse landscape is an essential basis for the success of Austrian tourism and is acknowledged as such in the tourism strategies of the Austrian provinces. The careful use of natural resources is one of the top priorities in some of the recently elaborated tourism strategies. Activities for sustainable mobility in tourism, cooperation between nature conservation and tourism and sustainability labels have been increased. However, the reported progress related to tourism and leisure activities is still at an insufficient rate.

Austria has adopted a climate and energy strategy providing a framework for upcoming investments for renewable energy and energy efficiency. Several federal states have defined suitable and exclusion areas for the wind power plants taking into account ecological values of the areas, bird protection, local and landscape scenery including particularities of the Alpine region.

Many awareness raising, prevention and management activities for the prevention and management of invasive alien species are conducted. A national focal point has been working on these activities. An inventory of alien species occurring in Austria is currently updated. In the federal state Tyrol a neophyte competence centre has been established.

A wide range of species and habitat conservation projects has been implemented leading to an improvement of the status of the target features. The conservation status of 14% of the habitats and 16% of the species under the Habitat Directive is favourable; the conservation status is in general better in the Alpine region than in the Continental region.

Further protected areas have been established. In total more than 28% of Austria's territory is protected under nature conservation law, whereas about 16% are protected as national park, Natura 2000 and/or nature reserve, providing stricter regulations for biodiversity. Austria is part of the UNESCO World Heritage Site "Primeval Beech Forests of the Carpathians and Other Regions of Europe"; the Austrian components are located in the Kalkalpen National Park and in the Dürrenstein wilderness area.

The daily land consumption for three-year period shows a decrease from 20.1 ha in 2013 to 12.9 ha in 2017, but is still at a high level for Austria.

Austria ratified the Nagoya Protocol recently. The biodiversity related funding to developing countries shows an increase.

Austria contributes with all activities and measures directly to the Aichi Targets and to the Sustainable Development Targets. Some progress has been achieved in the implementation of the global strategy for plant conservation.

The updated biodiversity country profile of Austria completes this report.

The 6th National Report to the CBD has been discussed and finally adopted by the National Biodiversity Commission, representing relevant ministries, authorities of the Austrian provinces, land owner associations, economic chamber, universities, NGOs etc. The Commission advises the Federal Ministry for Sustainability and Tourism on issues related to biodiversity and in particular CBD related matters.



1 Information on the targets being pursued at the national level

The Biodiversity Strategy Austria 2020+ was adopted in October 2014; the strategy is mostly in line with the strategic plan for biodiversity 2011 - 2020 and the Aichi targets.

The national strategy comprises five areas of action, (1) Knowing and acknowledging biodiversity, (2) Sustainable use of biodiversity, (3) Reducing pressures on biodiversity, (4) Conserving and developing biodiversity, (5) Securing global biodiversity, and twelve targets. The strategy provides the targets and activities for the conservation and promotion of biodiversity and ecosystem services over the long term. Actors for implementation include stakeholders of the Federal Government, Austrian Provinces and municipalities, NGOs and all other relevant stakeholders. In order to conserve biodiversity we urgently need to scale up our efforts.

The implementation of the Biodiversity Strategy Austria 2020+ is acknowledged as a shared responsibility of stakeholders and decision makers at various levels, scientists, experts, land owners, NGOs and many others. <https://www.cbd.int/doc/world/at/at-nbsap-v3-en.pdf>

The Biodiversity Strategy Austria 2020+ was developed in a comprehensive, transparent and participatory process initiated by the Austrian Federal Ministry for Sustainability and Tourism, formerly Ministry for Agriculture, Forestry, Environment and Water Management. This process involved in particular also members of the National Biodiversity Commission, representing relevant federal ministries, authorities of the Austrian provinces, land owner associations, economic chamber, universities, NGOs etc.

The National Park Strategy Austria 2020+, the Austrian Forest Strategy 2020+, the Austrian Strategy for Wetlands 2020+ and the Austrian Strategy for Adaptation to Climate Change are strongly linked to the Biodiversity Strategy and contribute to the implementation of the Biodiversity Strategy also by specifying respective targets.

In 2015 the Austrian province of Styria developed a Nature Conservation Strategy, which also refers to the international biodiversity goals.

All targets of the Biodiversity Strategy Austria 2020+ apply to the national and the federal level.

Relevant websites, web links, and files:

<http://www.biodiv.at/>

<http://www.nationalparksaustria.at/>

<https://www.ramsar.at>

<https://naturschutzbund.at/auenschutz-mit-strategie-175.html>

<https://www.bmnt.gv.at/umwelt/natur-artenschutz/feuchtgebiete/ramsar-strategien.html>

https://www.bmnt.gv.at/forst/oesterreich-wald/waldstrategie-2020/waldstrategie_paper.html

<https://www.verwaltung.steiermark.at/cms/beitrag/12585482/74838465/>

<https://www.bmnt.gv.at/english/environment/Climateprotect/Austrian-Strategy-for-Adaptation-to-Climate-Change.html>

1.1 National Biodiversity Target 1: The significance of biodiversity is acknowledged by society

1.1.1 Rationale for the national target

The awareness of biodiversity is relatively good in Austria as a representative survey (2015) showed (see 3.1). However continuous public relations activities are essential to maintain or even increase awareness of biodiversity.

People only take responsibility for the conservation of biodiversity if they recognize the values of biodiversity. Moreover, the knowledge of the extent to which personal and political decisions may have an effect on biodiversity is equally essential. It is crucial to integrate biodiversity concerns in all of the relevant specialized planning activities or strategies (e.g. tourism, energy strategy, agriculture, forestry, spatial planning). Furthermore, knowledge about species, ecosystems and the complex ways in which they interact is essential for developing action plans and measures.

Target group-oriented public relation activities shall also be dedicated to e.g. the Sustainable Development Goals, Ramsar Convention, EU Directives and Regulations, the further development of Austrian national parks and the Green Belt Initiative in order to improve interrelations between consumer behaviour and biodiversity as well as between land management and biodiversity.

Target 1 has three sub-targets: (1) The appreciation of biodiversity in society is acknowledged, (2) More partners from a variety of sectors and a higher share of general public support the conservation and development of biological diversity and (3) An increased participation of the involved public in biodiversity-related projects has been achieved.

1.1.2 Relevance of the national targets to the Aichi Biodiversity Targets

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
1	2,4

1.1.3 Other relevant information, relevant websites, web links, and files

Communication and awareness raising activities have been carried out from the regional and federal governments, NGOs including civil society organisations on national, regional or on local level focusing on specific target groups and/or the general public. Main activities are presented in chapter 2.1.

1.2 National Biodiversity Target 2: Biodiversity research and monitoring activities are extended

1.2.1 Rationale for the national target

In Austria biodiversity research is conducted by many different institutions with very different aims, methods and geographic references. Further specialized research investigating the interlinkages between biodiversity, land use and climate change is needed to develop the measures, which serve society and all sectors. Research is particularly needed for species and ecosystems, as well as solution oriented, transdisciplinary research on the factors affecting biodiversity, the assessment of dangers and risks, opportunities to control the factors influencing biodiversity and, derived from these, the development of options for action in view of protective measures.

The current focus of biology programmes at universities curricula and other research institutions on molecular biology, genetic engineering and synthetic biology has already led to a lack of specialists with expertise in taxonomy in Austria. Solid scientific knowledge about

species and habitats, their complex interactions, their status and trends, the threats to their long-term survival, and the services biodiversity provides for human well-being are pivotal to making evidence-based decisions. Austria has set action to participate in the international initiative International barcode of Life (IBOL), to establish a reference data base of the global biodiversity using DNA barcode sequences. Our national contribution, Austrian Barcode of Life (ABOL) started in 2014, and is now in its second phase¹.

Biodiversity monitoring is required to track changes in species numbers and abundance correlated to stressors, like land-use, but likewise climatic change. Data from existing and new monitoring projects to record species and habitats are used for reports, for example as required under Article 17 of the Habitats Directive and Article 12 of the Birds Directive.

Target 2 has four sub-targets: (1) Knowledge of biology and the ecology of species and habitats as well as of taxonomy has increased (2020+), (2) Knowledge of the interrelations between human activities and biodiversity has improved (2020+), (3) Data on status and trends of species, their genetic diversity and habitats, as well as influencing factors and conservation measures, are available (2019, 2020+) and (4) Insights and data are taken into account in political decisions.

1.2.2 Relevance of the national targets to the Aichi Biodiversity Targets

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
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19

1.2.3 Other relevant information, relevant websites, web links, and files

In Austria Biodiversity related research is performed by scientific institutions. Contributions also come from NGOs and amateur naturalists (both individual and organized). In addition, there are programmes, which finance studies on biodiversity related issues. (See 2.2)

There are essential monitoring activities in place carried out by various actors including NGOs focusing on e.g. rural development, forests (Austrian Forest Inventory), monitoring of water bodies and ground water, monitoring of breeding birds, amphibians, reptiles and other species (groups), and monitoring according the Habitat Directive. (See 2.3)

¹ <https://www.abol.ac.at/en>

1.3 National Biodiversity Target 3: Agriculture and forestry support conservation and improvement of biodiversity

1.3.1 Rationale for the national target

Austrian agriculture is characterised by family run farms and is comparatively small scaled. Due to its geographical situation Austria has a high share of less favoured areas, which are for the most mountain areas – these spatial and geographical conditions in Austria have a decisive influence on agriculture. Due to its high proportion of organic farms, the natural and climatic conditions (e.g. mountainous and Alpine regions) limits to the achievable and a high willingness of farmers to participate in Agri-environmental measures, the environmental situation of rural areas is in principle good. Nevertheless, there are further challenges to maintain this good situation and to address specific and regional challenges in terms of biodiversity, as well as in other environmental issues: The long lasting trend showing an increase in the size of cultivated fields, an increase in livestock per holding, and increased use of fertilizers and pesticides in some areas, is impacting the status of species and habitats.

Almost half of the national territory is covered by forests. Of the 4 million hectares of forest, around 80% are forests mainly for timber production, while 20% are so-called protection forests, whose primary purpose is natural disaster prevention.² The forest area has been continuously increasing over the past decades mainly in alpine areas. 60% of the newly forested areas have developed (either spontaneously, or from plantations) on former agricultural land such as pastures and meadows and one third on extreme and natural sites such as landslides, wetlands and moorlands, rubble and gravel areas etc. This reforestation leads to a loss of ecologically valuable habitats in some areas of Austria.

According to the Red List of endangered biotope types in Austria, 53 of the 93 forest biotope types are endangered. Overall, the forest areas in lowlands are more endangered.

The composition, regenerative capacity, ecological resilience of forest ecosystems is impacted by game browsing.³

Target 3 has six sub-targets: (1) Increase of areas with biodiversity-related agri-environmental measures (2020), (2) The conservation status of the habitats and species that depend on or are affected by agricultural and forest management is measurably improved on the basis of

² https://bfw.ac.at/cms_stamm/050/PDF/Oesterreichs_Wald_2016_final_14062016.pdf

³ <http://www.umweltbundesamt.at/ukb2013/>

the 2010 reference scenario (2020), (3) Improvement of the Farmland Bird Index development (2020), (4) Total amount of rare livestock breeds is stable to slightly rising; the number of bee hives has increased to 400,000 (2020), (5) The amount of dead wood and old growth, particularly in the natural areas of the Alpenvorland, Mühlviertel and Waldviertel and in the eastern parts with warm summers, has increased (2020+) and (6) Traditional knowledge is preserved (2020).

1.3.2 Relevance of the national targets to the Aichi Biodiversity Targets

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
7	5,13

1.3.3 Other relevant information, relevant websites, web links, and files

The implementation of this target is supported by agri-environment measures both for agriculture and forests. The Austrian Rural Development Programm includes 44 biodiversity related measures. (See chapter 2.4)

Austrian Rural Development Programme:

https://www.bmnt.gv.at/land/laendl_entwicklung/oepul/oepul2015.html

Austrian Agri-Environmental Programme ÖPUL:

<https://www.bmnt.gv.at/english/agriculture/Rural-development/-pul2015until2020.html>

Red List of endangered biotope types:

http://www.umweltbundesamt.at/verlust_vielfalt/

The Mountain Agriculture Platform under the umbrella of the Alpine Convention and under the current lead of Austria forces activities to raise awareness e.g. of products of the mountain region. The statement is clear: Sustainable mountain agriculture ensures the safeguard of the related ecosystem services and of biodiversity and must be recognized as a basis for a vibrant alpine region. More information under Alpine Signals 8. "Mountain Agriculture": http://static.alpconv.org/download/3/mountain_agriculture_A4_EN.pdf.

Austria has adopted the Austrian Forest Strategy 2020+ in 2016, setting priorities for a sustainable forest management. (See 2.5)

Austrian Forest Strategy 2020+: https://www.bmnt.gv.at/forst/oesterreich-wald/waldstrategie-2020/waldstrategie_paper.html

Austria has developed an aggregated index for biodiversity based on different indicators, weighted depending on their significance for the maintenance of forest species richness and genetic diversity.

https://www.bfw.ac.at/webshop/index.php?id_product=326&controller=product

Austrian Forest Inventory: <http://bfw.ac.at/rz/wi.home>

1.4 National Biodiversity Target 4: Game and fish stocks are adapted to carrying capacity/habitats

1.4.1 Rationale for the national target

Hunting manages game stocks and, consequently, their habitats. Hunting potentially leads to conflicts with other groups of land users, for example, in the forestry, farming, traffic and settlement, tourism and nature conservation sectors. On the other hand wildlife is affected by climate change i.a. by increasing dry periods in summer time regionally causing a lack of feed and changes in land use, e.g. outdoor sporting activities and leisure time activities like geo-caching. The loss of natural and semi-natural land reduces the carrying capacity for wildlife by the reduction of grazing grounds and the increasing loss of connecting structures; hence minimize possibilities for adaption to climate change. The way wildlife management is undertaken is crucial to the conservation of biodiversity. In many part of the Austrian forests, the impact of game shows no signs of significant improvement. If damage caused by wildlife (grazing) prevents the natural regeneration of forest species, this can lead to a reduction in forest biodiversity, for example, through a decline in stands with mixed tree species composition (Austrian Game Impact Monitoring, WEM; Austrian Forest Inventory, ÖWI). Improving awareness and understanding of linkages between game management and biodiversity is fundamental for successful implementation of biodiversity conservation measures. The Austrian Forest-Hunting-Dialogue is an “offspring” of the Austrian Forest Dialogue provides a platform for discussions of game-related issues among various stakeholders concerned. The Austrian Forest-Hunting-Dialogue was launched in 2012. The “Principles, Criteria and Indicators of Sustainable Hunting” were developed in a participatory process and are intended to provide a fundamental basis for reconciling game management and biodiversity protection.

In 2012, the representatives of the provincial hunting and forestry associations signed the “Mariazell Declaration” which, among other things, aims at ensuring the regeneration of tree species typical for the site in accordance with the natural potential.

Large predators may play an important role in the management of hoofed game populations/wildlife damage problems (browsing), as they have an impact on the distribution and size of the hoofed game populations. However, the return of large carnivores to Austria currently meets with strong concerns from different stakeholders, livestock farmers and hunters. Acceptance for large carnivores can be increased by awareness raising, the promotion of damage prevention measures, and the implementation of adequate damage compensation schemes and through an adaptation of game management practices to the presence of large carnivores.

According to the Red List, 46% of indigenous fish species are listed in a category of threat. The Austrian fish fauna is specifically affected by interruptions in the river continuum due to migration obstacles, such as power plants, dams, flood protection measures, shipping, abstraction of water, changes in the discharge and sedimentation regimes, water level fluctuations, bank reinforcement, water use (e.g. tourism) and, to a lesser degree, pollution from wastewater (especially micropollution, including substances with hormonal effects). Fishing, which in Austria is primarily significant in the form of recreational fishing, affects the species spectrum and resilience of the aquatic biocoenosis typical of the water body by fish stocking and fish removals. At the local level, there is the possibility of financial loss due to fish predators (e.g. in fish ponds).

Nowadays a lot of chemicals are used in a broad scope of applications, from soaps, cosmetics to sun blockers and also medicines (pharmaceuticals and personal care products). These so called micropollutants might represent a potential threat to the environment and human health. Micropollutants are present in urban wastewaters, as these wastewaters represent a fingerprint of our way of living. Biological wastewater treatment plants (WWTP) are not able to completely remove all of these potentially hazardous substances. Whereas some micropollutants are nearly completely removed in conventional wastewater treatment plants designed for nutrient removal others are only partially removed or not removed at all. In order to remove potentially harmful substances, which are currently not removed in conventional biological WWTPs several advanced wastewater treatment techniques have been studied in the last years focusing on oxidation (ozonation) and adsorption (activated carbon) techniques. These techniques show divergent treatment efficiencies for specific pollutants but in general they allow a further removal of micropollutants from wastewater. However a general upgrade of all urban WWTP with an additional treatment will not be feasible. Nevertheless, additional wastewater treatment by filtration, oxidation or adsorption

techniques will help to reduce the pollution of waters with hazardous substances and it is recommended to develop criteria and a strategy, when an upgrade of an urban WWTP might be suitable.⁴

Target 4 has seven sub-targets: (1) The Forestry-Hunting Dialogue continues (2014), (2) Population size and structure of hoofed game are optimally adapted to the respective natural habitat conditions (2020+), (3) Game impact situation has improved (2020+), (4) Public acceptance of predatory animals has improved (2020+), (5) Conservation status of the Habitat Directive fish species and aquatic habitat types has improved by 50% or 100%, respectively; threat status of at least 15% of fish species has improved (2020+), (6) Good condition and/or good ecological potential as defined in the Water Framework Directive has been achieved by 2015 or 2021/2027, respectively and (7) The fishing sector is sustainable (2020+).

1.4.2 Relevance of the national targets to the Aichi Biodiversity Targets

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
7	6

1.4.3 Other relevant information, relevant websites, web links, and files

National Water Management Plan:
<https://www.bmnt.gv.at/wasser/wisa/fachinformation/ngp/ngp-2015.html>

⁴ <https://www.oewav.at/Page.aspx?target=196960&mode=form&app=134598&edit=0¤t=293859&view=205658&predefQuery=-1>

1.5 National Biodiversity Target 5: Tourism and leisure activities are in line with biodiversity objectives

1.5.1 Rationale for the national target

Biological diversity is of great significance for tourism and leisure activities. Austria’s intact natural environment and landscape are an important competitive advantage and a basic requirement for tourism. Many of the zones with the tourism activities are located in Alpine regions and conservation areas. Tourism in ecologically sensitive natural areas may have adverse effects on biodiversity. Land is sealed or heavily modified by tourist infrastructure (e.g. hotels, car parks, ponds for making artificial snow). New tourist infrastructure can impact the last pristine spaces in the Alps. Leisure activities may lead to the disturbance of species, for example during breeding, foraging or hibernation periods. It is therefore essential that tourism and leisure pay attention to biodiversity, and particular attention is given to ecologically sensitive areas. In the guidelines on environmental labels for the tourism and leisure industries, biodiversity criteria are included.

Target 5 has two sub-targets: (1) Biodiversity objectives are incorporated into tourism policies and guidelines (2020+) and (2) Cooperation projects between tourism and nature conservation are enhanced (2020).

1.5.2 Relevance of the national targets to the Aichi Biodiversity Targets

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
4	2

1.5.3 Other relevant information, relevant websites, web links, and files

Since 1990, the National Council must be informed annually about the situation of the tourism and leisure industry in Austria, which includes tourism related research. The report on the situation of the tourism and leisure industry in Austria is prepared by the Federal Ministry of Sustainability and Tourism. <https://www.bmnt.gv.at/tourismus/tourismus-in-oesterreich/lagebericht.html>

<https://www.bmnt.gv.at/tourismus/tourismus-in-oesterreich/statistik/statistik.html>

A new common national strategy – “Plan T – Master Plan for Tourism” – is to be developed in a broad-based process by spring 2019.

Tourism strategies have also been and are being drawn up, adapted and revised at federal province level.

Climate change adaptation strategy:

<https://www.bmnt.gv.at/tourismus/tourismuspolitische-themen/nachhaltige-entwicklung/klimawandel.html>

SDGs in tourism: <https://www.bmnt.gv.at/tourismus/tourismuspolitische-themen/nachhaltige-entwicklung/tourismus-und-die-SDGs.html>

Tourism grants:

<https://www.bmnt.gv.at/tourismus/tourismusfoerderungen.html>

Main activities are presented in chapter 2.6.

1.6 National Biodiversity Target 6: Energy supply is biodiversity-friendly

1.6.1 Rationale for the national target

The provision, distribution and utilization of energy sources used in Austria may directly or indirectly lead to changes and adverse effects on habitats and species endangerment. The generation and utilization of renewable energy resources generally opens up new possibilities for environmentally friendly and climate-friendly energy supply and for increased regional value creation. Hydro-electric power plants lead to significant changes in water ecosystems, especially fish stocks suffer heavily, wind farms in conjunction with the necessary infrastructure lead to changes in the landscape appearance and can create obstacles for birds and bats in flight. Biomass crops must be produced in a balanced way not undermine the supply of food and feed (food-feed-fuel principle), nor to prevent the build-up of sufficient dead wood volumes in forests, which are crucial to forest biodiversity conservation. It is

therefore important to avoid conflicting priorities in the environmental, energy and biodiversity policies and to ensure positive synergies.

Target 6 has three sub-targets: (1) Suitability or exclusion areas for wind power are defined across Austria (2020), (2) Renewable energy from biomass is increasingly generated from waste and by-products as far as feasible; exclusively eco-logical use of hydropower at suitable locations and adapted to ecological requirements (2020+) and (3) Lighting facilities are converted to suit biodiversity requirements (2020).

1.6.2 Relevance of the national targets to the Aichi Biodiversity Targets

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
8	

1.6.3 Other relevant information, relevant websites, web links, and files

The Austrian Climate and Energy Strategy introduced in April 2018 includes measures to increase energy efficiency and expand renewable energy. The planned measures should be environmentally and nature compatible and should stop further soil sealing of cultural landscapes and habitats. <https://mission2030.info/>

The project "Successful implementation of the energy turnaround while preserving biodiversity", funded by the Federal Ministry for Sustainability and Tourism and the European Union, brought together various stakeholders to exchange information on the challenges and to develop solutions for an Austria's biodiversity-preserving energy turnaround. http://www.oekobuero.at/images/doku/gemeinsam_zu_wirklich_gruenem_strom_web.pdf

1.7 National Biodiversity Target 7: Pollution is reduced

1.7.1 Rationale for the national target

Depending on toxicity, exposure duration and cumulative effects, pollution impacts biodiversity. Over the last decades, appropriate measures have led to improvements in some air-borne pollutants, but pollution with some substances (e.g. particulate matter, nitrogen

oxides or ozone) remains high and requires action at a national and international level. Nowadays an immense lot of chemicals are used in a broad scope of applications, from soaps, cosmetics to sun blockers and also medicines (pharmaceuticals and personal care products). The mixture of these products is called micro-pollutants and is threat to the ecosystem and human health. Biological wastewater treatment plants are not able to degrade these hazardous substances on the conventional way. In order to reduce these harmful substances conventional wastewater treatment plants should be upgraded with additional cleaning stage (e.g. activated carbon).

In Austria, eutrophication affected about 65% of the 51,000 km² of sensitive ecosystem in 2010 and slightly less in 2015 due to a slight reduction in nitrogen deposition.⁵

The National Action Plan on Plant Protection Products (NAPoPPP) was established to reduce the risks and impacts of pesticide use on human health and the environment. As part of the monitoring protocols, the current situation and the already introduced measures as well as those that are yet to be implemented are assessed and documented, and targets are defined on the basis of time schedules. The Action Plans for the federal provinces describe the implementation measures. They are reviewed and updated every five years.

Target 7 has two sub-targets: (1) Exceeding of critical loads is reduced (2020) and (2) Surface waters and groundwater have a good chemical status by 2015 or 2021/2027, respectively in accordance with the Water Framework Directive.

1.7.2 Relevance of the national targets to the Aichi Biodiversity Targets

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
8	

1.7.3 Other relevant information, relevant websites, web links, and files

The Austrian Pollutant Release and Transfer Register (PRTR) is a publicly accessible electronic database with information from large Austrian industrial companies and sewage treatment plants (<http://www.umweltbundesamt.at/prtr/>):

- Releases of pollutants into air, water and soil

⁵ <http://www.umweltbundesamt.at/fileadmin/site/publikationen/REP0600.pdf>

- off-site transfer of pollutants contained in waste water
- off-site shipment of hazardous and non-hazardous waste

1.8 National Biodiversity Target 8: Negative impacts of invasive alien species are reduced

1.8.1 Rationale for the national target

In Austria, around 2,000 non-indigenous species were documented (2009), of which around 90 species are problematic from a nature conservation perspective (Action Plan Neobiota 2004). An increase in the number of alien species in Austria is expected due to continuously increasing globalization in trade and due to climate change. The assessment of the conservation status of 63 habitat types as defined in the EU Habitats Directive, mentions alien species as one of the most important threats⁶. The "Third Joint Danube Survey" by the International Commission for the Protection of the Danube River (ICPDR) has shown, 95% of all alien species in our rivers are Black-Sea-Gobies. These Black-Sea-Gobies are causing heavy damage by feeding on spawn and fry of our indigenous fish-species. Alien invasive species must be treated across many disciplines and sectors.

The EU Regulation No 1143/2014 of the European Parliament and the Council on the prevention and management of the introduction and spread of invasive alien species⁷ must be implemented according to a mandated schedule. The Regulation seeks to control the deliberate (import) and accidental introduction, establishment and spread of selected invasive species based on risk assessments. A national strategic plan to reduce impacts by invasive alien species is elaborated by the Environment Agency Austria (ordered by the Austrian provinces) at present. Diverse activities in fighting invasive plant species inside and outside conservation areas are already carried out, e.g. with the help of regional nature guards (Berg- und Naturwacht).

Similar regulations for plant health are in place through the Directive 2000/29/EC on protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the Community.

⁶ UMWELTBUNDESAMT (2016): Schindler, S.; Zulka, K.-P.; Sonderegger, G.; Oberleitner, I.; Peterseil, J.; Essl, F.; Ellmauer, T.; Adam, M & Stejskal-Tiefenbach, M.: Entwicklungen zur biologischen Vielfalt in Österreich – Schutz, Status, Gefährdung. Umweltbundesamt, Wien. 188 S.

http://www.umweltbundesamt.at/aktuell/publikationen/publikationssuche/publikationsdetail/?pub_id=2193

⁷ <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32014R1143&from=EN>

Target 8 has three sub-targets: (1) EU Regulation on the prevention and management of the introduction and spread of invasive alien species (target due in 2019) and regulations on alien species in relevant EU rules and standards in accordance with the EU Biodiversity Strategy have been implemented, (2) Updated information on alien species is available (target due in 2019) and (3) Public awareness of the problems related to alien species has increased (target due 2020+).

1.8.2 Relevance of the national targets to the Aichi Biodiversity Targets

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
9	

1.8.3 Other relevant information, relevant websites, web links, and files

<http://www.umweltbundesamt.at/fileadmin/site/publikationen/DP089z.pdf>

<http://www.neobiota-austria.at/>

1.9 National Biodiversity Target 9: Incentives endangering biodiversity including subsidies are eliminated or reduced

1.9.1 Rationale for the national target

In addition to legal provisions, incentive measures, such as the granting of subsidies, make it possible to influence i.e. land use. Incentives with negative impacts on biodiversity, including certain subsidies, comprise direct financial support and also tax relief, which encourage a behaviour that can have a negative impact on climate, air, soil, water, human health and biological diversity. The arising costs (ecological consequential costs) are usually borne by the general public and not by the party responsible.

In 2016, the Austrian Institute for Economic Research published a study quantifying the importance of environmentally harmful subsidies for Austria. The study focuses on the analysis of direct subsidies and tax measures at federal level in the fields of energy production and use as well as transport. In addition, the area of housing (largely the competence of the Austrian provinces) is included in the study, due to its interactions with regard to both energy

use and transport. Transport accounts for about half and energy just over a third, the two largest shares of environmentally harmful tax incentives. In the housing sector just under 14% of subsidies have negative environmental effects.

https://www.wifo.ac.at/jart/prj3/wifo/resources/person_dokument/person_dokument.jart?publikationsid=58641&mime_type=application/pdf

Target 9 has one sub-target: Relevant financial subsidies are adapted in terms of biodiversity conservation (2020+).

1.9.2 Relevance of the national targets to the Aichi Biodiversity Targets

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
3	

1.9.3 Other relevant information, relevant websites, web links, and files

In Austria, there are many funds which directly support environmental and biodiversity protection measures:

The Environmental Promotion Act (UFG) entered into force in 1993. In 2016, 16,960 projects with an investment volume of € 1,347 million were approved.

By implementing the projects promoted in 2016 within the framework of domestic funding and the remediation offensive, –taking into account the entire life-time almost 4.3 million tons of CO₂ are saved annually.

https://www.umweltfoerderung.at/fileadmin/user_upload/media/publicconsulting/Umweltfoerderungsbericht_2016.pdf

The Federal Ministry for Sustainability and Tourism is already implementing numerous initiatives for an environmentally friendly change in mobility: through legal regulations, with strategic plans such as the Cycling Master Plan, the Walking Master Plan, with the action package for electromobility launched together with the Federal Ministry for Transport, Innovation and Technology.

https://www.umweltfoerderung.at/fileadmin/user_upload/media/publicconsulting/kamobil_Leistungsbericht2017.pdf

The Rural Development Programme is one of the most important funding instruments for biodiversity in Austria. (See 2.4)

1.10 National Biodiversity Target 10: Conservation status of species and habitats is improved

1.10.1 Rationale for the national target

The conservation of species and habitats and the maintenance and improvement of their conservation status are the main tasks of nature conservation. In Austria, many species and habitat types depend on traditional, low-intensity land-use practices, like grazing and mowing. For such species and habitats, both intensification and abandonment of traditional land-use pose a threat to their continued survival. On the other hand, there is also a set of species that cannot cope with human land use and with the amount of control exerted by humans over many natural processes. Such species need natural spaces, where human influence is reduced to a minimum and where natural processes can unfold freely.

Protecting biodiversity will need a balanced combination of targeted conservation actions, maintenance of traditional and sustainable land-use practices as well as the establishment of strictly protected areas. Regarding climate change, intact ecological systems with their full spectrum of species and genetic diversity are of ever increasing importance, because only functioning ecosystems are capable of securing the ecological communities' resistance to changes. Furthermore, connectivity of habitats and landscapes must receive increased attention, so that organisms can adapt to the evolving environmental conditions (migrate away from climate effects, functional migratory corridors).

Target 10 has seven sub-targets: (1) Compared to the 2007 Report, the conservation status has improved in 36% of the habitats and in 17% of the species listed in the Habitats Directive by the year 2020, (2) 78% of the species listed in the Birds Directive have acquired the status "secure" or have improved in 2020, (3) Acceptance of Natura 2000 has improved in selected stakeholder groups including land users (2020), (4) Threat status of species has improved in accordance with priority setting (2020+), (5) Quantitatively sufficient, functioning biotope connectivity has been established (2020+), (6) 15% of the deteriorated ecosystems have been improved or restored; natural development takes place in 2% of Austria's territory (2020+) and (7) Climate protection measures have been taken; measures of the Austrian climate change adaptation strategy with regard to biodiversity have been implemented (2020).

1.10.2 Relevance of the national targets to the Aichi Biodiversity Targets

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
12	5, 10, 11, 14, 15

1.11 National Biodiversity Target 11: Biodiversity and ecosystem services are integrated into spatial planning

1.11.1 Rationale for the national target

Spatial planning seeks to reach a reconciliation of interests between the spatially relevant sector policies, and by establishing requirements, e.g. in the course of zoning, it has an impact on traffic volume, energy requirements and, to a great extent, land take. At a local and regional level, spatial planning can establish awareness for the significant importance of biodiversity in municipalities and for project developers; it can thus contribute substantially towards the conservation of biodiversity and ecosystem services as well as Green Infrastructure and can help to reduce land take, fragmentation and thus the pressure on ecologically valuable areas.

Traffic can adversely affect biodiversity both directly, by land take, land sealing, barrier effects caused by infrastructures, spread of alien species and, indirectly, by energy consumption, pollution and noise. The fragmentation of habitats due to road construction cuts off migration corridors and separates reproduction, retreat, and resting areas from feeding and watering sites and even prevents gene exchange between different populations. On the other hand, game fencing and noise protection walls, which are required for traffic safety reasons, increase the separation effect further. Nationwide, species like red deer and lynxes may be affected, but also small-scale species such as ground beetles, amphibians, small mammals or even bats. To avoid such barrier effects, wildlife crossings such as overpasses ("green bridges") or underpasses have already been built and further are in the planning stage. The expansion of inland water transport, primarily on the river Danube as West-East route, places demands on the river bed.

In Austria, land take for traffic, buildings, and infrastructure and leisure purposes is currently around 13 ha per day for the three-year period 2015 to 2017.

Driving forces for high land consumption in Austria are population growth and rising prosperity, coupled with a consumer-oriented lifestyle, mobility behaviour, residential preferences, industry and trade, infrastructure, higher energy consumption etc.

Target 11 has four sub-targets: (1) Total daily land take is significantly reduced (2020+), (2) Regional target values for land take are available (2020), (3) Priority areas for ecological functions (Green Infrastructure) are incorporated and designated in local and regional spatial planning (2020+) and (4) Ecological permeability is significantly increased for main traffic infrastructure (2020).

1.11.2 Relevance of the national targets to the Aichi Biodiversity Targets

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
5	2

1.11.3 Other relevant information, relevant websites, web links, and files

In 2002, the Austrian Sustainability Strategy (NSTRAT) set a target for daily land consumption of 2.5 ha per day. This target value was also updated in the Austrian Strategy for Sustainable Development (ÖSTRAT, 2010), as well as being confirmed in the Master Plan for Rural Areas.

Austrian Sustainability Strategy:
<https://www.nachhaltigkeit.at/oestrat>

Daily rate of land consumption:
http://www.umweltbundesamt.at/rp_flaecheninanspruchnahme/

Master Plan for Rural Areas:
https://www.bmnt.gv.at/land/laendl_entwicklung/zukunftsraum_land_masterplan/masterplan-laendlicher-raum.html

1.12 National Biodiversity Target 12: Contribution to overcome global biodiversity crisis has been made

1.12.1 Rationale for the national target

Non-sustainable production and consumption patterns are two of the main reasons for the global loss of biological diversity. Industrial countries, such as Austria, are therefore requested to rethink their consumer behaviour and particularly support developing countries in their efforts to protect and safeguard the sustainable use of their biological diversity. This also includes providing innovative financial incentives to e.g. the private sector. Experience gained in development cooperation and in the area of climate change has shown that transferring responsibility to the local population (e.g. by micro credits or by establishing locally based, sustainable economic systems) is crucial to achieving the highest level of successes.

The loss of biological diversity is a burden particularly for the poorer population in developing countries. The integration of environmental protection and the conservation of natural resources, as set out in the Law on Development Cooperation, is therefore one of the most important responsibilities of aid disbursement. Accordingly, 17% of projects supported by the ADA (Austrian Development Agency) in 2011 contributed specifically towards conserving biological diversity. A milestone on the road towards achieving policy coherence in Austria was the adoption of the Strategic Guideline on Environment & Development in Austrian Development Policy. The informal platform "Environment and Development" has been set up to accompany the implementation of the Strategic Guidelines. The AGRINATURA network brings together research institutions in Europe to support sustainable agricultural use in developing countries by capacity building. Austria makes a substantial contribution in the context of REDD+ and supports projects to maintain biodiversity in developing countries as part of the CBD Life-Web initiative.

Ongoing developments in the European Union in the context of the Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) aim at controlling the growing legal and illegal global trade with wild animals and plants. An EU concept has been developed, which provides more effective strategies to combat illegal trade within the EU as well as further recommendations, e.g. improved controls and monitoring, higher fines, support of international cooperation and expansion of development cooperation in the context of activities against illegal wood harvest (FLEGT), compensation payments for

developing countries if there is evidence that they have reduced deforestation and degradation of forests (REDD+), and protection programs for local communities.

Target 12 has three sub-targets: (1) Nagoya Protocol is ratified; (2) share of biodiversity-related funding compared to Official Development Assistance (ODA) has increased (2020+), (3) Awareness of the impact of raw material consumption and consumer behaviour in Austria on the global biodiversity situation has risen (2020+) and (4) Capacity building to prevent GMOs and to develop sustainable agriculture adapted to the local conditions in developing countries has been carried out (2020).

1.12.2 Relevance of the national targets to the Aichi Biodiversity Targets

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
20	16, 18

1.12.3 Other relevant information, relevant websites, web links, and files

AGRINATURA: <https://agrinatura-eu.eu/>

Austrian development agency: <http://www.entwicklung.at/en/>

National ABS Clearing house: http://www.biodiv-abs.at/ms/biodiv-abs/abs_home/abs_uebersicht/abs_nagoya/



2 Implementation measures taken, assessment of their effectiveness, and associated obstacles and scientific and technical needs to achieve national targets

2.1 Communication and awareness-raising

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
1, 10	2, 4, 19

The Federal Ministry for Sustainability and Tourism in cooperation with many partner organizations, in particular nature and environmental NGOs launched **the campaign *vielfaltleben*** in 2009. The campaign comprises species protection projects, networking in politics, economy, media, science and culture as well as a network of municipalities. Every year, the “*Tag der Artenvielfalt*” is organized, staging more than 200 events on biodiversity across Austria. Some 50 species protection projects have been implemented, contributing to the improvement of the status of a great number of threatened species. In the last three years, the focus has been on i.e. the wildcat, the European green lizard, the cinnabar flat bark beetle, and the sundew. Municipalities are important partners in the conservation of biodiversity, as they are responsible for spatial planning and are in constant direct contact with citizens. Therefore, municipalities are encouraged to join the *vielfaltleben* network. To date, more than 150 municipalities are members of the *vielfaltleben* network which have about 600,000 residents. Municipalities are obliged to carry out measures contributing to the conservation of biodiversity for which the campaign offers support and information materials. *Vielfaltleben* awards people or institutions for their engagement in biodiversity every two years. 83 projects have been submitted in 2016, when the winner was a primary school in Micheldorf in the province Carinthia. Highlights of the campaign are e.g. beehives on the rooftop of the Vienna State Opera or the annual Week of Biodiversity hosting 300 events during 2017. <https://www.bmnt.gv.at/umwelt/natur-artenschutz/vielfaltleben.html>

The advertising **campaign of National Parks Austria** raises awareness for the invaluable importance of intact nature and makes people aware of the fact that their national natural heritage is being preserved for future generations. The campaign shows the entire spectrum of natural Austrian landscapes worthy of protection and should predominantly reach all citizens on posters, in newspapers and magazines as well as on TV.

<http://www.nationalparksaustria.at/en/pages/default.aspx>

The “Citizen Science” has been a major focus in the work of many NGOs, e.g. Birdlife Österreich, Naturschutzbund Österreich. **www.naturbeobachtung.at** is one of Austria’s platforms to report nature observations with more than 400.000 observations and 250.000 pictures uploaded so far, including a network of about 6.000 nature observers, 50 scientific experts and platform operators. Active nature observation is a good possibility to get people enthusiastic about nature and motivate them to protect it. “Reported observations are constantly validated by voluntary scientific experts through using a special system on the website to verify uploaded entries (mostly by means of uploaded photos). Launched online in 2017, within the first year more than 70.000 nature observations have been validated. The data is displayed in interactive distribution maps as well as different image galleries. They are the basis for field mappings, research studies and scientific publications.

www.naturbeobachtung.at

innovate4nature is a start-up competition of WWF, SPAR and the Impact Hub Vienna within the biodiversity initiative **vielfaltleben** of the BMNT. The aim is to promote innovative business ideas that make a positive contribution to nature and biodiversity conservation in Austria. The initiative also aims to bring biodiversity closer to young people interested in economics and environment. <http://innovate4nature.at/>

The **Rural Youth Austria** is, with more than 90,000 members, the largest youth organisation in rural areas. The Rural Youth stands up for farmers’ concerns and for a successful future of farm successors. Furthermore, it represents a sustainable way of farming and active environmental protection; it is very much committed to promoting the understanding between the groups of the population in rural areas. <https://www.bmnt.gv.at/land/land-bbf/bildung-nicht-schule/landjugend.html>

The **Health and Biodiversity Initiative** aims to promote cross-sectoral biodiversity protection, increase public understanding and interest in the importance of biodiversity and achieve a better mutual consideration of biodiversity and health concerns by demonstrating the interrelationships and interactions between biodiversity and health. A stakeholder forum has been set up to promote dialogue among actors. The national Action Plan on Biodiversity and human health promotes positive relationships and aims at raising awareness about the

interlinkages between biodiversity and human health.

<http://www.umweltdachverband.at/themen/naturschutz/biodiversitaet/biodiversitaet-und-gesundheit/>

Enterprises depend on a stable environment. Economic processes either directly require ecological resources or at least depend on their existence. Food, biomass for generating energy, flood prevention, water purification as well as recreational opportunities in pleasant surroundings are some of these invaluable benefits which come to us at no cost, granted by nature. The LIFE project **Business & Biodiversity** in Lower Austria intends to increase awareness of what biodiversity is and of all those values, which our ecosystem provides us with. The intention is to motivate companies in Lower Austria to introduce projects geared towards preserving biodiversity. Much has already been done by local businesses. These activities will be showcased, to encourage others to take positive steps.

<https://www.naturland-noe.at/business-and-bio>.

There are some more project examples:

<https://www.bluehendesoesterreich.at/initiative/wer-steht-dahinter/>,

<http://www.naturfreikauf.at/partner-sponsoren-452.html>

Training courses and a master **course for management of protected areas** is held in Austria by the European Park’s Academy. The courses are conducted jointly with the World Commission on Protected Areas (IUCN/WCPA) in co-operation with several Austrian educational facilities such as the University College for Agrarian and Environmental Pedagogy in Vienna. The participants have the unique opportunity to discuss and learn about new developments, new approaches and technologies in conservation. Supervised by renowned international experts, the participants of the seminars elaborate practical case studies about the main topic drawing directly from their everyday work. <https://e-c-o.at/epa.html>

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
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x

For evidence see 3.1.

Other relevant information:

There is evidence for improvement of the status of the species in some cases:

<https://www.bmlfuw.gv.at/umwelt/natur-artenschutz/vielfaltleben/schutzprojekte.html>

<https://www.bmlfuw.gv.at/umwelt/natur-artenschutz/vielfaltleben/schutzprojekte/wildkatze2.html>

Details about the assessments, the numbers of active partners, institutions interested in the network and the championship is available here:

<https://naturschutzbund.at/champion/articles/alle-einreichungen-zum-wettbewerb.html>

2.2 Biodiversity Research

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
2	19

The number of publications on biodiversity is a good baseline for knowledge transfer. It is used as a biodiversity indicator on a global scale, for Aichi target 19. Two of the earliest Austrian publications on biodiversity were published in 1994. The number of publications has risen steadily since 2009 (64 publications). 2016 had the largest number of publications to date 194 and 186 in 2017. The database query did not take into account the fact that publications may well deal with biodiversity, but do not mention the word "biodiversity". This may be the case with older publications in particular.

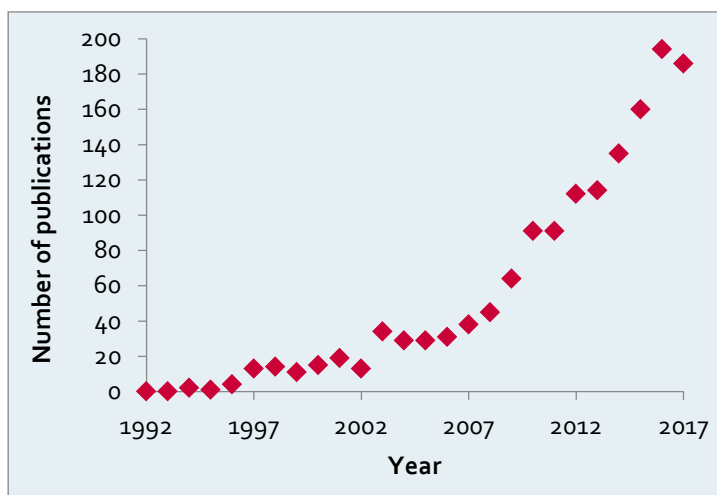


Figure 1: Trend of biodiversity publications in "ISI journals" with the participation of authors working in Austria (Source: Thomson Reuters Web of Science - database query using keyword search (TOPIC = "biodiversity") on 04.06.2018.

[https://apps.webofknowledge.com/RAMore.do?product=WOS](https://apps.webofknowledge.com/RAMore.do?product=WOS&search_mode=GeneralSearch)

[&search_mode=GeneralSearch
&SID=E1UPXAModHJoJzvbvyN&qid=2&ra_mode=more&ra_name=PublicationYear&colName=WOS&viewType=raMore](https://apps.webofknowledge.com/RAMore.do?product=WOS&search_mode=GeneralSearch&SID=E1UPXAModHJoJzvbvyN&qid=2&ra_mode=more&ra_name=PublicationYear&colName=WOS&viewType=raMore)

In Austria biodiversity research takes place particularly in the universities e.g. in general University Vienna, Innsbruck and Graz and University of Natural Resources and Life Science, Vienna. In addition, there are some programmes, which support studies on biodiversity-related issues:

In the **Austrian Climate Research Programm** (ACRP) within the Climate and Energy Fund, a framework for supporting research questions on issues related to climate change, adaptation and biodiversity is available. ACRP <https://www.klimafonds.gv.at/foerderungen/aktuelle-foerderungen/2017/austrian-climate-research-programme-2/>

The **StartClim** research funding programme also supports research on climate change and biodiversity, in particular alien species, alpine animal species, forest boundaries and the clarification of methodological questions on monitoring biodiversity in the context of climate change. <http://www.startclim.at/>

The focus of the programme of research and development at the BMNT **PFEIL20** is on research for sustainable, resource-saving and socially responsible production. The following biodiversity-relevant topics have been identified for the programme period from 2016 to 2020: (1) Sustainable resource management, (2) neophyte management and effects on biodiversity, (3) investigation of the influence of land-use changes on ecosystem services, (4) biodiversity, health and well-being under changing climatic conditions, (5) bee health and measures to improve wild bee protection in Austria, (6) promotion of plant biodiversity by using seed mixtures of regional origin in landscaping, (7) deepening knowledge of forest communities with a view to successfully protecting biodiversity, in particular rare and endangered tree and shrub species and (8) development of forest management oriented towards potential natural forest communities in order to preserve the stability of the relevant forest ecosystem. <https://www.bmnt.gv.at/forst/forst-bbf/Forschung/pfeil20.html>. Since 2002, all research projects and the associated reports have been published in the DAFNE research platform. https://www.dafne.at/dafne_plus_homepage/index.php

The European Strategy Forum on Research Infrastructures (ESFRI) aims at the establishment of appropriate infrastructures for the exploration of key issues at European level. Placing a common Long-Term Ecosystem Research Infrastructure (eLTER RI) on the next ESFRI Roadmap has been one of the main goals of the European LTER community for some years now. The activities of the **Austrian Long-Term Ecosystem Research Network** were closely related to this initiative. Substantive efforts were made to structure and organize the existing pool of ecosystem and biodiversity in-situ research facilities at national level in consultation with the main shareholders, the Federal Ministries of Education, Science and Research as well

as for Sustainability and Tourism and the National Academy of Sciences. The basic strategy of **LTER-Austria** consists in streamlining a consistent national network with concerted contributions and cost-efficient participation of the most suitable sites in selected European projects, networks and research infrastructures. National foci are put on benchmark ecosystems (e.g. high alpine environments), climate change and socio-ecological research. Finally, not only the experiences from this national process were considered in the eLTER application for ESFRI which was submitted in August 2017. Austria could also contribute a Memorandum of Understanding for the science case of eLTER signed by 19 institutions, an Expression of Financial Commitment signed by 13 institutions and a National Letter of Support signed by Federal Ministry of Education, Science and Research. In September the ESFRI Roadmap 2018 was launched. It identifies new Large Scale Research Infrastructures (RI) of pan-European priority. eLTER RI is among them. www.lter-austria.at

Since 1992, ecosystem monitoring at Zöbelboden is Austria's contribution to the international cooperation programme (ICP) "Integrated Monitoring of Air Pollution Effects on Ecosystems" (ICP-IM) within the frame of the Geneva Convention on Long-range Transboundary Air Pollution. Air quality data from Zöbelboden are also reported to the "European Monitoring and Evaluation Program" (EMEP) and to the Austrian Air Quality Monitoring (IG-Luft). The permanent monitoring at Zöbelboden covers hundreds of parameters according to the specifications of the above mentioned programmes as well as selected parameters for research purpose. The site Zöbelboden is part of LTER-Austria as well as the European and the global LTER network. Current research projects focused on the investigation of the function of temperate forest ecosystems as carbon sinks, and the functional response of forest ecosystems to nitrogen deposition and climate change. The effects of climate and nitrogen deposition on forest biodiversity were visualized by dynamic vegetation modelling. http://www.umweltbundesamt.at/oekosystem_monitoring/

Austrian Barcode of Life (ABOL) is a long-term initiative aiming at recording the genetic diversity of all Austrian animal, plant and fungus species via DNA barcodes. The generated data will be freely accessible. <https://www.abol.ac.at/en/>

The **Austrian Ornithological Centre (AOC)** is a scientific institution for the research of all biological and ecological aspects of birds. It serves as ornithological documentation centre and is meant to bundle all bird research in Austria. The AOC's tasks include basic research on the lives of wild birds, causal research regarding threats to our birdlife, monitoring of breeding and migratory bird populations and the establishment and operation of a national bird ringing centre.

Compared to the size of its territory Austria plays an important role in the international **research of glaciers**. Austrian universities maintain a longitudinal study of monitoring programmes of glaciers, which are of great importance and relevance for global analysis. <https://www.oeaw.ac.at/oesterreichische-akademie-der-wissenschaften/forschung/article/gletscher-schmelzen-schneller/>

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
*			

Obstacles and scientific and technical needs related to the measure taken

Although the sustainable safeguarding of ecosystem services and adaptation to global change have high international political priority, the framework conditions for ecosystem research in Austria are still inadequate. Framework programmes focusing on environmental and ecosystem research are largely lacking. The same is true for research in applied ecology and nature conservation. <https://bfw.ac.at/rz/bfwcms.web?dok=9987>

2.3 Biodiversity Monitoring

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
2	19

There are essential monitoring activities in place focusing on e.g. rural development, forests (Austrian Forest Inventory), glaciers (by Austrian mountain club/Alpenverein) monitoring of water bodies and ground water, monitoring of breeding birds, amphibians, reptiles and other species (groups), and monitoring according the Habitat Directive. The **monitoring activities for the Habitat Directive** have been extended by including additional target features by Austrian provinces in cooperation with Environment Agency Austria. 18% of FFH-species and 44% of FFH-habitats are currently subject to systematic and standardized monitoring activities. Regional biotope mapping provides information on natural and semi-natural habitats.

A **comprehensive systematic monitoring**, "ÖBM-Kulturlandschaft", of the status of biodiversity in rural ecosystems was launched in 2017, with the first results for 2017 now available. In 49 quadrants, 1,299 species of vascular plants, 69 species of grasshoppers and 103 species of butterflies were mapped. The focus of this monitoring lies on habitat types, vascular plants, grasshoppers and butterflies and is closely aligned with methods applied in the project "Biodiversity-Nature-Safety" (BINATS), so that comparability with data collected during the BINATS project in 2007/2008 and the surveillance 2017 and 2018 can be ensured.

The international Global Biodiversity Information Facility initiative provides data on global biodiversity via a global online database. The **GBIF Austria** portal currently provides approx. 4.2 million data records on more than 40,000 animal, plant (incl. lichen) and fungi species. Most of these species are native to Austria. The GBIF-Austria database network consists of 16 databases. Approximately 100,000 new downloadable data records are made available per year. <http://www.gbif.at/>

Further relevant websites

- <https://www.bmnt.gv.at/english/agriculture/Rural-development.html>
- <https://bfw.ac.at/rz/bfwcms.web?dok=4904>
- <https://www.bmnt.gv.at/english/water/waterqualityprodaction.html>
- <http://birdlife.at/http://www.herpetofauna.at/>
- https://forschung.boku.ac.at/fis/suchen.projekt_uebersicht?sprache_in=de&menue_id_in=300&id_in=11362

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
*			

For evidence see 3.2.

Obstacles and scientific and technical needs related to the measure taken

The difficulties in biodiversity monitoring lie in the long-term financing of projects. The permanent implementation of all monitoring programmes is not guaranteed.

2.4 Austrian Rural Development (RD) Programme for the 2014 to 2020 period (RD 14-20)

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
3	7, 13

Austria considers the **Common Agricultural Policy (CAP)** a key instrument for the maintenance and development of a sustainable agricultural production, but also in order to maintain attractive rural areas as a whole economic system. By supporting agri-environmental and animal welfare-measures, investments, infrastructure, increasing knowledge, innovation and by fostering collaboration, the CAP plays a key role in supporting, in particular, rural areas.

The **Austrian Rural Development (RD) Programme** (BMLFUW, 2017a) (Pillar II of the CAP) based on Regulations (EU) No. 1305/2013, 1306/2013 and 1303/2013 is the main element of Austria's agricultural policy. 44 measures of the Austrian RD Programme (RD 14-20) were classified as being effective for biodiversity. Key instruments include the Agri-Environmental Programme ÖPUL or payments for less favoured areas (e.g. mountain areas). Beside these area-related measures, there is an approach to enhance and foster knowledge and awareness for an environmentally friendly production and to establish structures to increase agrobiodiversity.

Within Pillar II, around 40% of the payments or approximately 435M euros per year are spent for the **Austrian Agri-Environmental Programme ÖPUL 2015**: Monetary compensation is granted for additional costs and income foregone resulting from the provision of environmental services in the fields of biodiversity, water protection, animal welfare, climate and soil.

In 2017, around 80% of the farms (approx. 93,000) and 80% of the agricultural area (approx. 1,85 m ha) in Austria participated in the Agri-Environmental Programme ÖPUL, by which Austria has positioned itself as one of the leading EU Member States.

ÖPUL consists of 24 different measures by which the following rural development measures are implemented: (1) Agri-environment-climate measure, (2) Organic farming, (3) Animal welfare, and the (4) Natura 2000 and Water Framework Directive.

Most of the 24 agri-environmental-measures are offered all over Austria. Some sub-measures – especially in the context of water-protection – have a regional focus and therefore are only offered in regions with deficits (e.g. areas with raised concentrations of nutrients and pollutants).

The protection of biological and genetic diversity is crucial to ensure the production bases for healthy regional food in the long term. ÖPUL 2015 is essential for the conservation and development of animal and plant biodiversity in Austrian agricultural landscapes and the maintenance of rare agricultural animal and plant species. ÖPUL 2015 contributes to the implementation of the European and the Austrian Biodiversity Strategy by 2020.

ÖPUL promotes the site-adapted management of pastures, mountain meadows and other species-rich grassland habitats, as well as the establishment and maintenance of biodiversity-promoting structural elements such as hedges, individual trees, bushes, flowering areas and bee pastures. In 2017, for example, the conservation and nature-compatible management of landscape elements were ensured on around 1.6 million ha and more than 67,000 ha of flowering areas were planted on arable and grassland sites.

Another central element of biodiversity protection is the ÖPUL nature conservation measure (WF). WF aims at maintaining ecologically valuable agricultural land in and outside protected areas. Ecologists develop together with farmers tailor-made management concepts for habitats such as dry grasslands, wet meadows, pastures, arable set-aside areas or orchards. In 2017 19,500 farmers manage around 78,500 ha according to the criteria of WF. Nationally, this nature conservation measure enjoys a high degree of acceptance.

Organic farming is a key measure for sustainable land use, by dispensing with chemical-synthetic crop protection agents in combination with a wide variety of crop rotations. Currently, just less than 22% of Austria's agricultural area (around 550,000 ha including alpine pastures) is managed organically, placing Austria at the top of an EU-wide ranking.⁸

The educational and advisory services offered in the context of rural development also raise farmers' awareness for biodiversity. The knowledge of the meaning and purpose of biodiversity measures promotes understanding and personal responsibility to the farmers. Against this background, the educational approach in the ÖPUL is strengthened. In ÖPUL training courses focusing on biodiversity, for example, farmers receive practical tips and recommendations for the creation of flowering areas, learn about suitable plant species and their characteristics and about positive effects species-rich areas have on the environment.

⁸ https://www.bmnt.gv.at/land/bio-lw/zahlen-fakten/Bio_Produktion.html

The “**Biodiversity Monitoring with Farmers**” launched in 2007 also aims to sharpen farmers' awareness of biodiversity and its influencing factors. As part of this education project, almost 700 farmers from all over Austria observe and document animal and plant species in their meadows. The idea behind this is to increase farmers' enthusiasm for biodiversity and thus win them as long-term partners in nature conservation.

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
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The RD programme 14-20 is evaluated via annual implementation reports (AIR). A distinction is made between area and project measures⁹. Project measures include, for example, nature conservation measures such as the three types of projects “Plans and development concepts for the conservation of the natural heritage”, “Studies and investments for the conservation of the natural heritage” and “Strengthening cooperation between actors and structures for the conservation of the natural heritage”. Main measures aim at the restoration or creation of ecologically valuable habitats. In addition, support networks of protected areas, regional species protection initiatives or educational campaigns in the biodiversity sector are also financed. Forest related project measures include (1) conservation of ecologically valuable/rare forest areas/communities and (2) conservation and improvement of forest genetic resources for which projects have not yet been completed.

With regard to all types of RD measures offered throughout Austria, the target value of 83.15% for the RD target indicator “percentage of agricultural land under management contracts supporting biodiversity and/or landscapes” was almost entirely reached at 79.75%. (see table 1). Progress in the implementation of individual area measures is very good; the size of the participating areas almost reached the target values for 2023 set in the RD programmes as early as 2016¹⁰:

- Payments to areas facing natural or other specific constraints: 96% of the target value;
- Environmentally sound and biodiversity-promoting management (EBM): 94% of the target value;

⁹ BMLFUW (Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft) (2017b): Austria – Rural Development Programme (National). Annual Implementation Report. Period 01/01/2016 -31/12/2016.

¹⁰ BMLFUW (Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft) (2017b): Austria – Rural Development Programme (National). Annual Implementation Report. Period 01/01/2016 -31/12/2016. https://www.bmnt.gv.at/land/laendl_entwicklung/programmbegeleitung/

- Organic Farming: 85,5% of the target value;
- Nature Conservation: 95% of the target value.

The indicator “High Nature Value Farmland (HNVF)” provides information on the development of areas of high natural value in Austria. A higher proportion of HN VF areas was found on areas of the Nature conservation project type, which is of high biodiversity value, than on reference areas (57% compared to 30%, see table 1). Similarly, areas facing natural or other specific constraints show on average a higher area share of HN VF type 1 (44%) than in non-favoured areas (4%) (see table 1). Thus, the financial resources for the areas facing natural or other specific constraints also have a favourable effect on the conservation of biological diversity.¹¹

Studies are planned to interpret the development of the context indicator Farmland Bird Index. It has shown a relatively linear decrease since 1998 (with a slight increase in 2015 and 2017)¹². However, it should be noted that the situation of farmland birds is also influenced by factors such as increasing fragmentation and land use. Further studies, on butterflies and grasshoppers as indicators were commissioned to assess the effects of the RD measures on biodiversity.

Initial results of the ongoing evaluation of the LE programme show that in principle in a relatively high proportion of the areas under the Rural Development programme (on average 50% of all occurrences) species of grasshoppers and butterflies of the cultivated landscape are found. Targeted agri-environmental measures such as “nature conservation”(WF) or “alpine pasture and accommodation” play a particularly important role in the occurrence of the top species of nature conservation. These ÖPUL measures aim at the conservation and development of particularly species-rich and areas of relevance for nature conservation. The ecological requirements of the analysed grasshopper and butterfly species are met in particular through the lack of fertiliser, a low livestock unit (LU) density (0.5 to 1 LU/ha) and a delayed mowing time. More targeted studies in Part II of the project, planned for 2019, will specifically investigate the impact on more common species. A final evaluation of the effect of biodiversity-enhancing LE and ÖPUL measures on the occurrence of grasshopper and butterfly species is then possible once the outstanding results of the study are available.¹³

¹¹ BMLFUW (Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft) (2017b): Austria – Rural Development Programme (National). Annual Implementation Report. Period 01/01/2016 -31/12/2016. https://www.bmnt.gv.at/land/laendl_entwicklung/programmbegeleitung

¹² Teufelbauer, N. & B. Seaman (2018): Farmland Bird Index für Österreich: Indikatorenenermittlung 2015 bis 2020. Teilbericht 3: Farmland Bird Index 2017. Studie im Auftrag des Bundesministeriums für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Wien. BirdLife Österreich, Wien.

¹³ Holzer, T., Bieringer, G. & T. Zuna-Kratky (2018): Bewertung der Wirkung relevanter LE-Maßnahmen auf Tagfalter und Heuschrecken als Indikatorarten für Biodiversität. Im Auftrag des Bundesministeriums für Nachhaltigkeit und Tourismus, Wien.

Table 1: Indicators for measures of the Austrian Rural Development Programme relevant for biodiversity (BMLFUW, 2017b)

Indicator	Indicator value	Comments
Percentage of agricultural land under management contracts supporting biodiversity and/or landscapes	79.75%	
Share of area HNMF type 1 in areas of project nature conservation measures	14.14 ha/km ²	14.14 ha/km ² (compared to 13.51 ha/km ² in not participating areas), difference is not significant
Percentage of HNMF Typ 1 in areas of the ÖPUL-measure nature conservation	57%	57% (30% for non-participating areas)
Percentage of HNMF Typ 1 in areas facing natural or other specific constraints	44%	44% (4% in less-favoured areas)
Percentage of extensive grassland in areas of the ÖPUL-measures EBM and organic farming	37%	37% in areas with organic farming (34% in other areas) 37% EBM-areas (33% not EBM-areas)
Mean size of fields in areas of the ÖPUL-measures organic farming and EBM ¹⁴	0.88 ha in organic grassland areas; 1.29 ha in organic cropland areas; 0.73 ha in EBM grassland areas; 1.26 ha in EBM cropland areas	0.88 ha in organic grassland areas (0.74 ha in not organic grassland areas); 1.29 ha in organic cropland areas (1,29 ha in not organic cropland areas) (not significant); 0.73 ha in EBM grassland areas (0.84 ha in not EBM grassland areas); 1.26 ha in EBM cropland areas (1.33 ha in not EBM cropland areas).
Number of rare tree species reforested	0.2%	Share of rare to not rare tree species (Measures Strengthening the ecological value of forest ecosystems)
Agricultural Area: total utilized agricultural area (UAA) (2010) (ha)	2,878,170	
Forest and other wooded land (FOWL) total (2010) (ha)	3,991	
Farmland Birds index (FBI) -total (index) (2011)	61,9 value for 2017	Teufelbauer, N. & B. Seaman (2018)

The project measures are still not sufficiently targeted for biodiversity and are being implemented too slowly. The future contribution of these measures to the conservation and improvement of biodiversity is still difficult to assess.

¹⁴ EBM = ÖPUL measure "Environmentally sound and biodiversity-promoting management

The acceptance of forest-related project measures, such as (1) conservation of ecologically valuable/rare forest areas/communities and (2) conservation and improvement of the genetic resources of the forest, is low. According to AIR 2017, the main problems for applicants are that these measures are passive, not-intervention measures (unlike with other measures, the forests cannot be used under these schemes and administrative challenges. Further open questions regarding implementation and handling are still to be clarified.

The impact of educational and advisory measures, including on biodiversity, is currently being investigated in a separate evaluation study.

Investments for e.g. the ecological improvement of water bodies and the stabilisation of landslides have only taken place isolated in small areas; the impact of the investments is still unclear.

The projects under the measure for (1) plans and development concepts for the conservation of the natural heritage - nature conservation and (2) studies and investments for the conservation of the natural heritage – nature conservation should also be highlighted. However, they can only be evaluated with increasing implementation and participation.

Obstacles and scientific and technical needs related to the measure taken

In the Annual Implementation Report (AIR) 2017 of the Austrian Rural Development Programme some problems are mentioned.

The indicators developed so far allow comparisons to be made with regard to the structure and diversity of landscapes (area size, proportion of extensive grassland) within and outside the area of the evaluated measures. However, for the currently elaborated national indicators (table 1) there are no time series and (yet) no reference values on the basis of which the developments and thus the maintenance or improvement of the status of biological diversity could be evaluated. A spatial database (geo-referenced areas) has only existed since the current programme period 2014-20. Indicators should therefore be collected over the entire programme period in order to be able to observe time series and set guide values.

Furthermore, not all relevant influencing factors could be taken into account for the derivation of causalities. Studies on different animal groups as direct biodiversity indicators for the effects of the measures are still pending.

In addition, the impact of implementation mechanisms of the relevant measures on acceptances and consequently biodiversity effects is large. For example, (poor or difficult to understand) selection criteria can hinder access to (project) measures.

2.5 Fostering biodiversity in the Austrian forests

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
3	7, 5

The vision and the respective goals of the Austrian Forest Strategy are to promote biological diversity in Austrian forests with their species, genes, ecosystems and landscapes through sustainable, multi-functional forest management, which also includes the sustainable use. The **Austrian Forest Strategy 2020+** includes the following measures to safeguard biological diversity in Austrian forests:

- Increasing the proportion of forest habitats with a favourable conservation status
- Conservation, improvement and restoration of biodiversity on the entire forest area of Austria
- Allowing for undisturbed dynamic development on selected forest areas
- Implementation of management measures for the conservation of forest biodiversity.

For concrete projects and measures within the framework of the forest strategy, see the implementation database of the Austrian Forest Strategy 2020+:

<https://bfw.ac.at/ws/strat2020public.main?seite=4>

The **Austrian Forest Ecology Programme (ÖWÖP)** is of the main instruments aiming at the implementation of the forest strategy. The aim of the programme is to ensure the financing of measures for the conservation and improvement of biodiversity in Austrian forests. It has been developed in a broad participatory process over two years and contains a comprehensive catalogue of measures to strengthen the resilience and ecological value of forest ecosystems. There are measures to promote the transfer of knowledge and the improvement of the understanding of forest ecology contexts. Approximately € 4,000,000 is available annually for the implementation of the ÖWÖP measures. Particular focus is placed on the motivation of forest owners and on good cooperation between forestry and nature conservation. The Austrian Forest Ecology Programme is a successful example of an interdisciplinary dialogue with the participation of numerous representatives of the Federal Government, the provinces, NGOs, forest owners and other forest users.

In this context, the practical implementation project completed in January 2018 by the Kuratorium Wald (Handbook Natura 2000 and Forest) and a currently ongoing project, Biodiversity and multifunctional forest management, should also be mentioned. http://natura2000.wald.or.at/broschuere_handbuch/, <http://www.himmel.at/kuratorium-wald/>.

A plantation **strategy for climate-fit plants and seeds** has been developed in Austria with the involvement of stakeholders and plantation operators.

The Austrian Federal Forests started 2015/16 a programme called "Ecology and Economy". Measures to increase biodiversity in their forests are proposed in the chapter "Nature Conservation". A strategic goal is to integrate ecological landscape management into the management and operation of forests on the planning level. This programme is a result of the cooperation with WWF Austria. In the focus of the programme are protected areas, the conservation status of mires/bogs, water streams, meadows, dry grasslands and other habitats. A habitat network and "process-conversation-areas" will be established from the scale of biodiversity reserves (1-20 ha) up to Wilderness areas in the Alps. The publishing of a so called "Best practice nature conservation book" for all operational working employees following by training seminars in the forests is also part of the strategic approach.

The **natural forest reserves** are forest areas set aside for the natural development of forest ecosystems, there is no direct human intervention into the reserves, apart from ungulate management through hunting. Since the beginning of the natural forest reserve programme, almost 200 reserves with a total area of around 8,400 ha have been contractually secured to date. The aim of the natural forest reserve programme is to create at least one representative natural forest reserve per forest community and forest biogeographic area (in Austria there are a total of 125 forest communities in 22 forest geographic areas), whereby the representativeness of the forest communities according to their relative share has also to be taken into account. The programme contributes to research and teaching (basic research) and aims at the provision of new findings for ecologically oriented, near-natural forest management. Forest owners provide the areas voluntarily and receive compensations for refraining from timber extraction. In the future, the main focus will be on acquiring new knowledge in the development of ecosystems, networking with other research areas and drawing appropriate conclusions for forest management practice.

<https://bfw.ac.at/rz/bfwcms.web?dok=10032>

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
	x ²		x ¹

Ad 1) An evaluation of the Austrian Forest Strategy 2020+ is planned for the year 2020. Ad 2) The activities within the framework of the natural forest reserve programme are successful, as most forest communities are included.

Relevant websites, web links and files

<https://bfw.ac.at/ws/strat2020public.main?seite=4>

2.6 Tourism activities in line with biodiversity

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
5	4

Austria's tourism and leisure industry plays an important role in the Austrian economy. The first national strategy "**New Paths in Tourism**" was published in February 2010 (BMWFJ 2010). A new common national strategy "Plan T – Master Plan for Tourism" is to be developed in a broad-based process by spring 2019.

Tourism strategies have also been and are being drawn up, adapted and revised **at the level of the Austrian provinces**. Austria's diverse natural and cultural landscape is an essential basis for the success of Austrian tourism and is also acknowledged as such in the provinces strategies, although it is not yet apparent in all strategies that tourism must also take responsibility for the conservation of biodiversity.

The development of sustainable quality tourism with focus on regionalism and sustainability, stronger alliances with network partners from agriculture, culture, nature, research/education, mobility and sports, the promotion of sustainable and convenient arrival and departure, a building culture that is compatible with living space and site development within the framework of spatially compatible tourism development as well as the consideration of climate change mitigation and adaption measures are topics included in provinces strategies influencing biodiversity in the broadest sense. However, the careful use of natural resources is also a top priority at least in some of the strategies.

Austria's natural conditions, mountains, landscape and nature, are a main motive for holidays in Austria.

Cooperation between tourism and mobility (for a sustainable arrival and departure as well as soft mobility on site)

Local accessibility and mobility are crucial factors for tourist destinations, but tourist transport also has negative environmental effects, as aircraft and private cars are the main means of transport in tourism. A survey conducted by Statistik Austria on holiday trips by Austrian tourists in 2017 shows the following choice of means of transport: 80.4% of

Austrians tourists travel within Austria by car, 14.3% by train, 3.9% by bus or coach (Statistik Austria, 2018)¹⁵. Day visitors also primarily use their cars to travel to the chosen destination.

A working group on “Sustainable Mobility in Tourism” has been set up at federal level. This group organised Tourism Mobility Days 2014, 2015 and 2016, and since April 2016 the exchange of experience has been further improved within the framework of a technical platform, which is also intended to develop and accompany projects. In June 2016 they carried out “Instructions for practitioners – “Wie wird meine Tourismusdestination nachhaltig mobil?”.¹⁶

Platforms such as “Sustainable Mobility in Tourism” and “Rail Tour for Tourists” with stakeholders from administration, tourism and transport are constantly working on networking, forward-looking and environmentally friendly mobility solutions.

In 2016, the Cycle Tourism Working Group focused on the topic of “Uniform Cycle Route Guidance in Austria”. A concept for the “Systematics of main cycle routes in Austria” was commissioned with the aim of defining Austrian main cycle routes and national routes¹⁷.

Cooperation between tourism and nature conservation, particularly in protected areas

All six Austrian national parks have established the umbrella organisation “National Parks Austria”. An essential task of Austrian national parks is also to enable people to experience untouched nature. <https://www.nationalparksaustria.at/>

The “Nationalpark Partner Betriebe” in East Tyrol consists of 62 members offering 1,700 beds in different categories. The aim of the Leader project “Qualification Process of the National Park Partner Companies” (Hohe Tauern National Park, East Tyrol) is to define and further develop unique selling propositions. <https://www.nationalpark-partnerbetriebe.at/>

In 2006, the network of national parks partner companies in the Gesäuse National Park was established. The partner network unites 90 partner companies, as of July 2018. Leading companies in the region are gathered here, ranging from farmers, guesthouses and excursion providers to other commercial enterprises. Gesäuse partners stand for regionalism and sustainability and meet strict quality criteria. <http://www.nationalparksaustria.at/de/pages/allgemeines-1.aspx>

¹⁵ http://www.statistik.at/web_de/statistiken/wirtschaft/tourismus/reisegewohnheiten/index.html

¹⁶ https://www.bmvit.gv.at/verkehr/gesamtverkehr/tourismus/downloads/destination_nachhaltig_mobil.pdf

¹⁷ <https://www.bmnt.gv.at/suchergebnisse.html?queryString=konzept+radrouten>

Nature parks are protected landscapes that are preserved through careful land use. There are 50 nature parks in Austria. The nature parks developed a strategy aiming to fulfil four functions: protection, recreation, education and regional development.

<https://www.naturparke.at/spezialtaeten/>, <http://cvl.univie.ac.at/biosphaerenparks/>

Models for sustainable cooperation in rural areas, and quality and sustainability labels in tourism

“Genuss Region Österreich” is a registered trademark (AMA, BMNT) for regional agricultural products and specialities. The focus is on informing tourists and consumers about the culinary products in the individual regions. 107 “Genuss Regionen” have been labelled as of July 2018.

Culinary delights have a decisive influence on the overall experience, making authenticity, regionality and sustainability tangible in a destination, strengthening brand identity and making destinations distinguishable. Culinary delights account for 30% of travel expenses. Against this background, the “Culinary Austria Charter” was signed on 7 May 2016.

<http://www.genuss-region.at/>, <https://www.kulinarisches-erbe.at/charta-kulinarisches-oesterreich/>

“Urlaub am Bauernhof” (Farm holidays) is offered by 9.895 farms with more than 100.000 beds representing 11% of all touristic beds. <https://www.urlaubambauernhof.at/>

The “Bergsteigerdörfer” (Mountaineering villages) support the implementation of the Alpine Convention¹⁸. <http://bergsteigerdoerfer.org/>

The “Alpine Pearls” stands for carefree holidays and for restful, stress-free leisure time in 25 unique villages in den Alps. So it stands for exceptional environmental friendliness and green mobility. <https://www.alpine-pearls.com/>

Quality and sustainability labels in tourism

The European eco-label for hotels and camping Sites (Decision No. 2009/564/EC, Decision No. 2009/578/EC) and the Austrian eco-label for tourism (Guideline for camping Sites, tourism and leisure, accommodation, gastronomy, event catering and party service, community catering, refuges, conference and event venues, museums and exhibition centres) define criteria for environmentally friendly management and social action. The Austrian eco-label was adapted to the EU standard in order to make it easier for companies to use both certificates at the same time. <https://tourismus.umweltzeichen.at/>.

¹⁸ <http://www.alpconv.org/pages/default.aspx?AspxAutoDetectCookieSupport=1>

The eco-label for travel offers can be awarded to environmentally and socially compatible travel packages. Certificates have already been issued for 60 travel offers (as of July 2018). <https://reisen.umweltzeichen.at/>

In addition, 901 green meetings eco-labels and 222 green events eco-labels have already been issued to date (July 2018). <https://meetings.umweltzeichen.at/>

Corporate Social Responsibility (CSR) is a management strategy aiming at sustainable development. By applying this strategy, companies and organizations take social responsibility for their products and services. https://www.bmnt.gv.at/umwelt/nachhaltigkeit/gesellschaftliche_verantwortung_csr.html

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
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Obstacles and scientific and technical needs related to the measure taken

Measures have been implemented with regard to mobility and tourism, which show good progress towards sustainable arrival and departure as well as sustainable local mobility. However, these must be further expanded and, building on this, tourism products must be established and marketed.

Austrian tourism in rural areas has a rather small structure. It is not easy for small businesses to introduce environmental management as provided for by the Austrian environmental label. Further measures are to be taken to support companies in certifying and recertifying their operations.

2.7 Energy supply that conserves biodiversity

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
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6

Austria will reduce its greenhouse gas emissions by 36% by 2030 compared to 2005. For this reason, the Federal Government has decided to draw up an integrated climate and energy strategy (#mission2030, 2018). The strategy provides orientation for all fields of action until 2050 and for upcoming investments, in particular until 2030. 33.5% of renewable energies are currently used in Austria. Around 72% of the electricity already comes from renewable sources. The Austrian government has therefore set the goal of generating electricity with renewable energy sources by 2030 to the extent of 100% of total national electricity consumption (on the national balance sheet). This will require the expansion of all renewable energy sources, infrastructure, storage and investments in energy efficiency.¹⁹

Energy strategies are also developed for the provincial level (e.g. Energy Strategy Burgenland 2020, Energy Strategy Tyrol 2020).

The expansion of renewable energies plays a major role in all strategies, but little attention is paid to their impact on biodiversity.

Austria's Biodiversity Strategy 2020, on the other hand, points out the need for action in connection with the energy transition. The project "successful implementation processes for an energy turnaround while protecting biodiversity", funded by the Federal Ministry for Sustainability and Tourism and the European Union, brought together various stakeholders to exchange information on the challenges facing each other and to work together on solutions for Austria's biodiversity-conserving energy turnaround. The results were summarised in the brochure "Together for truly green electricity, with the collaborative approach to a biodiversity-protective energy transition".²⁰

Austria's legal system offers suitable instruments to reconcile the goals of energy transition and biodiversity protection. In particular, spatial planning instruments, which are already in use in the fields of wind power and photovoltaics, as well as the National Hydropower Management Plan are of particular importance.

¹⁹ <https://mission2030.info/>

²⁰ http://www.oekobuero.at/images/doku/gemeinsam_zu_wirklich_gruenem_strom_web.pdf

Wind power and biodiversity

2017, 1,260 wind turbines with a total capacity of 2,844 megawatts were generating electricity for more than 1.9 million households, or more than 50% of all Austrian households. In the planning and implementation of wind turbines, challenges are emerging with regard to fauna: collision-related mortality, displacement and disturbance effects, barrier effects, habitat changes and habitat losses, as well as with regard to the landscape and the quality of the natural experience: loss of the uniqueness of the landscape, impairment of the recreational value and change in the landscape. The following measures are in place:

- Burgenland developed a regional framework concept for wind power plants; suitability and exclusion zones for wind power plants were designated (e.g. nature and landscape conservation areas, nature parks, Natura 2000 areas)
- In Carinthian there is a regulation for wind power plants site selection (Windkraftstandorträume-VO 2016)
- In 2014 Lower Austria adopted a sectoral regional planning programme for the use of wind power. In total, approximately 1.5% of the state's land area was designated as area usable for wind power.
- The wind power master plan 2017 is a steering instrument for the use of wind power in Upper Austria. An extensive catalogue of criteria and a graphic exclusion zone representation are available.
- In Styria the development programme for the wind energy sector 2013 (exclusion zones, priority zones, suitability zones) aims to define requirements for a spatially acceptable expansion of wind energy.
- Salzburg developed a criteria catalogue for wind energy; it must be proven sufficient supply of wind energy as well as that the corresponding distances to competing land uses are maintained.
- In Vienna wind power plants are just possible under certain specified conditions. (updated study, City of Vienna, architecture and urban design, MA19, 2013)

In the last 15 years, Burgenland has developed into a model region with a strong electricity supply, although this region is an ecologically highly sensitive and touristic important area. The development of wind power took place in accordance with these different interests. Decisive for this were a clear commitment of the political decision-makers to renewable energies and nature conservation, a regional framework concept, the involvement of representatives of regional planning and other actors as well as the positive attitude of the population towards investments in energy supply and nature conservation. The regional framework concept was innovative and consensus-oriented. The suitability zones for wind power plants were developed jointly by authorities, spatial planners and nature conservation organisations. Exclusion zones for wind power plants were defined for nature conservation, the protection of habitats of certain bird species and the protection of the landscape. Nature and landscape conservation areas, nature parks and Natura 2000 areas were also excluded from the planning. https://www.oir.at/de/wind_burgenland

Hydropower and biodiversity

Hydropower is the most important renewable energy source in Austria. At present, the main focus is on the expansion of small hydropower stations, the revitalisation of older ones and the expansion of pumped storage capacities.

In 2016, 45.5% of electricity was generated from hydropower, including small hydropower plants. In order to implement the EU Water Framework Directive 2000/60/EC, objectives and measures for the improvement of water bodies were defined for the 2nd National Water Management Plan (NGP, 2015). The Water Management Plan lasts until 2027. It is planned to develop a catalogue of criteria for the assessment of hydropower projects and water sections with regard to their suitability for hydropower use, taking into account in particular energy management, ecological and other water management aspects (BMNT, 2012). For achieving the ambitious targets of the NGP the further provision of adequate funds, including for hydromorphological restoration projects will be critical.

The aim of the Life Project "Life Sterlet" is to strengthen the population of the sterlet (*Acipenser ruthenus*) and to re-establish healthy, self-sustaining populations of that sturgeon species in different sections of the river Danube. The project areas are located in the last free-flowing sections of the Austrian parts of the Danube (Wachau and National Park Donau Auen) as well as in the river March. The areas have a high diversity of habitats and are also extremely attractive due to the diverse revitalisation measures of previous LIFE projects. <http://life-sterlet.boku.ac.at/index.php/home.html>

Light Pollution

The Austrian Guidelines – “Licht, das mehr nützt als stört” (published 2018) aims at planning of environmentally friendly outdoor lighting across the provinces.

https://www.tirol.gv.at/fileadmin/themen/umwelt/naturschutz/downloads/11012018_Leitfaden_Aussenbeleuchtung_Web_KOMPLETT.pdf

In Upper Austria, e.g. four municipalities are going to change their lighting systems.

<http://www2.land-oberoesterreich.gv.at/internetpub/InternetPubPublikationDetail.jsp?SessionID=SID-3C8CFB99-1D556E1E&xmlid=Seiten%2F115999.htm&pbNr=300612&dest=ooe>

The Tyrolean project “Helle Not” started ten years ago, conducted field studies to get evidence of the effects and developed new lighting concepts with the aim “little artificial light as possible, as much lighting as necessary!” <http://www.hellenot.org/home/>

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
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Obstacles and scientific and technical needs related to the measure taken

In the strategies for climate protection and energy, biodiversity should be taken into consideration to a larger extent, also in strategic planning and in the development of criteria for the application of renewable energies.

2.8 Species and Habitat conservation

Main related Aichi Biodiversity Target

10

Other Related Aichi Biodiversity Target

15, 5, 12

To derive **nature conservation priorities** on federal level, species from 19 groups of animals and habitats were prioritised. Freshwater snails have been assigned to the highest priority

category. Glaciers and alpine pioneer formations have the highest priority among the habitats, followed by mires, floodplains and wetlands and extensive grassland.²¹

A strategy for the protection and sustainable use of floodplains and river landscapes was published in 2015.²² Aims of the strategy are

- Restoration & optimization of natural dynamics
- Improvement of ecological connectivity along watercourses
- Creation of green infrastructure along rivers
- Conservation of adjacent floodplains and ecologically valuable (slope) forests
- Strategic land use planning for land reclamation
- Integrating flood protection needs into spatial planning
- Strategic application of the basic apportionment / land consolidation instrument
- Creating awareness and appreciation for meadows

Since joining the EU in 1995, Austria has implemented **46 LIFE nature conservation projects** with a total volume of around 154 million €.

The majority of LIFE-funded projects aimed at the restoration of natural habitats along rivers and streams, such as Lech, Donau, March, Lafnitz, Mur, Pielach, Ybbs and Thaya. About one fifth of the projects were dedicated to the protection and renaturation of peat bogs (Ennstal, Hörfeld, Oberes Waldviertel, Wenger Moor, Weidmoos). Projects in the Dürrenstein Wilderness Area, Thayatal National Park, Gesäuse National Park and Kalkalpen National Park were aiming at the preservation of natural forest ecosystems. Other LIFE projects have focused on species such as Bearded vulture (*Gypaetus barbatus*), Brown bear (*Ursus arctos*), Great bustard (*Otis tarda*) and Danube salmon (*Hucho hucho*). The cooperation of nature conservation, agriculture and forestry, hydraulic engineering, torrent and avalanche control, fishing or tourism has made a decisive contribution to the success of the LIFE projects, which is also done in the ongoing Life-project of the Austrian Federal Forests in Styria – Ausseerland about natural forests, mires and ecological corridors. Ten LIFE nature projects are currently ongoing in Austria.

²¹ Zulka, K.P. (2014) Priorisierung österreichischer Tierarten und Lebensräume für Naturschutzmaßnahmen. Report 0404, Umweltbundesamt, Wien.

²² <https://www.FederalMinistryforSustainabilityandTourism.gv.at/umwelt/natur-artenschutz/feuchtgebiete/ramsar-strategien.html>

In the course of the construction of a railway line in the Lavanttal (Carinthia), a 26 hectare substitution habitat was created.²³ The effectiveness of the measures and the colonisation by different animal groups were investigated over a period of five years. Between 2009 and 2013, a total of 181 bird species were identified within the substitution habitats. The surprisingly high number can be explained by the close interspersed of different habitat types (water, forest and open country). Numerous migratory bird species use the new habitats as resting and feeding habitats, including some very rare species such as the Booted eagle (*Hieraaetus pennatus*), the Great snipe (*Gallinago media*), the Marsh sandpiper (*Tringa stagnatilis*) and the Lemon citrine wagtail (*Motacilla citreola*). Also remarkable are breeding records of rare and endangered species such as Little ringed plover (*Charadrius dubius*), Kingfisher (*Alcedo atthis*), Great northern reed warbler (*Acrocephalus arundinaceus*), Little bittern (*Ixobrychus minutus*), Northern lapwing (*Vanellus vanellus*), Whinchat (*Saxicola rubetra*), Stonechat (*Saxicola torquata*) and Red-backed shrike (*Lanius collurio*). Eight species of fish occur in the river Lavant before the restoration, and 19 species (2010 to 2014) after the ecological measures have been implemented. The fish biomass in the newly restored course of the Lavant river rose from 10 kg/ha to 49 kg/ha immediately after completion of the measures. Particularly noteworthy is the strong occurrence or increase in the species Grayling (*Thymallus thymallus*), Barbel (*Barbus barbus*), Dome bullhead (*Cottus gobio*), Aitelchub (*Squalius cephalus*) and Gudgeon (*Gobio gobio*), while the newly created habitats provide habitat for young fish.

A cooperation project along the river Inn and its side tributaries has been implemented jointly by the Federal Ministry for Sustainability and Tourism, the province of Tyrol and the WWF. Based on old maps, renaturation objectives for a stretch of the river Inn in Tyrol were developed. From the Inn map of 1830 it became clear that the natural water type would correspond to a furcation stretch with wooded islands and gravel banks.

The effectiveness of the measures was evaluated²⁴. The evaluation found that pioneer species (including rare carabid species) colonised the river banks after the measures very quickly and that especially shallow bank areas show a higher biodiversity. Regular broods of the sandpiper (endangered according to the Austrian Red List) and the occurrence of the German tamarisk (*Myricaria germanica*) (threatened with extinction according to the Austrian Red List) could be observed. These two umbrella species are representative of a diverse flora and fauna. They show that the area has now developed into a valuable habitat.

²³ W. PETUTSCHNIG & W. HONSIG-ERLENBURG (o.J.): ÖBB-Ersatzbiotop „Lavantumlegung“ bei St. Paul (Kärnten) - Erfolgskontrolle an neu geschaffenen Flusslebensräumen am Beispiel der Vogel- und Fischfauna

²⁴ Degasperi G. (2015): Laufkäfer (Coleoptera: Carabidae) als Bioindikatoren für die Erfolgskontrolle einer Revitalisierungsmaßnahme am Inn (Österreich), Entomologica Austriaca, Band 22: 27-43, Graz

The Austrian Federal Forests developed the programme “**Ecology and Economy**”. This operational activity aims at planting red list tree species and shrubs. In every forest district the forester must plant 150 species of red list threatened trees or shrubs during a 5 years period till end of 2020. The plants come from certified origin seed sources (if available) or from own sources and are natural growing in the area. Up to October 2018 approximately 45,000 to 48,000 Red List trees or shrubs for example *Sorbus domestica*, *Taxus bachata*, *Pinus unicata*, *Prunus mahaleb*, *Populus nigra*, *Pinus cembra*, *Abies alba*, *Ilex aquifolium* a.s.o. are planted.

The **Dusky large blue** (*Phengaris nausithous*)²⁵, a rare butterfly species, has specific habitat requirements. Its occurrence is linked to the Great burnet (*Sanguisorba officinalis*) and the Common red ant (*Myrmica rubra*). Due to the intensification of grassland use, the living conditions for this species have deteriorated. The caterpillars need three weeks for their development between egg deposition and mowing. In Upper Austria, land was purchased, and the conservation of the butterfly is ensured through targeted management.

The **Great bustard** (*Otis tarda*) is a globally threatened bird species with a remnant population in Austria that strongly decreased during the 20th century until a minimum of 55 individuals was reached in 1997. The population has recovered to 500 individuals in the breeding period by 2016 through a number of conservation measures, such as the establishment of nature protection areas, nest protection, power line marking and underground cabling. The continuation of these measures is essential for maintaining the population.²⁶

<http://www.grosstrappe.at/de/grosstrappe/verbreitung-und-bestand.html>

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
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²⁵ Reifeltshammer, S. (2017): Lebensraumsicherung für den dunklen Wiesenknopf-Ameisenbläuling (*Maculinea nausithous*). INFORMATIV, Nr. 88, Linz

²⁶ UMWELTBUNDESAMT (2016): Schindler, S.; Zulka, K.-P.; Sonderegger, G.; Oberleitner, I.; Peterseil, J.; Essl, F.; Ellmayer, T.; Adam, M & Stejskal-Tiefenbach, M.: Entwicklungen zur biologischen Vielfalt in Österreich – Schutz, Status, Gefährdung. Umweltbundesamt, Wien. 188 S.

http://www.umweltbundesamt.at/aktuell/publikationen/publikationssuche/publikationsdetail?pub_id=2193

As the case studies show, the protection measures led to a positive development for the target species and habitats. Nevertheless, further measures are needed, given the continuing trends of the Farmland Bird Index and the unfavorable conservation status of many Habitats Directive species and habitat types.

Relevant links

https://www.bmnt.gv.at/umwelt/natur-artenschutz/life-natur/life-projekte_aktuell.html

<http://www.bundesforste.at/natur-erlebnis/life-projekt-ausseerland.html>

2.9 Measures against invasive alien species

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
8	9

In order to implement the **EU regulation (1143/2014)** on the Prevention and Management of the Introduction and Spread of Invasive Alien Species, the first step was to domesticate the corresponding legal provisions in the relevant laws of the Austrian Federal States and the Austrian Federal Government. Currently, 49 invasive alien animal and plant species are targeted by the EU regulation; of which 21 currently exist in Austria. The priority paths of unintentional introduction and spread of species are currently being identified and action plans for these paths and a surveillance system for all species are being developed²⁷.

In 2017, the **fourth Austrian Neobiota Conference** on the current status of the national implementation of the EU Regulation took place²⁸. In addition to general presentations of the species on the list or the surveillance system, the concerns of specific sectors (e.g. trade, horticulture, hunting and fishing and zoos) were discussed. In addition, the regulation's implementation in Germany and the prospects of the EU Commission were examined. An **inventory of alien species occurring in Austria** is currently being updated; the update will be available in 2020.

²⁷ <http://www.neobiota-austria.at/ms/neobiota-austria>

²⁸ <https://www.ages.at/service/ages-akademie/programm-detail/kalender/detail/event/neobiota/archiv/>

A **neophyte competence centre** has been established in the province of Tyrol²⁹. The tasks of the centre include conducting baseline surveys and the development of a strategy for dealing with neophytes. Furthermore, the centre serves as a hub for management activities related to neophytes in Tyrol. A project in the Zillertal area serves to combat the encroachment of the Himalayan balsam (*Impatiens glandulifera*) and other species. The public were called upon to participate actively³⁰

Also, as part of the research project entitled; **Aliens Health**, evidence syntheses, online surveys and in-depth interviews were conducted to assess any emerging public health risk from alien species under climate change and to evaluate the necessity and performance of environmental and medical mitigation measures³¹. Ragweed (*Ambrosia artemisiifolia*), Giant hogweed (*Heracleum mantegazzianum*) and the Tiger mosquito (*Aedes albopictus*) have been identified as particularly relevant for monitoring purposes in Austria. Giant hogweed is also considered as significant risk for biodiversity and is one of the current target species of the EU regulation on the prevention and management of the introduction and spread of invasive alien species.

Between 2011 and 2015, the project "**Neobiota Management in the Wienerwald Biosphere Reserve**" was implemented by the Austrian Federal Forests, Austrian Environment Agency and the Wienerwald Biosphere Reserve. The focus was on a comparison of different methods to control Himalayan balsam (*Impatiens glandulifera*), Black locust (*Robinia pseudoacacia*), Japanese knotweed (*Fallopia japonica*), and Giant hogweed (*Heracleum mantegazzianum*).³²

The **Gesäuse National Park** has a management plan aimed at the eradication or control of invasive alien species³³. The main objective is to prevent the further spread of neophytes from the valleys into the core area of the National Park. The focus is on habitats with a high degree of vulnerability and on the habitats of the EU Habitats Directive. The LIFE-project "Gesäuse" initiated the active control of the invasive alien plants Himalaya balsam, Japanese knotgrass, and Canada goldenrod (*Solidago canadensis*) and Giant goldenrod (*S. gigantea*). Targeted mowing and clearing of plants, prior to seed production prevents propagation and further spread. Due to the projects, formerly dominant and invasive populations of Himalaya balsam got reduced and are controlled to an extent that populations of native species such as *Impatiens noli-tangere* can recover.

²⁹ https://www.uibk.ac.at/botany/neophyten-tirol/aufgaben_zielsetzungen/index.html.de

³⁰ <http://www.tt.com/panorama/natur/13000137-91/neophyten-wird-der-kampf-angesagt.csp>

³¹ <https://www.klimafonds.gv.at/report/acrp-6th-call-2013/>

³² <http://www.bundesforste.at/fileadmin/wienerwald/PDF->

[DATEIEN/Projekte/Neobiota/Endbericht_Neobiota_Zusammenfassung.pdf](#)

³³ <http://www.nationalpark.co.at/de/management/neophytenmanagement>

In the **Donau-Auen National Park** invasive alien trees such as Black locust (*Robinia pseudoacacia*), Tree of heaven (*Ailanthus altissima*), Ashleaf maple (*Acer negundo*), and Green ash (*Fraxinus pennsylvanica*) are managed and controlled³⁴.

The project **“Raccoon dog (*Nyctereutes procyonoides*) and Raccoon (*Procyon lotor*) in Austria”** is intended to provide information on these little-known species and to clarify their current distribution and population status in Austria. For this purpose, data are collected throughout Austria with the help of a questionnaire survey³⁵.

Students model spread and management of the Japanese knotweed. The Japanese knotweed is a vigorous, competitive plant species. Where the plant takes root once, it reproduces vegetatively and forms dense stands (clones) up to four meters high. These “Fallopia monocultures” cause fundamental changes in the native ecosystems and biotopes with regard to species endowment, structure and appearance. In this project, the propagation behaviour of the plant is modelled and control measures are developed³⁶.

In June 2017, the group **“Grüner Lebensraum”** presented a position paper on concepts for playgrounds and open spaces, recreation, discussing the conflicts of use in forests and on forest roads and on the restoration of watercourses. An important point that was raised was to conserve the natural environment and to reduce invasive alien plants. In addition, there was an action day, on which citizens were invited to remove neophytes from the forest Mühlauser Wald (Innsbruck, Tyrol). This measure was highlighted as exemplary in the implementation of the SDGs by the BMNT due to the optimal integration of the wider public³⁷.

The **Steiermärkische Berg- und Naturwacht** (“Styrian Mountain and Nature Watch”) has a strong focus on surveillance, management and control of invasive alien species, as well as on related actions to increase public awareness. For instance, biodiversity in protected areas and other valuable habitats is conserved through targeted conservation management, focussing on control and local eradication of invasive neophytes. Further, a training as “Aliens-Sheriff” is offered for Styrian pupils and action weeks and action days are organized in municipalities to implement alien species management together with citizens³⁸.

³⁴ <https://www.donauauen.at/nature/naturschutz-lebensraum-wald/2453>

³⁵ <https://www.enok.at/>

³⁶ https://www.sparklingscience.at/de/projects/show.html?--typo3_neos_nodetypes-page%5bid%5d=1083

³⁷ <https://www.nachhaltigkeit.at/la21/la21-in-oe/neue-broschuere-oesterreichischer-praxisbeispiele-zur-lokalen-agenda-21>

³⁸ https://www.meinbezirk.at/steiermark/c-lokales/invasive-neophyten-berg-und-naturwacht-sensibilisiert-steirische-schueler_a2143046

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
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The measures, described above, can be considered successful. All three sub-targets were more than likely, achieved, in implementing the first steps of the EU regulation 1143/2014. Relevant knowledge was generated by research projects, with the relevant target groups achieving a higher level of awareness, and the general public was informed. The projects dealing with management and control can also be considered as successfully implemented.

Obstacles and scientific and technical needs related to the measure taken

In order to achieve the necessary control measures, for many invasive alien species, there is a need for stronger political commitment to the high expenditure and/or efficient methods for broad scale management and control. Currently there are insufficient resources and inefficient methodologies available to fully achieve these targets.

2.10 Designation and management of protected sites

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
10	11

Austria has a long tradition in the establishment of protected areas. The National Park Hohe Tauern, founded in 1981, is Austria's oldest national park and by far the largest nature reserve in the entire Alpine region. In Austria, 16.5% of the national territory is designated as a national park, Natura 2000 site and/or nature reserve. National parks and wilderness areas provide the strictest levels of protection. The conservations of species and habitats in Natura 2000 sites often depend on sustainable land use, therefore the existence and implementation of management plans are essential. The level of protection provided by nature reserves differs among provinces and sites. An additional 12% of Austria's territory is subject to weaker forms of protection, like landscape protection areas or protected landscape features. In total, 28.5% of Austria's territory is protected under nature conservation law. All Austrian

national parks conform to the criteria for IUCN-protected areas category II. Austria has two wilderness areas (IUCN category Ib), the wilderness area Dürrenstein in Lower Austria and the wilderness area Sulzbachtäler (located within Hohe Tauern national park Salzburg). Parts of the wilderness area Dürrenstein and of the National Park Kalkalpen are components of the UNESCO World Heritage Site "Primeval Beech Forests of the Carpathians and Other Regions of Europe".

Table 2: Protected areas in Austria in 2014 and 2017

Protected area (2014/2017)	Number	Km ²	% national territory
National park	6/6	2,373/2,373	2.8
Wilderness area	2/2	102/102	0.1
Natura 2000 site*	191/204	11,343/12,248	13.5/14.6
Nature reserve	454/468	3,024/3,022	3.6/3.6
Landscape conservation area	247/258	12,337/12,326	14.7/14.7
Nature and landscape reserve	4/4	506/506	0.6/0.6
Nature park	50/50	4,139/4,139	4.9/4.9
Protected landscape features	345/340	85/82	0.1/0.1
Biosphere reserve	3/4	1,261/1,887	1.5/2.2
Other conservation areas	42/61	1,483/1,579	1.8/1.9

**In addition to the listed „Natura 2000 sites“, further app. 90 other sites are already nominated.*

Source: Ämter der Landesregierungen

The **management of the protected areas** is quite often based on management plans, especially for national parks and Natura 2000 sites. Local administrations exist only for national parks, biosphere reserves and some nature parks. Many Austrian protected areas are located along the European **Green Belt**. (Brandl et al. 2017: Öffentlichkeitsarbeit zum „Grünen Band in Österreich“, unveröffentlichter Endbericht.)



© Christine Pühringer

The Green Belt in Austria stretches over almost 1,300 km from Upper Austria, Lower Austria, Burgenland, Styria to Carinthia. In addition to the already well-known cross-border national parks Bohemian Forest, Thayatal and Neusiedler See-Seewinkel, there are many small natural treasures along the border.

<https://naturschutzbund.at/das-gruene-band-oesterreich.html>

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
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A comparison of the state of biodiversity inside and outside Natura 2000 sites shows a slightly better state and trend for forests habitats inside Natura 2000 sites. This shows the positive effect of the designations. While the share of extensive grassland in the agricultural area outside Natura 2000 sites decreased significantly between 2002 and 2013, the share within the sites remained constant.³⁹

Relevant websites

<https://www.nationalparksaustria.at/de/pages/default.aspx>

<https://www.naturparke.at/startseite/>

http://www.umweltbundesamt.at/art17_05-2014/

³⁹ (Ellmayer et al. 2015: 20 Jahre EU-Naturschutz in Österreich – Eine Bilanz anlässlich der 20-jährigen Mitgliedschaft Österreichs bei der Europäischen Union, internal study, Umweltbundesamt)

Obstacles and scientific and technical needs related to the measure taken

A comprehensive assessment of management measures and a comparison of the status and trends of biological diversity within and outside the protected areas would be desirable. Surveys of habitat types, vascular plants, grasshoppers and butterflies carried out in 2017 and 2018 will provide an estimate, at least for alpine pastures, but is not available yet.

2.11 Safeguarding genetic diversity of cultivated plants and domesticated animals

Main related Aichi Biodiversity Target	Other Related Aichi Biodiversity Target
3	13

The genetic diversity of agricultural animal breeds and plant varieties is of great importance for biodiversity and an irreplaceable basis for food security. Austria has a large number of agricultural breeds of domestic animals and livestock. Through centuries of breeding selection and adaptation, a large variety of specialized breeds with a wide range of uses has been created. Due to the promotion of highly specialized performance breeds, however, this diversity of breeds has decreased. <http://www.arche-austria.at/index.php?id=53>

In the Austrian Agri-Environmental Programme ÖPUL, the conservation of endangered livestock breeds has been reorganised and a general conservation programme has been drawn up which, in addition to cattle breeds, also takes endangered breeds of horses, sheep, goats and pig breeds into special consideration. ÖPUL also includes the support measure "Cultivation of rare agricultural crops", which aims to preserve and develop biological diversity in agricultural production. This is achieved through the cultivation and use of rare, regionally valuable agricultural crops (varieties and species) and through the conservation and enhancement of genetic diversity as an important instrument for adapting to changing climatic conditions.

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
	*		

Throughout the measures offered in agri-environmental programmes, the use of old varieties and breeds is increased. Furthermore, knowledge about the cultivation and conservation of rare varieties and species is preserved and promoted.

Relevant links

<http://www.oengine.at/>

<http://www.arche-austria.at/index.php?id=37>

www.slk.ages.at



3 Assessment of progress towards each national target

As a basis for the evaluation of the implementation of the Biodiversity Strategy Austria 2020+, projects and measures that took place in the period from 2010 onwards were recorded in a database. The 511 database entries (September 2017) have been assigned to the targets of the national strategy and provide a good overview of activities for the conservation of biological diversity in Austria. There is no claim for completeness; rather, it can be assumed that numerous additional projects dealing with the protection and sustainable use of biological diversity have been implemented. The projects and measures were assigned to the specific biodiversity targets, to their geographical location (provinces), to funding authorities, and to their main conservation objectives (plants, animals, habitats) in the frame of an implementation report of the Biodiversity Strategy Austria⁴⁰. In this report an assessment of nine of the twelve national targets was conducted; it is herewith used for this National Report.

3.1 The significance of biodiversity is acknowledged by society

The evaluation refers to the sub-target “The appreciation of biodiversity in society has increased (2020)”.

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
	x				

⁴⁰ Umweltbundesamt (in press). Umsetzung der Biodiversitäts-Strategie Österreich 2020+ Zwischenbericht 2010 bis 2017. Vienna, Austria.

The European Commission has published surveys on public attitudes to biodiversity. Encompassing five different aspects, the last survey in 2015 showed a slight increase in appreciation of biodiversity among Austrian citizens, from already rather high values in 2010 and 2013⁴¹.

A survey on the importance of Austria's national parks provides a positive picture: Nearly 100% of interviewed citizens consider the conservation of Austria's national parks as an Austrian natural heritage to be important (88.4% very important, 10.4% important)⁴².

Date the assessment was done: 2015, 2016

Indicators used in this assessment OR any other tools or means for assessing progress

Representative surveys: Eurobarometer survey conducted face-to-face (n=1,035), survey on the importance of Austria's national parks (n=1,514) online interviews.

Level of confidence of the above assessment		
Based on comprehensive evidence	Based on partial evidence	Based on limited evidence
✘		

Explanation for the level of confidence indicated above: sampling size representative for Austria.

Adequacy of monitoring information to support assessment			
Monitoring related to this target is adequate	Monitoring related to this target is partial	No monitoring system in place	Monitoring is not needed
✘			

⁴¹<http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/Survey/getSurveyDetail/yearFrom/1995/yearTo/2018/search/biodiversity/surveyKy/2091>

⁴² Quick-reader National Parks Austria Press Conference 2016

3.2 Biodiversity research and monitoring are extended

The evaluation refers to the sub-target “Data on status and trends of species, their genetic diversity and habitats, as well as influencing factors and conservation measures, are available (2019, 2020+)”.

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
x					

The monitoring activities for the Habitat Directive have been extended by including additional target features by Austrian provinces in cooperation with the Environment Agency Austria. Regional biotope mapping provides further information on natural and semi-natural habitats. A monitoring of the biodiversity of Austrian cultural landscapes has been developed⁴³ and the baseline survey has been conducted in the years 2017/18. In the report under Article 17 of the Habitat Directive of 2013, 2% of the species of the Alpine and Continental regions, 8% of the species of the Alpine region and 7% of the species of the continental region were not assessed due to a lack of data. The Article 17 report 2019 will include all species and habitat types of the Habitat Directive occurring in Austria. For the next Austrian National Report to the CBD, first biodiversity trends will also be available for cultural landscapes.

However, the assessment of the favorable conservation status is often an expert assessment based on data collected for other purposes and not on a targeted monitoring. Thus, an expansion of the activities would be desirable.

Indicators used in this assessment OR any other tools or means for assessing progress: Reduction of the number of protected target features of Community interest, which are currently still categorized as “unknown” (for EU reporting obligations).

⁴³ Umweltbundesamt (2017) Österreichisches Biodiversitäts-Monitoring (ÖBM) – Kulturlandschaft: Konzept für die Erfassung von Status und Trends der Biodiversität. Report REP-0635. Umweltbundesamt GmbH. Vienna, Austria. 156 pp. <http://www.umweltbundesamt.at/fileadmin/site/publikationen/REP0635.pdf>

Level of confidence of the above assessment

Based on comprehensive evidence	Based on partial evidence	Based on limited evidence
x		

This assessment relates only to the stated sub-target. Further specific sub-targets were not evaluated.

Adequacy of monitoring information to support assessment

Monitoring related to this target is adequate	Monitoring related to this target is partial	No monitoring system in place	Monitoring is not needed
x			

3.3 Agriculture and forestry support conservation and improvement of biodiversity

The evaluation refers to the sub-targets (1) "Increase of areas with biodiversity-related agri-environmental measures (2020)", (2) "The amount of dead wood and old growth, particularly in the previously low-appointed natural areas of the Alpenvorland, Mühlviertel and Waldviertel and in the eastern parts with warm summers, has increased (2020+)" and (3) "Improvement of the Farmland Bird Index development (2020)"

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
	x ¹	x ²		x ³	

1...sub-target (1); 2...sub-target (2), 3...sub-target (3)

The evaluation parameter for the sub-target (1) "Increase of areas with biodiversity-related agri-environmental measures (2020)" reflects the development of selected measures. The selection of measures that make up the evaluation parameter was made with the following reference:

- Nature conservation – conservation of agricultural land of high ecological value
- Species diversity of arable land

- Species diversity of grassland
- Organic farming

Table 3: Development of the share of biodiversity-promoting or sustainable cultivated agricultural land (including the ÖPUL-Measures: Biodiversity areas in arable land, Nature conservation) and organic farming in the total agricultural area (excluding alpine pastures and alpine meadows)

Year	Agricultural area	Share of biodiversity-promoting cultivated agricultural area
2010	2.338.221 ha	21,60 %
2011	2.322.167 ha	21,80 %
2012	2.308.558 ha	21,90 %
2013	2.299.042 ha	21,60 %
2014	2.283.220 ha	20,90 %
2015	2.265.886 ha	22,61 %
2016	2.262.481 ha	24,40 %

Despite decreasing ÖPUL participation rates and a decreasing total agricultural area, the area of the biodiversity-promoting, sustainable farming practices taken into account has risen from 505,000 in 2010 to 550,000 ha in 2016, comprising now around 25% of Austria's total agricultural area in 2016, mainly due to the increase of organic farming. The biodiversity promoting measures comprise about 150.000 ha representing 6.8% of the agricultural land in 2017. (See 2.4)

Sub-target (2): Since the 1990s, the **proportion of deadwood** has almost doubled. According to data from the Austrian Forest Inventory (ÖWI), the existing deadwood stock in 2007/09 amounts to a total of 20.2 m³/ha, of which 8.4 m³/ha is standing and 11.8 m³/ha is lying deadwood. Despite the progress made, these figures are not yet sufficient to secure the survival of more demanding saproxylic (dead-wood inhabiting) species. Expressed as a proportion of the total woody biomass, deadwood in Austrian forests amounts to 6% of the standing crop, while in natural forests the figure would be between 10 to 30%⁴⁴. The

⁴⁴ Moning C. (2013): Wie viel ist nötig? Ökologische Schwellenwerte für den Bergmischwald. Ornis 2, S. 6-11

distribution of deadwood is very uneven across different forest stands. Deadwood-rich forest stands are often located at high altitude and in steep terrain.

The indicator for the sub-target (3) **“Improvement of the Farmland Bird Index development (2020)”** shows the population trend of 24 characteristic bird species in the cultural landscape. The initial value for the Farmland Bird Index was set at 100% in 1998. The index was 70.7% in 2010 and 61.9% in 2017. The index thus shows a decline of around 9% during this period. The populations have remained at an index value of approximately 60% since 2013.

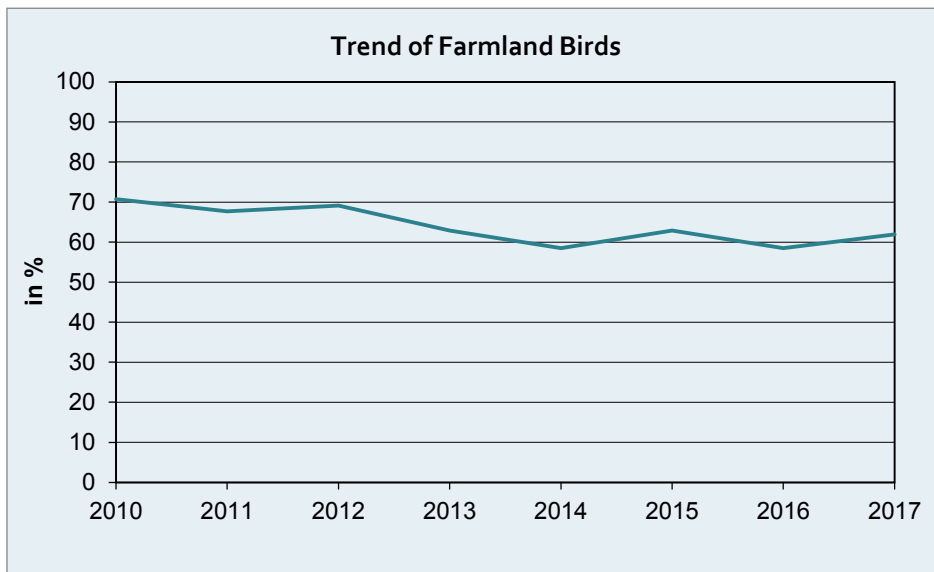


Figure 2: Population trend of 24 characteristic bird species of the cultural landscape. (Source: Teufelbauer & Seaman 2018⁴⁵)

Level of confidence of the above assessment

Based on comprehensive evidence

Based on partial evidence

Based on limited evidence

x

⁴⁵ Teufelbauer, N. & B. Seaman (2018): Farmland Bird Index für Österreich: Indikatorenenermittlung 2015 bis 2020. Teilbericht 3: Farmland Bird Index 2017. Studie im Auftrag des Bundesministeriums für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Wien. BirdLife Österreich, Wien.

Adequacy of monitoring information to support assessment

Monitoring to this target is adequate	Monitoring to this target is partial	No monitoring system is in place	Monitoring is not needed
	x		

Please describe the monitoring system for the target if one exists

Data of the agri-environmental measures from the official report on the Austrian agriculture <https://gruenerbericht.at/cm4/>. The data basis for the Austrian Farmland-Bird-Index is the "Monitoring of Austria's breeding birds", in the course of which volunteers carry out annual censuses according to a standardised method. 24 bird species typical for the cultivated land are observed along 20 counting routes (2016) and are included in the calculation. The Austrian Forest Inventory has been carried out since the 1960s according to a standardized method.

Relevant websites, web links and files

<http://ec.europa.eu/eurostat/web/agri-environmental-indicators>

http://ec.europa.eu/eurostat/statistics-explained/index.php/Agri-environmental_indicator_-_population_trends_of_farmland_birds

<http://www.birdlife.at/page/homepage>

<http://bfw.ac.at/rz/wi.home>

3.4 Game and fish stocks are adapted to natural environment conditions

The evaluation refers to the sub-targets (1) "Good condition and/or good ecological potential as defined in the Water Framework Directive has been achieved by 2015 or 2021/2027, respectively" and (2) "Game impact situation has improved (2020+)"

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
		x ¹	x ²		

1...sub-target (1), 2...sub-target (2)

In 2013, the share of **rivers in very good and good ecological status and with good potential** was just under 40%; in 2009 the share was 37%. Most of the watercourses identified as significantly altered do not yet correspond to the good ecological potential; measures to improve the hydromorphological conditions are particularly necessary here. 55 of the 62 lakes larger than 50 ha are in good condition; for seven lakes the good condition has not been achieved due to material discharges and hydromorphological pressures.⁴⁶

In most parts of the Austrian forests, the **game impact situation** shows no significant improvement. Damage caused by deer (browsing) prevents the natural regeneration of forest stands, thus can lead to a reduction in forest biodiversity (Austrian Game Impact Monitoring, WEM; Austrian Forest Inventory, ÖWI).⁴⁷

Date the assessment was done: 2015

Indicators used in this assessment

The focus in the assessment of the **ecological status of water bodies** are aquatic communities. For rivers, phytobenthos, macrophytes, phytoplankton, makrozoobenthos and fish are to be investigated. The assessment is based on a comparison of the status quo with a

⁴⁶ https://www.bmnt.gv.at/wasser/wisa/fachinformation/ngp/ngp-2015/text/textdokument_ngp2015.html

⁴⁷ <https://bfw.ac.at/rz/bfwcms2.web?dok=6299>

reference status specific to the water body type, which corresponds to the largely natural water body status with at most minor adverse effects.⁴⁴

Austrian Game Impact Monitoring⁴⁵

Level of confidence of the above assessment

Based on comprehensive evidence	Based on partial evidence	Based on limited evidence
x		

Please provide an explanation for the level of confidence indicated above

Ecological status of water bodies: The evaluation is carried out in accordance with the requirements of the EU Water Framework Directive.

Game impact monitoring: The monitoring has clear methods and rules, which are supported by the forest directors and hunters.

Adequacy of monitoring information to support assessment

Monitoring to this target is adequate	Monitoring to this target is partial	No monitoring system is in place	Monitoring is not needed
x			

Please describe the monitoring system for the target if one exists

Ecological status of water bodies: The ecological status is assessed within a five-stage classification scheme, with Class I (very good ecological status) representing the water type-specific reference status and Class II (good ecological status) representing the minimum quality target to be achieved.

Relevant websites, web links and files

<https://bfw.ac.at/rz/bfwcms2.web?dok=8380>

https://www.bmnt.gv.at/wasser/wisa/fachinformation/ngp/ngp-2015/text/textdokument_ngp2015.html

<http://www.umweltbundesamt.at/wrrl/>

http://www.umweltbundesamt.at/fileadmin/site/umweltkontrolle/2016/ukb16_05_wasser.pdf

3.5 Tourism and leisure activities are in line with biodiversity objectives

The evaluation of Target 5 of the Biodiversity Strategy 2020+ refers to the sub-targets (1) "Biodiversity goals are integrated into tourism policies and models" and (2) "Cooperation between tourism and nature conservation has been expanded".

Austria's diverse natural and cultural landscape is an essential basis for the success of Austrian tourism and is also acknowledged as such in the strategies of the Austrian provinces, although it is not yet apparent in all strategies that tourism must also take responsibility for the conservation of biodiversity.

Among others the following issues are addressed in the tourism strategies of the provinces which can affect biodiversity in the broadest sense; the development of sustainable quality tourism with focus on regionalism and sustainability, stronger alliances with network partners from agriculture, culture, nature, research/education, mobility and sports, the promotion of sustainable and convenient arrival and departure, a building culture that is compatible with living space and site development within the framework of spatially compatible tourism development as well as the consideration of climate change mitigation and adaption measures. However, the careful use of natural resources is also a top priority at least in some of the strategies.

So by 2020, some efforts will still be needed to adequately integrate biodiversity concerns into all tourism strategies. (See 2.6)

The added value of good cooperation between tourism and nature conservation has arrived in particular to regions with protected areas and high biodiversity. There, networks and associations of management bodies and regional partner enterprises are being formed, offers are being put together in harmony with nature conservation and the number of eco-label enterprises is slowly but steadily increasing. (See 2.6)

Sustainable tourism projects have been initiated and promoted for over 15 years. There are many best practice projects and the new common national strategy – “Plan T – Master Plan for Tourism” by spring 2019 is intended to give new impetus to the further expansion in this direction.

Many skiing areas rely increasingly on artificial snow requiring specific infrastructure for water storage, water and diversion extraction for its production.

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
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x^{1,2}

1...sub-target (1), 2...sub-target (2)

Date the assessment was done: 2018

Indicators used in this assessment

- Number of biodiversity objectives incorporated into tourism strategies
- Number of businesses and/or projects with cooperation activities between nature reserve administrations, regional stakeholders and tourism

Level of confidence of the above assessment

Based on comprehensive evidence	Based on partial evidence	Based on limited evidence
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x

Please provide an explanation for the level of confidence indicated above

Complete figures for cooperation between protected areas and tourism are not available.

Adequacy of monitoring information to support assessment

Monitoring to this target is adequate	Monitoring to this target is partial	No monitoring system is in place	Monitoring is not needed
		x	

3.6 Energy supply is biodiversity-friendly

The evaluation refers to the sub-target “Suitability or exclusion areas for wind power are defined across Austria (2020)”.

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
		x			

In several Austrian provinces (Burgenland, Lower Austria, Upper Austria, Styria, Vienna) **suitable or exclusion areas for the use of wind power** have been defined, taking into account ecological value of the areas, bird protection, local and landscape scenery including particularities of the Alpine region.

Date the assessment was done: 2018

Indicators used in this assessment: Zoning concepts for wind power and other land-related energy sources

Level of confidence of the above assessment

Based on comprehensive evidence	Based on partial evidence	Based on limited evidence
x		

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

- Zoning concepts have been published by the provinces

Adequacy of monitoring information to support assessment

Monitoring to this target is adequate	Monitoring to this target is partial	No monitoring system is in place	Monitoring is not needed
	x		

Please describe the monitoring system for the target if one exists: Zoning concepts are online:

https://www.oir.at/de/wind_burgenland

<https://www.igwindkraft.at/mmedia/download/2014.09.17/1410964769070667.pdfraft.pdf>

http://www.raumordnung-noe.at/fileadmin/root_raumordnung/land/landesentwicklungsplanung/ROP_Windkraft/SekROP-Windkraft_Datenblaetter-Endergebnis_LGBl-8001-1-0.pdf

https://www.land-oberoesterreich.gv.at/Mediendateien/Formulare/DokumenteAbt_U/us_en_Ausschlusszonen_Windmasterplan2017.pdf

<http://www.landesentwicklung.steiermark.at/cms/beitrag/12636051/141975683/>

<https://www.wien.gv.at/stadtentwicklung/energie/pdf/windkraftanlagen-standorte.pdf>

3.7 Pollution is reduced

The evaluation refers to the sub-target “Surface waters have a good chemical status by 2015 or 2021/2027, respectively in accordance with the Water Framework Directive”.

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
x					

Date the assessment was done: 2015

Indicators used in this assessment

The indicator provides information on the chemical status of surface waters in accordance with the environmental quality standards of the Quality Objective Ordinance Chemistry. The impact of pollutants regulated by European Community law in rivers is assessed.

The results of the risk assessment and monitoring programmes show that almost all water bodies have a good chemical status using the environmental quality standards for water (without taking the environmental quality standards for biota into account). Only 72 water bodies (i.e. less than 1% of the water bodies) are found to exceed water quality standards, without taking into account uPBTs (ubiquitous persistent, bioaccumulative and toxic substances).

Good chemical status for surface waters (rivers and lakes) is to be gradually achieved by 2021 and 2027 respectively, in accordance with the requirements of the EU Water Framework Directive.

Relevant websites, web links and files

<https://www.bmnt.gv.at/wasser/wisa/fachinformation/ngp/ngp-2015.html>

http://www.umweltbundesamt.at/fileadmin/site/umweltkontrolle/2016/ukb16_05_wasser.pdf

Level of confidence of the above assessment

Based on comprehensive evidence	Based on partial evidence	Based on limited evidence
x		

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

The evaluation method is defined in the environmental quality standards of the Quality Objective Ordinance Chemistry.

Adequacy of monitoring information to support assessment

Monitoring to this target is adequate	Monitoring to this target is Partial	No monitoring system is in place	Monitoring is not needed
x			

Please describe the monitoring system for the target if one exists

https://www.bmnt.gv.at/wasser/wasser-oesterreich/wasserrecht_national/planung/QZVChemieOG.html

3.8 Negative impact of invasive alien species are reduced

The evaluation refers to all three sub-targets (1) "EU Regulation on the prevention and management of the introduction and spread of invasive alien species (2019) and regulations on alien species in relevant EU rules and standards in accordance with the EU Biodiversity Strategy have been implemented", (2) Updated information on alien species is available (2019) and (3) "Public awareness of the problems with alien species has increased (2020+)".

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
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x

The implementation of the EU regulation on invasive species was started as per the timetable, set out in the regulation. Management and control measures for the species of EU concern have not yet been implemented and the surveillance system has yet to be established.

The inventory of alien species compiled in 2002 was updated in 2009. During these seven years, numbers of alien plant and animal species have increased due to new arrivals and introductions but also due to more comprehensive data collection. In 2002, 300 alien vascular plant species and 350 alien animal species were identified in Austria, thereof 35 vascular plant and 46 animal species are invasive or potentially invasive. A new update has started 2018 and should be completed by 2020.

Austria is part of the European Network on Invasive Alien Species (NOBANIS) and its data has been made available online at www.nobanis.org.

Many initiatives have raised awareness at all levels of governance. Agencies such as The Austrian Federal Forests and The Austrian Federal Railways are also taking concrete steps for the management and control of invasive alien species. Management measures are also taking place in various protected areas. (See 2.9)

Many projects have been carried out to strengthen public awareness on invasive alien species. A national platform has been set up to bring together relevant actors and stakeholders in the implementation of the EU regulation on invasive alien species.

Although in many aspects Austria is on track to achieve the sub-target, there are still further issues to be solved, like the management of black sea-gobbies.

Year the assessment was done: 2018

Indicators used in this assessment: expert judgement based on information on the developments related to the three sub-targets

Level of confidence of the above assessment

Based on comprehensive evidence	Based on partial evidence	Based on limited evidence
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x

Explanation for the level of confidence indicated above: For sub-targets 1 and 2, projects are on track, evidence for progress is comprehensive, and evidence for reaching the targets in 2019 is partial. For sub-target 3, evidence is partial and related to several public awareness initiatives. We estimate that public awareness will have been increased in 2020 and beyond.

Adequacy of monitoring information to support assessment

Monitoring to this target is adequate	Monitoring to this target is partial	No monitoring system is in place	Monitoring is not needed
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x

3.9 Incentives with negative impact on biodiversity, including subsidies, are abolished or adapted

The evaluation refers to the sub-target "Relevant financial subsidies are adapted in terms of biodiversity conservation (2020+).

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
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x

Information on the adaptation of subsidies with regard to biodiversity is not yet available. In 2016 a first step was done by the Austrian Institute for Economic Research with a study quantifying the importance of environmentally harmful subsidies for Austria. The study focuses on the analysis of direct subsidies and tax measures at federal level in the fields of

energy production and use as well as transport. In addition, settlements (largely the competence of the Austrian provinces) are included in the study, due to its interactions with regard to both energy use and transport. Transport (about half) and energy (just over a third) account for the largest share of environmentally harmful tax incentives. In the housing sector, just under 14% of subsidies have negative environmental effects.

https://www.wifo.ac.at/jart/prj3/wifo/resources/person_dokument/person_dokument.jart?publikationsid=58641&mime_type=application/pdf

The current discussions on future subsidies for renewable energy would offer opportunities to include biodiversity criteria in a new upcoming regulation. This would ensure that positive climate effects and compatibility with biodiversity conservation goals are equally taken into account in future developments.

3.10 Species and habitats are conserved

The evaluation refers to the sub-target “The conservation status of 36% of habitats and 17% of species under the Habitats Directive has improved in 2020 compared to the 2007 report”. It compares the reported situation in the years 2007 and 2013; the next report is due in 2019 and results are not yet available.

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
x					

Austria has a share in two biogeographical regions. In 2013, 16% of the 215 species and 14% of the 74 habitat types were in a favourable conservation status. The conservation status in the Alpine region is better than in the Continental region. Compared to the 2007 report, six habitat types in the Alpine region and four habitat types in the continental region have deteriorated in the last period, while there have been no improvements.

In terms of species, improvements and deteriorations are balanced. There were actually demonstrable negative trends in the last reporting period, for example for Summer lady's-tresses (*Spiranthes aestivalis*), which showed strong declines. Another example is the Souslik

(*Spermophilus citellus*), which declined from 10% to 2% in the agricultural area. Beaver (*Castor fiber*) and Otter (*Lutra lutra*), on the other hand, show a positive trend.

An evaluation of the habitat types in different ecosystems shows that freshwater habitats, bogs and grasslands in the Alpine region are in a worse state compared to other ecosystems, while rocks, heathlands, shrublands and forests have more favourable conditions. In the continental region, the ecosystems are consistently in a worse conservation status, with heathlands, shrublands, mires and grasslands showing the worst conditions.

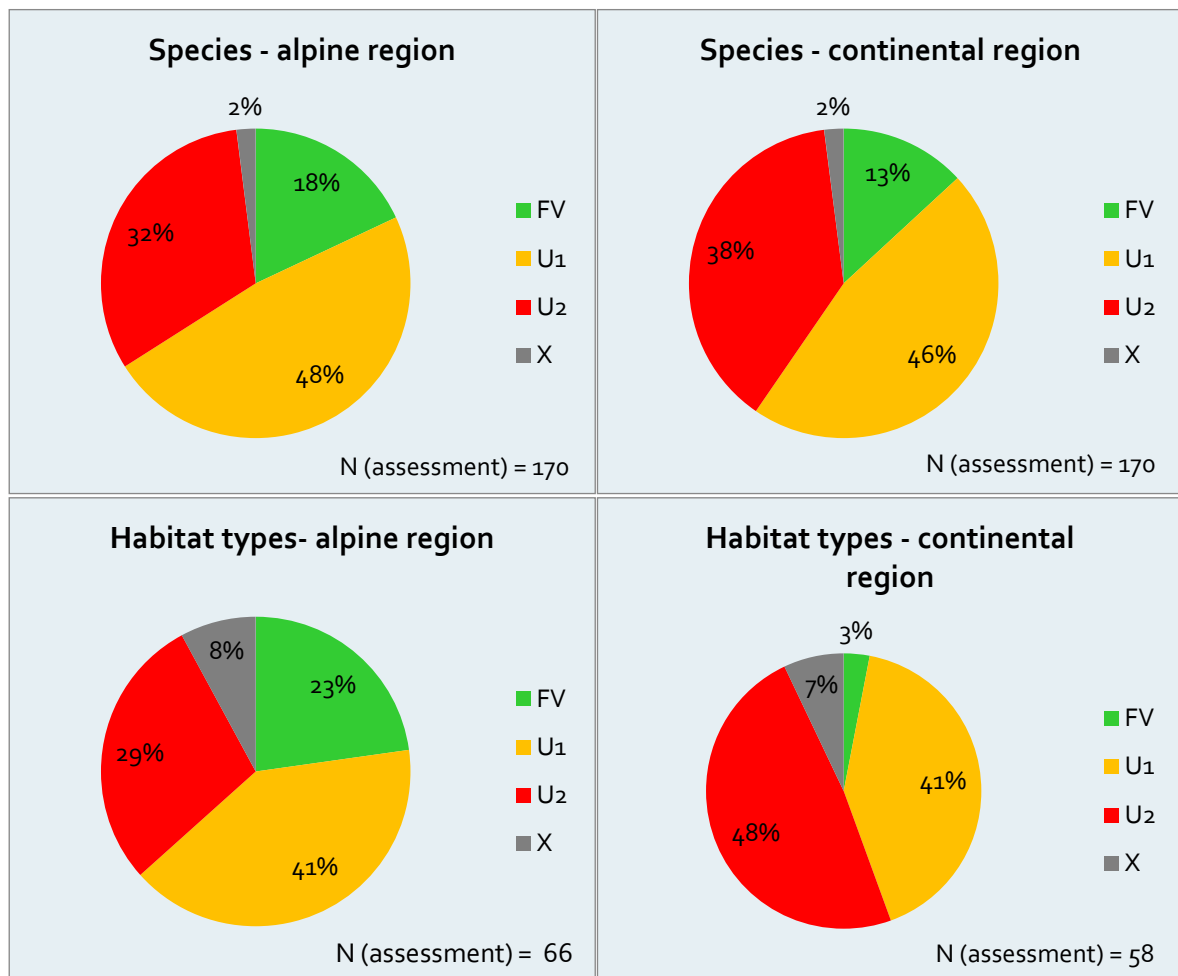


Figure 3: Conservation status according article 17 report of the EU Habitat Directive (FV=favourable, U1=unfavourable-inadequate, U2=unfavourable-bad, x=unknown) (Source: Österreichischer Bericht gemäß Artikel 17 FFH-Richtlinie, Berichtszeitraum 2007-2012).

Date the assessment was done: 2012

Indicators used in this assessment

Indicators for habitat types: Range, area covered by habitat type within range, specific structures and functions (including typical species), future prospects

Indicators for species: Range, population, habitat for the species, Future prospects

Level of confidence of the above assessment

Based on comprehensive evidence	Based on partial evidence	Based on limited evidence
x		

Explanation for the level of confidence indicated above.

The assessment of the conservation status of species and habitat types of the Habitat Directive is based on mapping results.

Adequacy of monitoring information to support assessment

Monitoring to this target is adequate	Monitoring to this target is partial	No monitoring system is in place	Monitoring is not needed
x			

3.11 Biodiversity and ecosystem services are taken into account in spatial planning and transport/mobility

The evaluation refers to the sub-target „Daily land consumption is significantly reduced (2020+)“.

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
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*

Land consumption and soil sealing remain at a high level. The average daily land consumption for the three-year period 2015 to 2017 is 12.9 ha. By the end of 2017, more than 230,000 hectares of land were sealed.

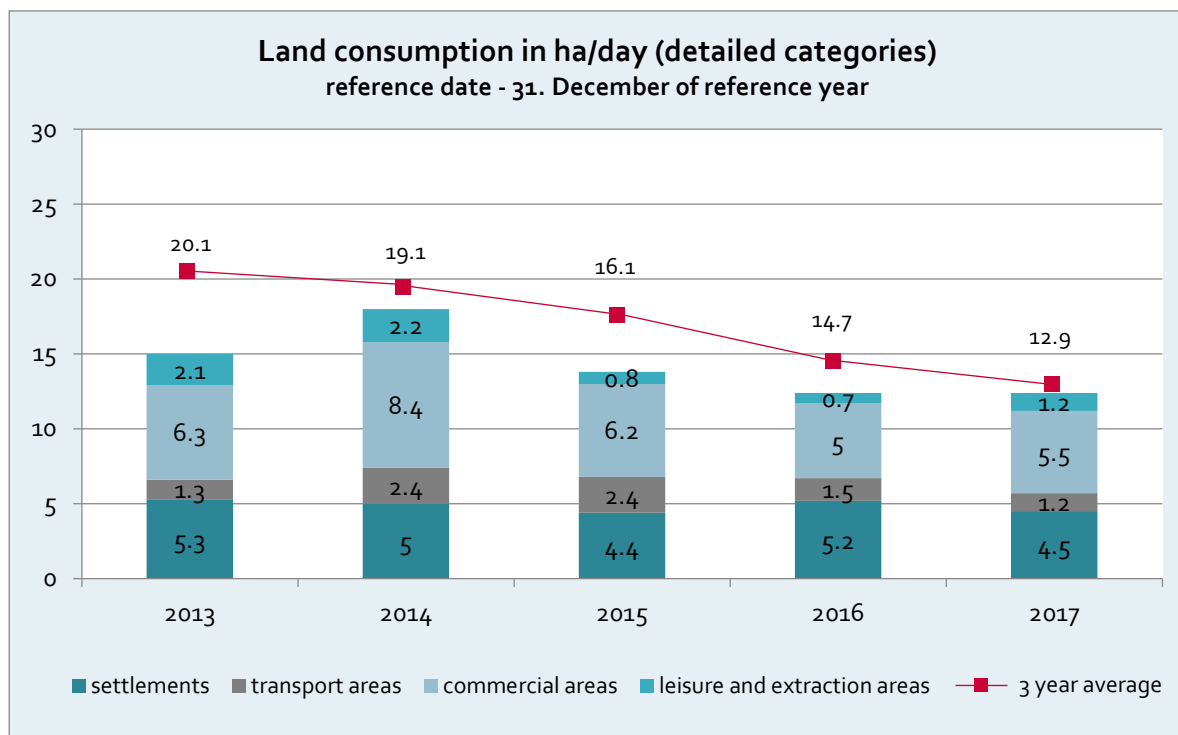


Figure 4: Average daily land consumption for three-years periods in Austria since 2013 (Source: Environment Agency Austria)

Date the assessment was done: 2017

Indicator used in this assessment: Land consumption in ha/day

Relevant websites

<http://www.umweltbundesamt.at/bodenversiegelung/>

<http://www.oerok-atlas.at/>

<http://www.umweltbundesamt.at/fileadmin/site/publikationen/REPO600.pdf>

Level of confidence of the above assessment

Based on comprehensive evidence	Based on partial evidence	Based on limited evidence
x		

Explanation for the level of confidence indicated above

Data from official sources: Federal Office of Calibration and Surveying, Statistics Austria.

Adequacy of monitoring information to support assessment

Monitoring to this target is adequate	Monitoring to this target is partial	No monitoring system is in place	Monitoring is not needed
x			

Please describe the monitoring system for the target if one exists

A further improvement of the data basis for the evaluation of changes is to be expected if aerial and satellite image data are continuously analysed throughout Austria with regard to landscape changes. The necessary methods were developed in cooperation with the FFG (Austrian Research Promotion Agency, ASAP programme), the European Commission and the European Space Agency (ESA) in a series of applied implementation projects (LISA – Land Information System Austria). It is essential to make a stricter distinction between land cover on the one hand and land use on the other. The ground cover can be reliably derived from remote sensing data using automated methods. Land use, on the other hand, requires the interaction of data from different sectors and administrative authorities, e.g. zoning, agriculture, forestry, tourism, hunting and trade.

Relevant websites

<http://www.umweltbundesamt.at/datenproblematik/>

3.12 Contribution to overcome global biodiversity crises has been made

The evaluation refers to the sub-target (1) Nagoya Protocol is ratified”, (2) “Share of biodiversity-relevant funding in public development cooperation (ODA) is increased (2020+)”.

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
	✘ ¹	✘ ²			

1...sub-target (1), 2...sub-target (2)

Date the assessment was done: 2018, 2017

Indicator used in this assessment:

Ad 1) Ratification

Ad 2) Biodiversity-related financial flows to developing countries

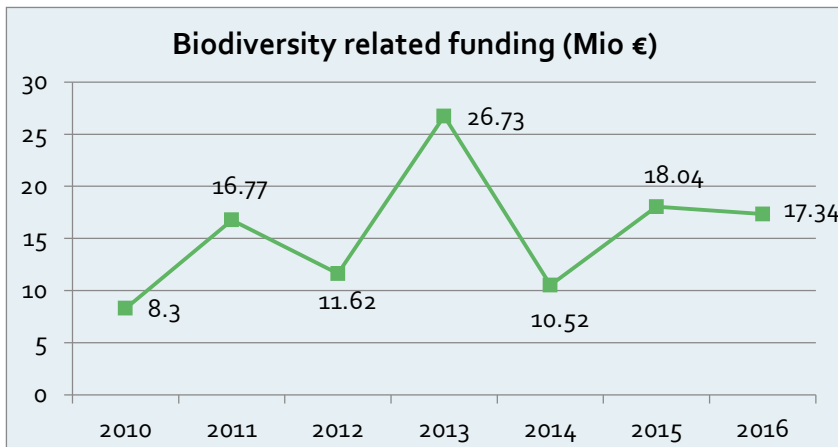


Figure 5: Public biodiversity-related financial flows to developing countries for the years 2010 to 2016 (in € million) of the bilateral Official Development Assistance (ODA).

Source: calculation by Austrian Development Agency, 2018.

Austria's contributions to public development cooperation for biodiversity measures have more than doubled between 2010 and 2016. Despite this positive trend, Austria has currently not achieved the target set at the XII Conference of the Parties in Hyderabad in 2012 of doubling the biodiversity-relevant international financial flows to developing countries above the average value for the years 2006-2010 (13,93 Mio. €) from 2015 and of maintaining this level (27,86 Mio. €) until 2020.

Level of confidence of the above assessment

Based on comprehensive evidence	Based on partial evidence	Based on limited evidence
x		

Please provide an explanation for the level of confidence indicated above

Ratification already confirmed by the secretary of CBD.

Data calculated by Austrian Development Agency with official data from the federal budget.

Adequacy of monitoring information to support assessment

Monitoring to this target is adequate	Monitoring to this target is partial	No monitoring system is in place	Monitoring is not needed
x			

Please describe the monitoring system for the target if one exists

The public financing services for international biodiversity financing reflect the contributions of public authorities (Federal Ministries, ADA, OeEB, provinces and municipalities) to biodiversity-relevant interventions in developing countries (bilateral ODA and OOF). Bilateral services are obtained through the application of the OECD/DAC biodiversity marker, whereby the crediting rules described in detail in the "Revision of Austria's Strategy on International Climate Financing for 2013-2020" are applied. In addition, the data includes Austrian treasury note deposits to the Global Environment Facility (GEF) (multilateral ODA), 33% of which are attributed as contributions to Austria's international biodiversity financing.



4 Description of the national contribution to the achievement of each global Aichi Biodiversity Target

4.1 Aichi Biodiversity Target 1: Awareness of biodiversity increased

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.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 1 corresponds to target 1: People are aware of the values of biodiversity.

The European Commission has published surveys on public attitudes to biodiversity. Encompassing five different aspects, the last survey in 2015 showed a slight increase in appreciation of biodiversity among Austrian citizens, from already rather high values in 2010 and 2013.

A survey on the importance of Austria's national parks provides a positive picture: Nearly 100% of interviewed citizens consider the conservation of Austria's national parks as an Austrian natural heritage to be important (88.4% very important, 10.4% important). (See 3.1)

Governmental, non-governmental and cooperative campaigns (e.g. **vielfaltleben**, national parks) were carried out, cross-sectoral platforms were established, numerous events and target-group-specific conferences were organized. Examples of the measures are described in chapter 2.1. Summarized the awareness for biodiversity is relatively good; however, additional efforts are needed to communicate the state of biodiversity and the implications of biodiversity losses for mankind. (See 3.1)

4.2 Aichi Biodiversity Target 2: Biodiversity values integrated

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.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 2 corresponds to target 1: People are aware of the values of biodiversity, and target 11: Biodiversity and ecosystem services are taken into account in spatial planning.

An inventory of ecosystem services has been drawn up, describing the benefits of ecosystem services particularly related to agriculture and forestry. The inventory lists indicators for the individual services and provides an overview on relevant and available data.

<http://www.umweltbundesamt.at/oekosystemleistungen/>

On the national level 15 ecosystem services covering provisioning services, regulation and maintenance services, cultural services as well as the existence of biodiversity have been mapped.

Austrian Federal Forestry Company (Österreichische Bundesforste AG): The project "Values of Nature – Assessment of the Ecosystem Services of Austrian Federal Forests" aims to economically assess the value of ecosystem services provided by forests owned by the Austrian Federal Forests and to demonstrate the benefits they have for man and society. These include the provision of usable fresh and drinking water, production of wood, reproduction of fish populations, provision of fresh air, performance of a protection forest, etc. These services are grouped into the areas of health, protection, biological diversity and economy. The resulting quantifiability and communicability creates greater acceptance for environmental issues and resource use and strengthens the credibility of ÖBf as a sustainability company. In addition, basics for the integration of environmental goods and services into operational planning processes are established. <http://www.bundesforste.at/natur-erlebnis/natur-schutz/biodiversitaet/werte-der-natur.html>

The law for environmental impact assessments was modified with the aim of simplification and reduction of administrative burden.

Government expenditures are classified at national level by COFOG (Classification of the Functions of Government). The following overview shows the expenditure of COFOG Group 05.4 Species and landscape protection (COFOG Abteilung 05 Umweltschutz).

Table 4: Expenditure of COFOG Group 05.4 Species and landscape protection from 2014 to 2017. Source: STATISTIK AUSTRIA, Volkswirtschaftliche Gesamtrechnung.

05.4 Species and landscape protection	2014	2015	2016	2017
	63 Mio. €	72 Mio. €	83 Mio. €	75 Mio. €

4.3 Aichi Biodiversity Target 3: Incentives reformed

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.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 3 corresponds to target 9: Financial incentives with negative impacts on biodiversity are eliminated or transfigured.

Information on the adaptation of subsidies with regard to biodiversity is not yet available. In 2016 a first step was done by the Austrian Institute for Economic Research. The institute published a study quantifying the importance of environmentally harmful subsidies for Austria. The study focuses on the analysis of direct subsidies and tax measures at federal level in the fields of energy production and use as well as transport. In addition, settlements (largely the competence of the Austrian provinces) are included in the study, due to its interactions with regard to both energy use and transport. Transport (about half) and energy (just over a third) account for the largest share of environmentally harmful tax incentives. In the housing sector, just under 14% of subsidies have negative environmental effects.

https://www.wifo.ac.at/jart/prj3/wifo/resources/person_dokument/person_dokument.jart?publikationsid=58641&mime_type=application/pdf

4.4 Aichi Biodiversity Target 4: Sustainable production and consumption

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.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 4 corresponds to target 1: Civil Society is aware of the values of biodiversity

The Austrian Federal Government is committed to an efficient and economical use of natural resources. The Federal Ministry of Labour, Social Affairs, Health and Consumer Protection, the Federal Ministry for Digital and Economic Affairs and the Federal Ministry for Sustainability and Tourism agreed on a joint roadmap for the preparation of a nationwide action plan for CSR (Corporate Social Responsibility). A national action plan on CSR was drafted in 2013⁴⁸, but an adoption hasn't been taken yet. In an international context, Austria contributes to the work of UNEP's International Resource Panel with its expertise in monitoring resource consumption.

In Austria, the specialist platforms respACT has been established. respACT is an Austrian corporate platform for corporate social responsibility and sustainable development. The term respACT stands for "responsible action" and refers to the socially responsible actions of companies. The business platform addresses companies of all sizes based in Austria <https://www.respect.at/>

Examples of biodiversity-relevant activities in provinces:

Companies voluntary support biodiversity by providing resources for nature conservation projects on local level. <https://www.naturland-noe.at>

The EcoBusinessPlan Vienna is the City of Vienna's environmental service package for Viennese companies. The EcoBusinessPlan supports companies in implementing environmentally relevant measures in their processes.

<https://www.wien.gv.at/umweltschutz/oekobusiness/ueberblick.html>

⁴⁸<https://www.nachhaltigkeit.at/thema/corporate-social-responsibility/csr-auf-nationaler-ebene/nationaler-aktionsplan-zu-csr-nap-csr>

Biodiversity-relevant activities in the companies and enterprises⁴⁹

Some Austrian companies recognize that biological diversity is a prerequisite for many production processes and services. The aim should be to integrate the conservation and sustainable use of biological diversity into the operational management.

As part of the 'Business and Biodiversity' initiative⁵⁰ (launched 2013) companies should therefore consider the following points (Source: oekom research):

- Responsibility: Companies should recognize and assume their responsibility for the protection of genes, species and ecosystems.
- Transparency: Companies should inform themselves about the extent to which their products and services influence biodiversity.
- Management: Companies should deal responsibly with the effects of entrepreneurial activities. The impact on ecosystems is to be minimized through efficient use of resources, low land use, low emissions, sustainable cultivation methods, restoration, deconstruction and remediation of abandoned sites.
- Equitable benefit sharing in the use of genetic resources: Pharmaceutical, chemical and medical companies should provide financial compensation for those countries in which they use genetic resources (pls. see Nagoya Protocol).

“RESET2020 – Resources.Efficiency.Technologies“. RESET2020 is an initiative of the BMNT to combine resource efficiency in the field of innovative environmental technologies, sustainable production and sustainable consumption. As a starting point for cooperation, networking and knowledge exchange with stakeholders from business, administration, society and science, the initiative provides an overview of identified key topics and challenges with potential for increasing resource efficiency. RESET2020 implements existing European and domestic initiatives and strategies such as the REAP and updates them with future areas“. The Austrian Resource Efficiency Action Plan⁵¹ sets the goal of achieving a resource efficiency in 2020 that is 50% higher than in 2008.

Environmental Technology Export Initiative: The focus of this initiative supported by the Federal Ministry for Sustainability and Tourism in cooperation with the Austrian Federal

⁴⁹ <http://www.business-and-biodiversity.at>

⁵⁰ <http://www.business-and-biodiversity.at/>

⁵¹ https://www.bmnt.gv.at/umwelt/nachhaltigkeit/ressourceneffizienz/aktionsplan_ressourceneffizienz_reset/reset2020_initiative.html

Economic Chamber is on the BRICS countries and the new EU member states that joined in 2004.

Climate and Energy Fund (KLIEN): The Climate and Energy Fund was established in 2007 by the Federal Government to support the implementation of its climate strategy – in the short, medium and long term. Owner is the Republic of Austria, represented by Federal Ministry for Transport, Innovation and Technology and Federal Ministry for Sustainability and Tourism. KLIEN runs support programmes for companies and communities for more efficient use of resources, climate protection and the use of clean technologies.

Soil Charter 2014: signed by ten organisations (Ökosoziales Forum, Klimabündnis, Gemeindebund, BMNT, Landwirtschaftskammer Österreich, Umweltbundesamt, Österreichische Hagelversicherung, Handelsverband, Bundesforschungszentrum für Wald and b5-corporate soil competence). All organisations are thus committed to stopping the massive use of soil and to protecting soil.

4.5 Aichi Biodiversity Target 5: Habitat loss halved or reduced

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.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 5 corresponds to target 10: the conservation status of species and habitats has improved.

The forest area in Austria is increasing. The Austrian Forest Inventory from 2000/02 calculated an area of 3.960 million ha in 2007/09 the forest area comprised 9.991 million ha. Due to several climatic zones, altitudes, soil types and topographical conditions there are different forest communities in Austria with about 70 tree species. The composition of tree species in the managed forests has changed in favour of hardwood during the same period. Overall, there is a trend towards more natural tree species composition. The proportion of areas with a near-natural composition has increased, and at the same time a decline in forest areas that differ from the natural composition of tree species has been observed. For all forest communities, the proportion of areas with natural composition is 31%. According to the Austrian Forest Inventory 2007/2009, the existing deadwood stock in 2007/09 amounts to a total of 20.2 m³/ha, of which 8.4 m³/ha is standing and 11.8 m³/ha is lying deadwood.⁵² This

⁵² <http://bfw.ac.at/rz/wi.home>

figures vary in different altitudes, in the mountain areas the stock is about twice the amount, in the lowlands the stock of deadwood is extremely low. On the area of the Austrian Federal Forests (about 10% of the area of Austria) the stock of deadwood is 35 m³/ha in 2017.

The areas used for agriculture decreased by just over 2% between 2013 and 2016.⁵³

In 2017, arable land covers 1.33 million ha and permanent grassland 1.2 million ha. Around 47% of the grassland is intensively used (permanent pasture with intensive grazing and/ or frequent cutting), meadows with three or more uses per year and field fodder), 53% of grassland is extensively used.⁵⁴

The area of extensive grassland (INVEKOS areas), which is important for biodiversity, has decreased by around 5% since 2014.

Table 5: Trend of the area of extensive grassland⁵⁴

Grassland	2014	2015	2016
Extensive grassland, without alpine meadows and alpine pastures	332,034 ha	302,860 ha	300,352 ha
Alpine pastures	340,433 ha	332,383 ha	330,545 ha
Alpine meadows	4,190 ha	4,489 ha	4,677 ha
All Types	676,657 ha	639,732 ha	635,574 ha

In a study on trends in Austrian biodiversity⁵⁵, losses in area and quality for almost all biotope types of extensively used grassland were predicted for the future. Climate change is a significant impact particularly for bog biotope types and will lead to further losses in the future. Different and divergent patterns were found in the forest biotope types. The increase in total forest area has been a continuing trend for decades. Since 1950, only a few forest biotope types have lost area. It is also assumed that by the end of this century, Austrian glaciers will shrink to less than 20 percent of their current area.⁵⁶

⁵³http://www.statistik.at/web_de/statistiken/wirtschaft/land_und_forstwirtschaft/agrarstruktur_flaechen_ertraege/betriebsstruktur/113147.html

⁵⁴<https://gruenerbericht.at/cm4/jdownload/download/2-gr-bericht-terreich/1773-gb2017>

⁵⁵http://www.umweltbundesamt.at/aktuell/publikationen/publikationssuche/publikationsdetail/?pub_id=2193

⁵⁶<https://www.oeaw.ac.at/oesterreichische-akademie-der-wissenschaften/die-oeaw/article/bruechige-berge/>

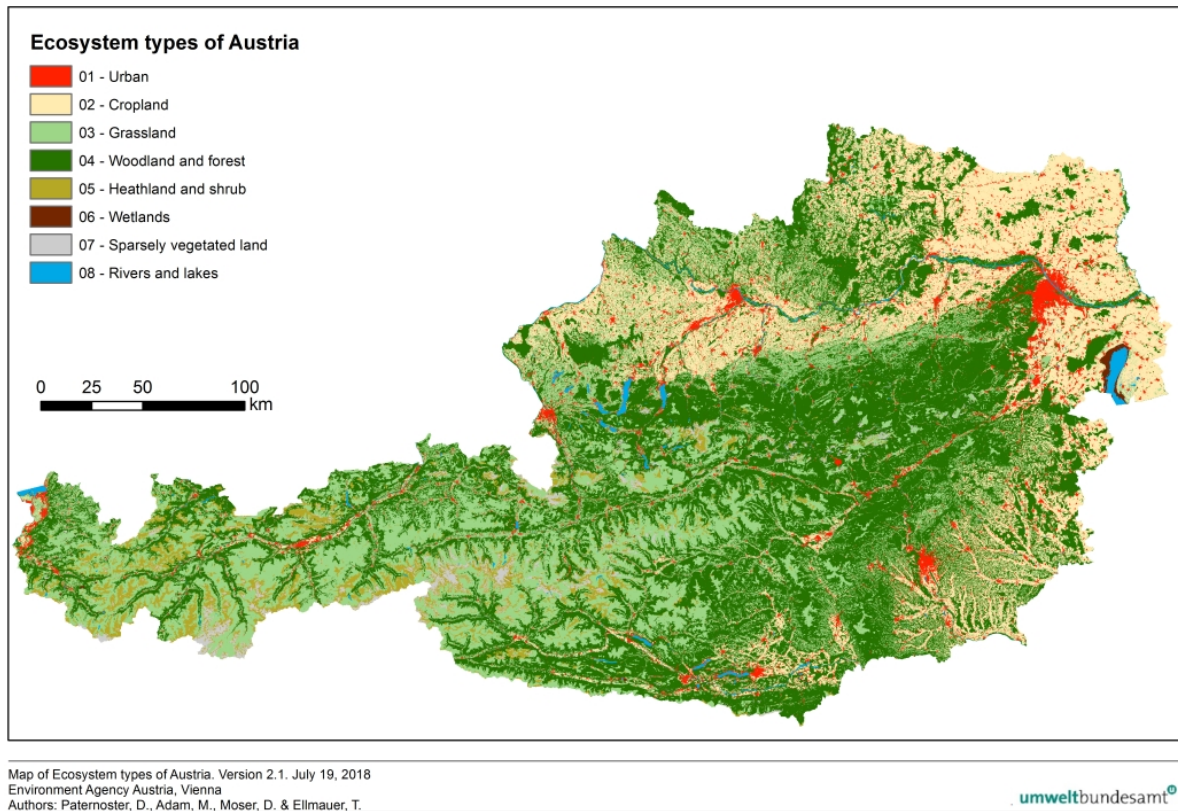


Figure 6: Major habitat types in Austria.

Rural Development Programme

Austria's Rural Development Policy plays a key role in supporting agrobiodiversity by the implementation of agri-environmental measures, by promoting mountain farming, and by the increase of knowledge and awareness about environmental concerns. With a broad variety of measures, especially the Agri-Environmental Programme ÖPUL 2015 makes a vital contribution to the implementation and maintenance of site-specific and environmentally compatible systems of agricultural management. In doing so, it provides an essential foundation for the conservation and development of animal and plant biodiversity in Austrian agricultural landscapes. Promoting the protection of endangered and the maintenance of rare agricultural animal and plant species is a significant contribution to the European and the Austrian Biodiversity Strategy by 2020.

In 2017, almost 93,000 agricultural holdings participated in the Austrian Agri-Environmental Programme ÖPUL 2015, which accounts for approx. 80% of the farms recorded in the IACS (Integrated Administration and Control System). The total area of land for which ÖPUL support was granted in 2017 was 1.85 million hectares (without alpine areas), which equals a share of around 80% of agriculturally used areas (without alpine pastures). With this high

level of participation in the Agri-Environmental Programme, Austria has positioned itself as one of the leading EU Member States. ÖPUL plays a significant role in ensuring the sustainable management of natural resources and the conservation of Austria's cultivated landscapes rich in species and structural diversity by granting payments to farmers for environmental services. Wild-flower strips along field boundaries, for example, which are created in the context of ÖPUL, serve biodiversity and genetic diversity just as much as they invoke enjoyment in those seeking recreation. Farming the alpine pastures and mountain areas is a major factor in preserving high nature value cultivated landscapes and simultaneously contributes essentially towards the protection against natural hazards⁵⁷.

ÖPUL promotes the site-specific management of pastures, mountain meadows and other species-rich grassland habitats, as well as the establishment and maintenance of biodiversity-promoting structural elements such as hedges, individual trees, bushes, flowering areas and bee pastures. In 2017, for example, the conservation and nature-compatible management of landscape elements was ensured on around 1.6 million ha and more than 67,000 ha of flowering areas were planted on arable and grassland sites. Nevertheless the area of extensive grassland (INVEKOS areas), which is important for biodiversity, has decreased by around 5% since 2014. (See table 5)

Another central element of biodiversity protection is the ÖPUL nature conservation measure (WF). WF aims at maintaining ecologically valuable agricultural land in and outside protected areas. Ecologists develop together with farmers tailor-made management concepts for habitats such as dry grasslands, wet meadows, pastures, arable set-aside areas or orchards. In 2017 19,500 farmers manage around 78,500 ha according to the criteria of WF. One innovative approach within the Austrian "nature conservation measure" is the so-called "Result-based Nature Conservation Plan" which involves the definition of site-specific conservation targets together with the farmers. The ecological objectives have to be achieved by the end of the commitment period as laid out by the Austrian Agri-Environmental Programme ÖPUL. With the support of expert advices, farmers decide for themselves which measures to implement in order to reach the targets. By individual consultations and awareness raising among participating farmers about nature conservation and management needs, farmers get a better understanding and acceptance for management activities and objectives.

⁵⁷ <https://www.FederalMinistryforSustainabilityandTourism.gv.at/english/agriculture/Rural-development/-pul2015until2020.html>

LIFE Nature

Since joining the EU in 1995, Austria has implemented 46 nature conservation projects with a total volume of around 154 million euros with the help of LIFE projects. This preserves valuable habitats for animals and plants.

Around 45% of the total expenses, approximately EUR 70 million, were contributed by the EU. The funds were spent on revitalizing watercourses, redesigning river landscapes and carrying out species conservation projects. Renaturing peatland and mires, restoring dry grasslands and converting forest monocultures into mixed deciduous forests are the main operational action in Life Project "Ausseerland" of the Austrian Federal Forests to stabilize the sites against windfall and climate change.

The majority of LIFE-funded projects aimed at the renaturation of natural habitats along rivers and streams, such as Lech, Salzach, Donau, March, Lafnitz, Mur, Pielach, Ybbs and Thaya. About one fifth of the projects were dedicated to the protection and renaturation of moors (Ennstal, Hörfeld, Oberes Waldviertel, Wenger Moor, Weidmoos). Projects in the Dürrenstein, Thayatal National Park, Gesäuse National Park, upper Danube valley and Kalkalpen National Park served to preserve natural forest ecosystems.

Other LIFE projects have been focussing on species such as Bearded vulture (*Gypaetus barbatus*), Imperial eagle (*Aquila heliaca*), Great bustard (*Otis tarda*), brown bear (*Ursus arctus*), waldrapp (*Geronticus eremita*) and Huchen (*Hucho hucho*) and Scarce fritillary (*Euphydryas maturna*).

The cooperation of nature conservation, agriculture and forestry, hydraulic engineering, torrent and avalanche control, fishing or tourism has made a decisive contribution to its success. Ten LIFE projects are currently underway in Austria.

Austrian Natural Forest Reserves Programme

By signing the resolutions of the Ministerial Conference on the Protection of Forests in Europe in Helsinki in 1993, Austria committed itself to promote the establishment of a network of natural forest reserves. Currently there are 192 forest reserves in Austria with a total area of about 8,400 ha⁵⁸. (See 2.5)

⁵⁸ <http://www.naturwaldreservate.at/index.php/de/>

4.6 Aichi Biodiversity Target 6: Sustainable management of aquatic living resources

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.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 6 corresponds to target 4: **Game and fish stocks are adapted to carrying capacity/habitats.**

Measures are taken to improve the habitat of the fish, to promote the re-establishment of disappeared fish species and to increase the population of endangered species. Projects are implemented state wide but also at a regional level. As an example the province of Lower Austria funded more than 200 projects (fish migration paths, habitat improvement, aquatic ecology and science) in the recent years. However, non-autochthonous species have spread to natural habitats. To show practical solutions for fisheries management a guideline for sustainable fishing practices is going to be developed by 2020.

Habitat loss, the disruption of the river continuum and alien fish and invertebrate species are the main threats for the autochthonous aquatic fauna.

Contribution to the International Convention for the Regulation of Whaling: Austria has been a party to the International Convention for the Regulation of Whaling since 1995.

4.7 Aichi Biodiversity Target 7: Sustainable agriculture, aquaculture and forestry

By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 7 corresponds to target 3: Agriculture and forestry support conservation and improvement of biodiversity and target 4: Game and fish stocks are adapted to carrying capacity/habitats.

Sustainable agriculture and forestry is supported by funding programmes under the Common Agricultural Policy by the Federal Ministry for Sustainability and Tourism.

The Austrian Forest Strategy 2020+ was developed within the framework of the Austrian Forest Dialogue together with all forest-relevant actors. Its main objective is to ensure and optimize the ecological, economic and social dimensions of sustainable forest management. The Forest Strategy 2020+ contributes to securing the multifunctional performance of forests for present and future generations. It proposes measures to safeguard biological diversity. (See 2.5, 3.4)

The conservation of biological and genetic diversity is crucial to ensure the production basis for healthy regional food in the long term. With a broad variety of measures, Austrian Agri-Environmental Programme ÖPUL 2015 makes a vital contribution to the implementation and maintenance of site-specific and environmentally compatible systems of agricultural management. In doing so, it provides an essential foundation for the conservation and development of animal and plant biodiversity in Austrian agricultural landscapes, promotes the protection of endangered and the maintenance of rare agricultural animal and plant species, making a significant contribution to the attainment of the objectives of both the European and the Austrian Biodiversity Strategy by 2020. (See 2.4, 3.3)

The strategy "Aquaculture 2020"⁵⁹ has set the goal to raise the rate of self-sufficiency for freshwater fish in Austria from presently 34% to 60% by the year 2020. This corresponds to a production increase by 2,400 tonnes to 5,500 tonnes annually.⁶⁰

4.8 Aichi Biodiversity Target 8: Pollution reduced

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

Within the Biodiversity Strategy Austria 2020+, Aichi Target 8 corresponds to objective 7: Pollution is reduced.

⁵⁹ [https://www.Federal Ministry for Sustainability and Tourism.gv.at/wasser/nutzung-wasser/aquakultur2020.html](https://www.Federal%20Ministry%20for%20Sustainability%20and%20Tourism.gv.at/wasser/nutzung-wasser/aquakultur2020.html)

⁶⁰ [https://www.Federal Ministry for Sustainability and Tourism.gv.at/wasser/nutzung-wasser/aquakultur2020.html](https://www.Federal%20Ministry%20for%20Sustainability%20and%20Tourism.gv.at/wasser/nutzung-wasser/aquakultur2020.html)

The impact of pollutants regulated by EU Water Framework Directive in rivers is assessed regularly. The indicators provide information on the chemical status of surface waters in accordance with the environmental quality standards of the Quality Objective Ordinance Chemistry.

The results of the risk assessment and monitoring programmes show that almost all water bodies have a good chemical status using the environmental quality standards for water (without taking the environmental quality standards for biota into account). Only 72 water bodies in Austria (i.e. less than 1% of the water bodies) are found to exceed water quality standards, without taking into account uPBTs (ubiquitous persistent, bioaccumulative and toxic substances).

Good chemical status for surface waters (rivers and lakes) is to be gradually achieved by 2021 and 2027 respectively, in accordance with the requirements of the EU Water Framework Directive.

The National Water Management Plan (NGP) as the central planning instrument for water management in Austria contains measures to reduce the input of nutrients and pollutants into the waters and thus contributes to the reduction of inputs into the receiving seas. The NGP provides for measures to reduce nutrient and pollutant inputs into waters. The NITRAT action programme is one example.⁶¹

In 2014 and 2015, the Danube was examined for the presence of plastics and microplastics (> 500 µm) at two measuring points in Austria. The results show that up to 41 tons of plastic and microplastic are transported away through the Danube every year. Ultimately, rivers introduce plastic and micro-plastic into the oceans. It is estimated that around 80% of plastic waste in the world's oceans comes from land-based sources. The Federal Ministry for Sustainability and Tourism will participate in shaping the future EU plastics strategy through work in Austria, but also at EU level.

In Austria, eutrophication affected about 65% of the 51,000 km² of sensitive ecosystem in 2010 and slightly less in 2015 due to a slight reduction in nitrogen deposition.⁶²

⁶¹ <https://www.bmnt.gv.at/wasser/wisa/fachinformation/ngp/ngp-2015.html>

⁶² <http://www.umweltbundesamt.at/fileadmin/site/publikationen/REP0600.pdf>

4.9 Aichi Biodiversity Target 9: Invasive alien species prevented and controlled

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.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 9 corresponds to objective 8: Negative impacts by invasive alien species are reduced.

The inventory of alien species was compiled in 2002, and further updated in 2009. Within these seven years numbers of alien plant and animal species have increased due to new arrivals and introductions but also due to a more comprehensive data collection methodology. In 2002, 300 alien vascular plant species and 350 alien animal species are established in Austria, thereof 35 vascular plant and 46 animal species are invasive or potentially invasive. A new update has started 2018 and should be completed by 2020.

Currently, neophytes principally, affect lowland ecosystems such as lakes and rivers, floodplain forests, tall herb vegetation, and dry grasslands. Large impacts are particularly caused by alien species that are either parasites of native species important for natural or near natural ecosystems (e.g. fungi or insects attacking native trees) or alien plants that become dominant and thus outcompete the native co-occurring species such as fast-growing trees (e.g. black locust) and tall herbs (e.g. Japanese knotweed). Similarly, alien animal species can cause large impacts on co-occurring native animal species, if they reach high population densities.

The health effects of alien species have been investigated by the research project Aliens-Health³¹, main concerns are related to allergenic plants such as Ragweed and alien disease vectors such as the Tiger mosquito. Impacts on food production and economy occur in agricultural lowland areas, introduced weeds such as yellow nutgrass (*Cyperus esculentus*), amaranth (*Amaranthus* sp.) and ragweed are of particular importance.

The main pathways for the introduction of invasive alien species to Austria include horticulture for plants, intentional introduction via pet trade and aquarists for animals with economic value, and unintentional introduction for most invertebrates.

Additional resources are required to reach the national targets, these relate to the availability of financial resources, while human and technical capacities seem to be sufficient. Further funding could primarily improve the coverage of projects related to the management of and awareness raising about alien species. Most of the funding is currently made available by the federal authorities and by the authorities of the Austrian provinces.

The main instrument for controlling or eradicating invasive alien species and managing their pathways is the EU regulation on the prevention and management of the introduction and spread of invasive alien species and its implementation. As such, priority paths of unintentional introduction and spread of species are currently being identified and action plans for these paths and a surveillance system for all 49 species of EU concern are being developed.

Currently, national authorities control all traded goods from non-EU countries and ensure compliance with phytosanitary requirements (Austrian Federal Office for Food Safety⁶³). With regard to the implementation of the EU regulation on the prevention and management of the introduction and spread of invasive alien species, the priority paths of unintentional introduction and spread of species are currently being identified and action plans for these paths are being developed⁶⁴.

Further initiatives to manage invasive alien species were mainly carried out for instance in protected areas (e.g. in Gesäuse National Park, Donau-Auen National Park, and Wienerwald Biosphere Reserve), by the Tyrolean neophyte competence centre, the Steiermärkische Berg- und Naturwacht, and the Austrian Federal Railways (for detailed information on the measures taken, see 2.9). Most of the actions are implemented by the BMNT or the relevant authorities of the Austrian provinces.

⁶³ <https://www.baes.gv.at/en/plant-health/amtlicher-pflanzenschutzdienst/>

⁶⁴ <https://findok.bmf.gv.at/findok?execution=e2s1&dokumentId=972387c7-5b4c-45c3-a707-d3ca96244501>

4.10 Aichi Biodiversity Target 10: Ecosystems vulnerable to climate change

By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 10 corresponds to objective 10: Conservation status of species and habitats is improved.

The Austrian Climate and Energy Strategy sets out the guidelines for climate and energy policy in Austria until 2030. Austria will reduce its greenhouse gas emissions by 36% by 2030 compared to 2005.⁶⁵ The strategy provides orientation for all fields of action until 2050 and for upcoming investments until 2030. 33.5% of the Austrian energy consumption is based on renewable energies. The Austrian government has set the goal of generating electricity by 2030 to the extent that 100% of total national electricity consumption is covered by renewable energy sources; currently 72% of the electricity are obtained from renewable sources.

In 2012, Austria was among the first EU countries to compile a strategic concept for climate change adaptation that includes a comprehensive action plan for implementation. Based on new findings and current policy developments, this strategy was fundamentally updated and further developed in 2016⁶⁶. All relevant stakeholders, including the Austrian provinces and NGOs were involved in this update.

Activities for peat bogs and fens

Intact peat lands are unique landscapes and habitats of highly specialized flora and fauna. The high water retention capacity positively influences the hydrological balance of adjacent habitats. Peat lands play a valuable role in the atmospheric carbon flux: while active peat lands are a sink for atmospheric carbon, drainage and oxidation lead to a considerable release of carbon dioxide and methane into the atmosphere. Examples for Austrian activities include:

Restoration measures in eleven peat bogs and fens in the forest holding of Austrian Federal Forests Traun-Innviertel and Inneres Salzkammergut. LE 14-20 Project (duration: till the end of 2019)

⁶⁵ <https://mission2030.info/>

⁶⁶ https://www.bmnt.gv.at/umwelt/klimaschutz/klimapolitik_national/anpassungsstrategie.html

Natural forests, mires and habitat network in Ausseerland for 9 peat bogs and fens in the region. In this project 105 wooden dams (length: 4 to 24 m) were built, deforestation and biotope conservation measures (mowing and grazing) were carried out. LIFE+ Project of Austrian Federal Forests (duration: till June 2019)

Cross-border Habitat Network and Management – Connecting Nature AT-CZ (ConNat AT-CZ) includes: Cross-border conservation and management in 64 mires. Specific measures will be implemented in three mires. INTERREG Project (Start: December 2017)

Mire and dry grassland management in Carinthia on 13 ha of swamp and marshland. LE 14-20 Project (duration: till the end of 2018).

“More Moore”: an extensive mire database, including raised bogs and fens all over Styria has been established in a five year research process. ELLA Project (Duration: 2013 – 2018)

4.11 Aichi Biodiversity Target 11: Protected areas

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.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 11 corresponds to objective 10: Conservation status of species and habitats is improved.

Protected areas have a long tradition in Austria. Plans to establish the first National Park in the "Hohe Tauern", the highest part of the Austrian Alps, reach back to the beginning of the 20th century. To date 28% of the Austrian territory is protected under the different nature conservation laws of the nine provinces in various protection categories. Natura 2000 sites cover 16% of the territory* and six national parks nearly 3%. Less strictly protected areas, such as landscape conservation areas cover about 12 % of the territory of Austria.

Table 6: Protected areas in Austria in 2014 and 2017.

Protected area (2014/2017)	Number	Km ²	% national territory
National park	6/6	2,373/2,373	2.8/2.8
Natura 2000 site*	191/204	11,343/12,248	13.5/14.6
Wilderness area	2/2	102/102	0.1
Nature reserve	454/468	3,024/3,022	3.6/3.6
Landscape conservation area	247/258	12,337/12,326	14.7/14.7
Nature and landscape reserve	4/4	506/506	0.6/0.6
Nature park	50/50	4,139/4,139	4.9/4.9
Protected landscape features	345/340	85/82	0.1/0.1
Biosphere reserve	3/4	1,261/1,887	1.5/2.2
Other conservation areas	42/61	1,483/1,579	1.8/1.9

**In addition to the listed "Natura 2000 sites", further appr. 90 other sites are already nominated.*

Source: Ämter der Landesregierungen

In Austria, 73% of all Natura 2000 sites have a management plan.⁶⁷ Most of the Natura 2000 sites are also protected as national parks, biosphere reserves, nature reserves or nature parks.

Policing measures are carried out by nature and mountain guards (Berg- und Naturwacht) of the provinces.

The World Heritage Committee recently included a total of 63 additional beech forests from ten European countries in the World Heritage list. Austria led the nomination process and submitted potential sites. The Austrian world heritage areas are located in the Kalkalpen National Park and in the Dürrenstein wilderness area. This significantly expands the UNESCO World Heritage Site "Primeval Beech Forests of the Carpathians and Other Regions of Europe"⁶⁸. In total 78 components with an area of 92,000 hectares in twelve European countries received the World Heritage status.

4.12 Aichi Biodiversity Target 12: Reducing risk of extinction

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.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 12 corresponds to objective 10: Conservation status of species and habitats is improved.

Although Red Lists are available for selected groups at the national or regional level, an update is required for several groups of high indicator value.

The most recent Red Lists⁶⁹ have estimated that 27% of mammals, 31% of breeding birds⁷⁰ and approx. 60% of amphibians, 64% of reptiles and 46% of fish are endangered. These figures include the categories, critically endangered, endangered and vulnerable.

Of the 3,000 fern and flowering plants in Austria, 40% were at risk at the last assessment 15 years ago. An update of the Red List of endangered plant species is in preparation.

⁶⁷ <http://othes.univie.ac.at/39336/>

⁶⁸ <https://whc.unesco.org/en/list/1133>

⁶⁹ http://www.umweltbundesamt.at/downloads_rl-tiere/

⁷⁰ Dvorak, M., A. Landmann, N. Teufelbauer, G. Wichmann, H.-M. Berg & R. Probst (2017): The conservation status of the breeding birds of Austria: Red List (5th version) and Birds of Conservation Concern (1st version). *Egretta* 55: 6-42.

Bats are highly endangered in Austria. The reasons are intensification of land use, lack of food due to the use of pesticides and disturbance of hibernation sites in caves and buildings. An Austrian bat species, the Common bent-wing bat (*Miniopterus schreibersii*), is extinct, two species are threatened with extinction. The Bavarian pine vole (*Microtus bavaricus*) is an Austrian endemic species, since the German populations are extinct and one of the rarest vertebrate species of Austria and Europe.

There is no indication of an improvement regarding the situation of Austrian amphibian or reptiles which are still endangered to varying degrees.⁷¹

For some mammal and bird species, the condition of populations has improved as a result of species conservation projects. For example, the Austrian population of the Great bustard (*Otis tarda*), classified as endangered on the IUCN Red List, has increased from 257 specimens in 2010 to 407 specimens in 2017, after the population had fallen to around 60 specimens in the 1990s⁷². The status of Eagle owls (*Bubo bubo*), Peregrine falcons (*Falco peregrinus*) and Black storks (*Ciconia nigra*) has improved considerably in recent years thanks to targeted conservation projects. A comparison of the status of breeding birds between the red lists of 2005 and 2016 shows a slight improvement for 59 bird species (ranked into a lower category of threat), 124 bird species remain in the same category and 21 bird species were ranked into a higher category of threat.

Two other species, the White-tailed eagle (*Haliaeetus albicilla*) and the Imperial eagle (*Aquila heliaca*) have been steadily increasing since their reintroduction at the end of the 1990s, and Marsh harrier (*Circus spilonotus*) and Long-eared owl (*Asio otus*) have been able to be restocked or increased locally through targeted species conservation programmes⁷³ (Improvements of the conservation status have been documented for some species of the Habitats Directive: Wildcat (*Felis sylvestris*), Yellow-bellied toad (*Bombina variegata*), Forest-steppe wormwood (*Artemisia panicii*) and Lake Constance-forget-me-not (*Myosotis rehsteinerii*)).

⁷¹ http://www.umweltbundesamt.at/artenschutz/rl_tiere/

⁷² UMWELTBUNDESAMT (2016): Schindler, S.; Zulka, K.-P.; Sonderegger, G.; Oberleitner, I.; Peterseil, J.; Essl, F.; Ellmauer, T.; Adam, M & Stejskal-Tiefenbach, M.: Entwicklungen zur biologischen Vielfalt in Österreich – Schutz, Status, Gefährdung. Umweltbundesamt, Wien. 188 S.

http://www.umweltbundesamt.at/aktuell/publikationen/publikationssuche/publikationsdetail/?pub_id=2193

⁷³ Dvorak, M., A. Landmann, N. Teufelbauer, G. Wichmann, H.-M. Berg & R. Probst (2017):

The conservation status of the breeding birds of Austria: Red List (5th version) and Birds of Conservation Concern (1st version). Egretta 55: 6-42.

Measures for the conservation of species and habitats are carried out by the implementation of nature protection laws, but also through contracts between land managers and authorities or on a voluntary basis. The spectrum of species and habitat protection projects ranges from small projects through local private initiatives to large projects with joint financing by the EU, the Federal Government and the Austrian provinces. (See 2.8)

A “Focal Point Neobiota” has been set up in Austria as an information and networking hub. In the last ten years, a number of measures have been taken to control invasive alien plants in protected areas, for example in the National Park Donau-Auen (balsam, acacia, ash maple) and in the biosphere reserve Wienerwald (giant hogweed, knotweed, balsam). (See 2.9)

The Federal Ministry for Sustainability and Tourism has launched the species conservation campaign “vielfaltleben” to counteract the loss of biodiversity and to inform and sensitize the citizens. In the frame of this campaign numerous conservation projects have been carried out to improve the habitats of more than 500 endangered species and has established a community network of more than 120 members. (See 2.1)

4.13 Aichi Biodiversity Target 13: Safeguarding genetic diversity

By 2020, the genetic diversity of cultivated plants, 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.

Within the Biodiversity Strategy Austria 2020+ and Beyond, Aichi Target 13 corresponds to the target 3: Agriculture and forestry support conservation and improvement of biodiversity.

Austria has a large number of old agricultural domestic and livestock breeds. Through centuries of breeding selection and adaptation, a large variety of specialized breeds with a wide range of uses has been created. The genetic diversity of animal breeds and plant varieties used in agriculture in Austria is regarded as a basis for food security and future developments in agriculture.

Due to the promotion of highly specialized performance breeds in recent decades, however, this diversity of breeds has declined sharply.⁷⁴ Both the in situ and ex situ conservation of the diversity of these breeds is part of the safeguarding of their genetic resources.

The conservation of endangered livestock breeds was reorganized in Agri-Environmental Programme ÖPUL and a general conservation programme was drawn up which takes special account of “rare, worthy of conservation breeds” of horses, sheep, goats, pigs and cattle. In 2017, the Agri-Environmental Programme promoted the husbandry, rearing and breeding of almost 40,000 endangered farm animals. The Austrian Association for Rare Endangered Breeds (ÖGENE) surveys endangered breeds, takes care on their in situ conservation, supports agricultural schools, and networks research institutes and ex situ supporting scientific.⁷⁵

The ÖPUL 2015 also includes the support measures “Cultivation of rare agricultural crops” and “Conservation of endangered livestock breeds” which aim at the conservation and development of biological diversity in agricultural production. This is achieved through the cultivation and use of rare, regionally valuable agricultural crops (varieties and species) and by preserving and increasing genetic diversity as an important instrument for adapting to changing climatic conditions. Furthermore, knowledge about the cultivation, conservation and use of rare varieties and species is preserved and promoted. In 2017, the Agri-Environmental Programme ÖPUL supported almost 15,000 ha of rare agricultural crops.

The loss of habitats such as extensively used meadows, fallow land etc. in Austria results in a loss of food sources for honey bees. The ÖPUL programme offers financial incentives to preserve blooming habitats.⁷⁶

4.14 Aichi Biodiversity Target 14: Ecosystem services

By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

⁷⁴ <http://www.arche-austria.at/index.php?id=53>

⁷⁵ <http://www.oengene.at/>

⁷⁶ <http://www.umweltbundesamt.at/fileadmin/site/publikationen/REP0600.pdf>

Within the Biodiversity Strategy Austria 2020+, Aichi Target 2 corresponds to target 1: People are aware of the values of biodiversity, and target 11: Biodiversity and ecosystem services are taken into account in spatial planning.

See chapter 4.2

4.15 Aichi Biodiversity Target 15: Ecosystem restoration and resilience

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.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 15 corresponds to objective 10: Conservation status of species and habitats is improved.

A strategic framework for the feasibility and prioritization for the restoration of Austria's ecosystems is currently under preparation. The identification of the restoration potential and the prioritization of the measures will be developed.⁷⁷

4.16 Aichi Biodiversity Target 16: Nagoya Protocol on Access and Benefit-sharing

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.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 16 corresponds to objective 12: Contribution to conserve global biodiversity is achieved.

The Nagoya Protocol was implemented in the EU by Regulation (EU) 511/2014). Austria as EU Member State has to comply with the provisions of the EU Regulation. Austria has ratified the Nagoya Protocol. Some essential competences in terms of the Nagoya Protocol, e.g.

⁷⁷ Umweltbundesamt (in Vorbereitung): Wiederherstellung von Ökosystemen in Österreich - Strategischer Rahmen. Mit Unterstützung von Bund und Europäischer Union.

nature conservation, lie with the nine Austrian provinces. In principle, genetic resources collected in situ in Austria are freely accessible according to ABS-laws.

The regulations that prohibit, restrict or make the access to genetic resources subject to authorization in Austria include in particular the Austrian nature protection legislation (since it is in the competence of the Austrian provinces, there are nine different nature protection laws) as well as legislation on forestry, agriculture, fisheries and hunting. There are, for example, comprehensive nature conservation access and possession bans with regard to particularly and strictly protected plant and animal species as well as concerning different categories of protected areas.

Additional restrictions under private law may arise. For example for collecting genetic resources on private property, the owner's permission to enter the property is needed. In addition, intellectual property rights may be governed by, for example, patent law. In terms of CBD's traditional knowledge associated with genetic resources: In Austria no indigenous people and local communities live according to UN-definition.

http://www.biodiv-abs.at/ms/biodiv-abs/abs_overview

4.17 Aichi Biodiversity Target 17: Biodiversity strategies and action plans

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.

Nature conservation lies in the legal responsibility of the Austrian provinces. In most of the Austrian provinces biodiversity strategies or action plans exist.⁷⁸ The focus of the strategies is on nature conservation considering the need for mainstreaming biodiversity into other sectors or nature conservation is included in a more comprehensive approach as one part with other sectors particularly agriculture and tourism. There are also nature conservation

⁷⁸https://www.burgenland.at/fileadmin/user_upload/Downloads/Umwelt_und_Agrar/Naturschutz/Zukunftsstrategie_Burgenland_2030.pdf

http://www.noelke-entwerfen.at/naturschutz/naturschutzkonzept_naturschutzkonzept.html

https://www.landoberoesterreich.gv.at/Mediendateien/Formulare/Dokumente/Abt_N/Artenschutzstrategie.pdf

https://www.verwaltung.steiermark.at/cms/dokumente/12585482_74838465/c3a8b83c/Naturschutzstrategie_ST_MK_Langfassung_%C3%84nderung-11-5-15.pdf

<https://www.tirol.gv.at/umwelt/naturschutz/naturschutzplan/>

<https://www.wien.gv.at/umweltschutz/naturschutz/biotop/index.html>

plans focusing on specific ecosystem types or strategies and management plans for protected areas like national parks or biosphere reserves.

The Biodiversity Strategy Austria 2020+ was adopted by the National Biodiversity Commission and recommended to the Federal Minister for Sustainability and Tourism.

The implementation of the strategy is seen as a shared responsibility of the Federal Government, Austrian provinces and municipalities, NGOs and all the other relevant stakeholders. The Federal Ministry for Sustainability and Tourism has been carrying out a wide range of biodiversity related projects.

The National Biodiversity Commission, which is composed of representatives from all groups in society, will assist and review the implementation. The members of the National Biodiversity Commission represent the most relevant sectors for biodiversity issues and are responsible for the integration of biodiversity into their plans.

The Biodiversity Strategy Austria 2020+ was developed in a broad participative process integrating all sectors for land use (e.g. agriculture, forestry, hunting, fishery, health, nature conservation, social partners, and science).

A database for biodiversity projects according to the national biodiversity targets has been developed at the Environment Agency Austria. A progress report was elaborated in 2017 indicating the status of the implementation of the Biodiversity Strategy Austria 2020+.

4.18 Aichi Biodiversity Target 18: Traditional knowledge

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.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 18 corresponds to target 3: Agriculture and forestry support conservation and improvement of biodiversity.

Austria has no indigenous and local communities as understood by the Convention. Traditional knowledge (although no accepted definition is available) within the meaning of cultural heritage and agricultural knowledge is important for biodiversity in Austria.

Traditional knowledge regarding the conservation and sustainable use of biodiversity in Austria is related to traditional land-use practices, such as Alpine pasture farming or keeping rare breeds of local varieties of animals or plants (e.g. the Carniolan honey bee, *Apis mellifera carnica*).

The list of UNESCO's intangible cultural heritage sites in Austria includes for example the following in relation to "dealing with nature".⁷⁹

Transhumance – Sheep migration in the Ötztal Alps. Dealing with nature in Tyrol, the seasonal drives are considered to be the only cross-border transhumance in the Alps that leads over glaciers. Every year in early summer around 5,000 sheep from South Tyrol (Italy) are brought to the Ötztal pastures in Tyrol and back again in autumn.

Farmers and gardeners have created an enormous diversity through targeted cultivation, care, selection, use and propagation. The knowledge about seed growing, harvesting, selection, cleaning and storage has been and still is being passed on from generation to generation in families, but also in communities.

The knowledge of their production and the necessary equipment have long been part of the pharmacy's living tradition and represent a specialist knowledge of remedies and healing knowledge as well as dealing with nature, originally passed down orally and later recorded in recipe books.

⁷⁹ <https://www.unesco.at/kultur/immaterielles-kulturerbe/oesterreichisches-verzeichnis/cat/71%2C%2C/topic/71/>

4.19 Aichi Biodiversity Target 19: Sharing information and knowledge

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.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 19 corresponds to target 2: Biodiversity research and monitoring are extended.

Data on the distribution of species and habitat types are increasingly made available online as downloads⁸⁰.

The GBIF Austria portal currently provides approx. 4.2 million data records on more than 40,000 animal, plant (incl. lichen) and fungi species. Most of these species are native in Austria. The GBIF-Austria database network currently consists of 16 different databases. The growth of newly downloadable information amounts to approx. 100,000 data records per year⁸¹. Data are maintained and published in accordance with the requirements of the Inspire Directive.⁸²

Austria is partner in the European Cooperative Programme for Plant Genetic Resources (ECPGR)⁸³ aimed at ensuring the long-term conservation and facilitating the increased utilization of plant genetic resources in Europe and cooperates with many other international initiatives.⁸⁴

⁸⁰ <http://www.umweltbundesamt.at/opendata/>

⁸¹ <http://www.gbif.at/>

⁸² <http://www.inspire.gv.at/>

⁸³ <http://www.ecpgr.cgiar.org/>

⁸⁴ <https://www.genbank.at/en/national-inventory/links-to-genetic-resources.html>

4.20 Aichi Biodiversity Target 20: Mobilizing resources from all sources

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.

Within the Biodiversity Strategy Austria 2020+, Aichi Target 20 corresponds to target 12: Contribution to conserve global biodiversity is made.

Austria's contributions to public development cooperation for biodiversity measures have more than doubled between 2010 and 2016. Despite this positive trend, Austria has currently not achieved the target set at the XII Conference of the Parties in Hyderabad in 2012 of doubling the biodiversity-relevant international financial flows to developing countries above the average value for the years 2006-2010 (13,93 Mio. €) from 2015 and of maintaining this level (27,86 Mio. €) until 2020.

The public financing services for international biodiversity financing reflect the contributions of public authorities (Federal Ministries, Austrian Development Agency (ADA), Austrian Development Bank (OeEB), provinces and municipalities) to biodiversity-relevant interventions in developing countries (bilateral ODA and OOF). Bilateral services are obtained through the application of the OECD/DAC biodiversity marker, whereby the crediting rules described in detail in the "Revision of Austria's Strategy on International Climate Financing for 2013-2020" are applied. In addition, the data includes Austrian treasury note deposits to the Global Environment Facility (GEF) (multilateral ODA), 33% of which are attributed as contributions to Austria's international biodiversity financing.

OeEB finances projects in developing countries and emerging markets that are economically sustainable and have positive impacts on development⁸⁵.

⁸⁵ <https://www.oe-eb.at/en/our-projects/projects-at-a-glance.html>

4.21 Contribution to the implementation of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals⁸⁶

Sustainable Development Target 1 End poverty in all its forms everywhere

The fight against poverty is one of the core objectives of the Austrian Federal Government. Austria has a comprehensive social protection system that significantly reduces the risk of poverty and sustainably strengthens opportunities for participation. Agriculture, forestry and also tourism depend on biodiversity and a natural landscape and provide jobs for many people. Sustainable use of natural resources and awareness towards ecosystem services are thus important themes contributing both to the protection of biodiversity and sustainable development. (See 2.4, 3.3)

Sustainable Development Target 2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture

The food supply situation in Austria is secure. The Federal Ministry for Sustainability and Tourism (BMNT) sets many activities to ensure food security, for a fair income for farmers and for the sustainability of food production and the conservation of genetic diversity. The sustainability and resilience of food production systems should be achieved by 2030. Aspects such as self-sufficiency and regionalisation are in the foreground. With Austria's Agri-Environmental Programme ÖPUL, Austria contributes to the "conservation and improvement of biological diversity" and "improvement of soil quality" in agriculture within the framework of the rural development programme. ÖPUL also promotes the genetic diversity of crops and livestock as well as the maintenance of agriculture in disadvantaged areas such as mountain farming. Mountain farming is also supported by the measure "payments for areas with natural constraints" (in addition to ÖPUL measures). The cultivation of genetically modified plants is prohibited. The Organic Action Programme supports production and marketing in organic farming. (See 2.4, 3.3)

⁸⁶ <https://www.bundestkanzleramt.gv.at/nachhaltige-entwicklung-agenda-2030>

Sustainable Development Target 3 Ensure healthy lives and promotes well-being for all at all ages

The Federal Health Commission and the Council of Ministers adopted health targets in 2011. The main target is the continuous increase of the years of life spent in health of all people living in Austria, regardless of their educational status, income situation or living conditions.

Under the leadership of the BMNT, in a participatory, broad-based process impact goals were formulated that describe how the relationship between man and the environment in Austria should be structured in order to be as beneficial to human health as possible. For these goals, which will have not only the state of the environmental media but also social and educational policy content, specific measures must also be formulated to ensure that the goals are achieved.

The aim of the Health and Biodiversity Initiative is to promote cross-sectoral biodiversity protection, increase public understanding and interest in the importance of biodiversity and achieve a better awareness of biodiversity and health concerns by demonstrating the interrelationships and interactions between biodiversity and health. (See 2.1)

Sustainable Development Target 4 Ensure inclusive and quality education for all and promote lifelong learning

The primary goal of Austrian education policy is to give all children the same opportunity for the best education. In order to achieve this, the Austrian school system is being further developed in the ongoing educational reform process. In close cooperation between nature parks, communities and schools with their teachers and parents, children get the opportunity to gain a basic understanding of nature in so called "Nature park schools" and Nature park kindergartens". Numerous projects to raise awareness of biodiversity have been implemented. (See 2.1)

Sustainable Development Target 5 Achieve gender equality and empower all women and girls

Specific support for women is aimed at promoting comprehensive equality, the further development of anti-discrimination and the reduction of violence. The ongoing work of the Equal Treatment Commissions and the independent and independent Equal Treatment Prosecution Office help to end all forms of discrimination against women and girls.

Sustainable Development Target 6 Ensure access to water and sanitation for all

In Austria, access to safe and affordable drinking water for all is 100% achieved, and the secondary goal of adequate and fair sanitation and hygiene is also 100% covered. The collection, purification and treatment of wastewater are ensured. Austria's water resources are managed in an integrated manner and in cross-border cooperation for river basins. (See 3.4)

Sustainable Development Target 7 Ensure access to affordable, reliable, sustainable and modern energy for all

The share of renewable energies in Austria's gross final energy consumption has risen from 23.9% in 2005 to 33.5% in 2016, partly due to measures in the transport sector and the expansion of green electricity. The Federal Ministry for Sustainability and Tourism supports these efforts, among other things, with the "Unternehmen Energiewende" programme and called on Austrian industry to actively participate in the energy transition towards renewable energy sources, i.e. less CO₂ emissions and greater energy efficiency.

In addition to the integrated climate and energy strategy #mission2030 at federal level there are also different energy strategies at state level (e.g. Energy Strategy Burgenland 2020, Energy Strategy Tyrol 2020). (See 2.7)

Sustainable Development Target 8 Promote inclusive and sustainable economic growth, employment and decent work for all

Strategies for achieving SDG 8, on which the implementation of measures by the Federal Ministry of Labour, Social Affairs and Consumer Protection (BMASK) is based, among others, are the National Reform Programme (NRP) within the framework of the Europe 2020 Strategy (employment rate of 77 - 78% for 20 - 64 year-olds), the implementation plan for youth guarantee, the Workers' Protection Strategy 2013 - 2020 (implementation of the EU Strategic Framework for Health and Safety at Work 2014 - 2020), the Federal Government Task Force to Combat Trafficking in Human Beings (Working Group on Labour Exploitation), the current objectives of the Labour Market Service (AMS) and the National Disability Action Plan 2012 - 2020.

The European strategy “Small Business Act (SBA)” is aimed at strengthening the competitiveness of SMEs in particular. In 2016, the Federal Ministry of Science, Research and Economics (BMWFV) developed the “Energy and Environmental Promotion Guide” as part of the SBA Principle 9 “Transformation of Environmental Problems into Business Opportunities”, which provides SMEs with tips and examples of success. Its aim is to support SMEs in exploiting the potential of “green” business opportunities.

The “Growth in Translation” initiative, which is supported by various ministries, universities, interest groups and other relevant social actors under the chairmanship of the Federal Ministry for Sustainability and Tourism, has enabled a discourse since 2008 on a sustainable design of our economic system and an alternative economy that does not focus on the goal of a growing gross domestic product.

Sustainable Development Target 9 Build resilient infrastructure, promote sustainable industrialization and foster innovation

The “Overall Transport Plan for Austria” reflects the goal of a high-quality, reliable, sustainable and robust infrastructure. As part of the “Mobility of the Future” programme, BMVIT supports transport infrastructure research in the areas of environment, energy and resources, design and maintenance, safety, mobility and intelligent transport solutions. This also means an increased focus on electro mobility. In addition, the “Mobility of the Future” programme supports systemic innovations in the areas of personal mobility and mobility of goods / logistics and promotes innovative vehicle technologies (alternative drives and lightweight construction) in order to promote systemic changes in the direction of sustainable mobility systems and behaviour.

To reduce the barrier effect of transport infrastructure for animal species, further “green bridges” and underpasses will be built.

Sustainable Development Target 10 Reduce inequality within and among countries

There are no activities related to biodiversity currently.

Sustainable Development Target 11 Make cities and human settlements inclusive, safe, resilient and sustainable

Since its inception in Austria in 1998, Local Agenda 21 processes have been running in 460 municipalities, cities, districts and regions nationwide, making important contributions to the sustainable development of rural and urban areas. Both the Federal Ministry for Sustainability and Tourism and the provinces support these processes with knowledge, advice, communication and funding. Since Local Agenda 21 makes a significant contribution to strengthening the regions, it is also anchored in the support programme for rural development.

Sustainable Development Target 12 Ensure sustainable consumption and production patterns

There is a wide range of measures to promote sustainable consumption and production patterns, such as ensuring a high level of qualification ("green skills"), raising awareness (e.g. in investments and consumer behaviour with the "Conscious buying" initiative, environmental labels and sustainable procurement), promoting environmental technologies, environmental management and internationalisation, such as the export initiative Environmental Technologies or the "Eco Management and Audit Scheme".

Sustainable Development Target 13 Take urgent action to combat climate change and its impacts

In Austria, implementation in various processes is based on laws, strategies and individual initiatives. (See 2.7, 3.6)

Sustainable Development Target 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Austria is a landlocked country connected to the Black Sea in the river Danube basin and to the North Sea via the rivers Rhine and Elbe. Well-established, ambitious programmes to reduce nutrient and pollutant inputs and a 10-point action programme of the Federal Ministry for Sustainability and Tourism to avoid inputs of plastics and microplastics into Austrian waters thus also contribute to marine protection. At the international level, Austria's cooperation with the countries bordering the sea with regard to water and sea protection is

ensured, with the involvement of actors via major international water protection commissions.

Within the scope of its possibilities, Austria is committed to promoting a sustainable “blue economy” and sustainable fishing and fish farming. Austria is also active against illegal, unreported and unregulated fishing (IUU fishing), which damages not only fish stocks and marine biodiversity but also legally operating fishermen through illegal competition. By signing a declaration of support to the Food and Agriculture Organisation of the United Nations (FAO) in 2016, the BMNT advocated the introduction of an International Day to combat IUU fishing. The BMNT also supports all initiatives that promote the health of the seas and aim to reduce pollutant emissions. This also includes avoiding the introduction of plastic waste and microplastics into the oceans.

Sustainable Development Target 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

In Austria, slightly more than 16% of the federal territory is strictly protected as a Natura 2000 site, national park or nature reserve. In addition, there are less strictly protected areas, such as landscape protection areas and protected landscape parts. In total, approx. 28 % of Austria's surface area is protected. Six of the most ecologically valuable regions of the country have been declared as National Parks: Danube floodplains, Gesäuse, Hohe Tauern, Kalkalpen, Neusiedler See-Seewinkel and Thayatal.

On the subject of soil protection and fertilisation, the Advisory Council for Soil Fertility has already been successfully active for 25 years as an inter-institutional body with recommendations on various topics. The increase in soil carbon content in Austrian arable soils was due not only to a comprehensive range of advisory and educational services for farmers, but above all to high participation in corresponding measures in the Agri-Environmental Programme ÖPUL as part of the rural development programme. The BMNT, through its Rural Development Programme, supports farmers to manage 80,000 hectares of agricultural land biodiversity friendly. The promotion of organic farming has enabled 22% of all agricultural land to be managed organically, thus improving both water soil quality and biodiversity. The Forest Ecology Programme contributes to the protection of forest ecosystems and the sustainable management of forests including the conservation of biodiversity.

As part of the BMNT's "vielfalt**leben**" initiative, projects to protect endangered species and habitats are being implemented together with many partners, a biodiversity community network is being set up and numerous measures are being implemented to raise awareness in a targeted manner.

The national water management plan includes measures to restore the continuity of rivers e.g. for aquatic organisms. The national flood risk management plan aims to create, reconnect and secure water retention areas. Water development and risk management concepts ensure joint planning to identify synergies and to avoid conflicts between water protection and environmental objectives. The focus of activities is on securing water retention areas and – wherever possible – on reactivation.

The BMNT has long been active in the prevention of poaching and trade in protected species and in the reduction and control of invasive alien species through a diverse portfolio of measures.

Sustainable Development Target 16 Promote just, peaceful and inclusive societies

Austria sets a wide range of activities for social farming, horticultural therapy and animal assisted interventions with various species.⁸⁷

Sustainable Development Target 17 Revitalize the global partnership for sustainable development

The strategic guide "Environment and Development" defines the principles and fields of action that Austria pursues in this field. Activities include sustainable management of natural resources and conservation of biodiversity, chemicals and waste management, climate protection, water and sanitation. Aspects of agriculture and forestry are also covered.⁸⁸

⁸⁷ <http://www.greencare.at/>

⁸⁸ http://www.entwicklung.at/fileadmin/user_upload/Dokumente/Publikationen/Strategien/Strat_Leitfaden_Umwelt_Sept2009_DE.pdf



5 Description of the national contribution to the achievement of the targets of the Global Strategy for Plant Conservation

Austria has developed a “Roadmap 2011 – 2020” to implement the Global Strategy for the Conservation of Plants (GSPC).

http://www.biologischevielfalt.at/ms/chm_biodiv_home/chm_strat_arterhaltung/chm_gspc_2020/

5.1 GSPC Target 1: An online flora of all known plants

There are several websites currently under development, but they are not yet complete.

Category of progress:

On track to achieve target at national level

flora-austriaca.at <http://www.flora-austriaca.at/> Information on ecology, distribution, endangerment and socialisation of plant species.

Online Flora for Austria <http://cvl.univie.ac.at/flora/index.php?title=Hauptseite>

Botanik im Bild <http://flora.nhm-wien.ac.at/Index.htm> Documents the plant species treated in the “Exkursionsflora von Österreich, Liechtenstein und Südtirol” (Fischer et al. 2008) with pictures and descriptions.

“**Austrian Barcode of Life**”-Initiative⁸⁹ aims at recording genetic information of all animal, plant and fungus species in Austria. For this purpose, standardised sequences of the hereditary substance (DNA barcodes) of certain individuals of all species are collected and stored in a reference database. These DNA barcodes can be used by sequence comparison for fast and reliable species identification for a variety of applications.

⁸⁹ <https://www.abol.ac.at/>

5.2 GSPC Target 2: An assessment of the conservation status of all known plant species, as far as possible, to guide

Category of progress:

On track to achieve target at national level

Austria's most recent Red List of endangered ferns and flowering plants dates from 1999: Of the 2,950 species occurring in Austria, 1,187 (40%) are assigned to a category of threat (Niklfeld & Schratt-Ehrendorfer 1999). An update of the Red List is currently underway, and will be finished in 2020. In general, many native species are under severe threat and are therefore in decline. In contrast, the number of neophytes (aliens) including the unstable species (casuals) has increased significantly in recent years. The main reasons for this are anthropogenic interventions in the landscape, increasing traffic and global warming.

The conservation status of the plants protected under the Habitat Directive was assessed in 2013; a new assessment will be carried out by 2019.⁹⁰

The Environment Agency Austria uses the assessment in the Red Lists to prioritise conservation measures.

Since nature conservation in Austria falls within the competence of the Austrian provinces and nature conservation measures are therefore also prioritised at provincial level. The Austrian provinces draw up their own Red Lists, e.g. for Upper Austria (Hohla et al. 2006). In recent years, only the Red List for the province of Vorarlberg (Grabherr et al. 2016) was updated and the moss flora of Lower Austria (Zechmeister 2012) recorded.

Sources:

Grabherr, G.; Amann, G., Beiser, A. & Grabher, M. (2016): „Aktualisierte Rote Liste der der Farn- und Blütenpflanzen Vorarlbergs“: In: Das Pflanzenleben Vorarlbergs
<http://www.naturschutzrat.at/studien/>

⁹⁰ https://www.verwaltung.steiermark.at/cms/dokumente/12003260_74838465/7748fbc2/Art%2017%20Bericht%202007%20bis%202012.pdf

Hohla M., Stöhr O.; Brandstätter G., Danner J., Diewald W., Essl F., Fiereder H., Grims F., Höglinger F., Kraml A., Lenglachner F., Lugmair A., Nadler K., Niklfeld H., Schmalzer A., Schratt-Ehrendorfer L., Schröck C., Strauch M. & Wittmann, H. (2009): Katalog und Rote Liste der Gefäßpflanzen Oberösterreichs. Stapfia 91, Land Oberösterreich, Linz: 324 S.
https://www.zobodat.at/pdf/STAPFIA_0091_0001-0324.pdf

Niklfeld, H. & Schratt-Ehrendorfer, L. (1999): Rote Listen gefährdeter Farn- und Blütenpflanzen (Pteridophyta und Spermatophyta) Österreichs. 2. Fassung. In: Niklfeld, H. (Hrsg.): Rote Listen gefährdeter Pflanzen Österreichs, 2. Auflage. Grüne Reihe des Bundesministeriums für Umwelt, Jugend und Familie, Band 10.

Zechmeister; H. et al. (2012): Erfassung der Moosflora Niederösterreichs. Endbericht des im Auftrag der Niederösterreichischen Landesregierung durchgeführten Projektes.
http://www.noel.gv.at/noel/Naturschutz/Moose_in_NOe_2012.pdf

5.3 GSPC Target 3: Information, research and associated outputs, and methods necessary to implement the Strategy developed and shared

Category of progress: Progress towards target at national level but at an insufficient rate

Vascular plants are registered to different extents in Austria "Floristische Kartierung Österreichs". There is still a lack of knowledge in the following areas: (1) In taxonomically difficult plant groups – often in connection with special reproduction mechanisms – such as hawkweeds (*Hieracium*), (2) Information about early bloomers is still somewhat incomplete. (3) Rare species are underrepresented due the low encounter rates in unspecific systematic surveys.

In addition to nationwide floristic mapping, floristic inventories were made in national parks and other protected areas as well as in the course of other activities, e.g. mapping for the Habitat Directive, biotope mapping, days of species diversity and in master and PhD theses.

Soon and for the first time, there will be a detailed evaluation of all Austrian ferns and flowering plants with regard to their distribution patterns, based on large data material (University of Vienna, Angelika Billensteiner).

The data from the floristic mapping is made available on request of the respective interested parties for national reporting obligations, for nature conservation purposes or for the processing of scientific questions. However, the data is not yet publicly accessible. The same applies to data from national parks and other protected areas, including data from biotope mapping. In addition, floristic data is published in various periodicals, published by Biological/Botanical Working Groups etc.

The data from recent graduate/postgraduate and doctoral theses are publicly available because they can be accessed digitally. The taxa-lists of the Days of Species Diversity are also frequently published. Many floristic data based on collections are also available digitally via GBIF-Austria⁹¹, ZOBODAT⁹² and "Virtual herbaria Jacq"⁹³, but with varying data quality.

5.4 GSPC Target 4: At least 15 per cent of each ecological region or vegetation type secured through effective management and/or restoration

Category of progress: Progress towards target at national level but at an insufficient rate

In Austria, 16.5% of the national territory is designated as a national park, Natura 2000 site and/or nature reserve. These protected area categories have the strictest regulations. In addition, there are slightly less than 12% of less strictly protected areas, such as landscape protection areas or protected landscape features. In total, 28.5% of Austria's territory is protected under nature conservation law. Funded by LIFE Nature numerous projects have been carried out in Austria since 1996⁹⁴ to improve the status of wetlands, dry grassland, rivers and riverine forests.

A strategic framework for the feasibility and prioritisation of the restoration of Austria's ecosystems is currently being developed (Environment Agency Austria, in prep.).

⁹¹ <http://www.gbif.at/>

⁹² <http://www.zobodat.at/>

⁹³ <http://herbarium.univie.ac.at/database/search.php>

⁹⁴ <https://www.FederalMinistryforSustainabilityandTourism.gv.at/umwelt/natur-artenschutz/life-natur>

5.5 GSPC Target 5: At least 75 per cent of the most important areas for plant diversity of each ecological region protected with effective management in place for conserving plants and their genetic diversity

Category of progress: Progress towards target at national level but at an insufficient rate

Important plant areas have been identified e.g. for plants protected by the Habitat Directive (Annex II).

5.6 GSPC Target 6: At least 75 per cent of production lands in each sector managed sustainably, consistent with the conservation of plant diversity

Category of progress: Progress towards target at national level but at an insufficient rate

The portion of the agricultural land managed in organically in Austria is more than 20 %⁹⁵. About 80% of agricultural land is under management contracts supporting biodiversity and/or landscapes (see 2.4). Nevertheless, the area of extensive grassland (INVEKOS areas) has decreased by around 5% since 2014 (see 4.5). The Austrian Forest Biodiversity Index (AFBI) describes the state of and pressure on the Austrian forests and measures. Although this index is mainly intended to be used for the whole federal territory, the AFBI was also calculated for different ecoregions indicating geographical differences. High values have been found in the Alps, slightly lower values characterize the north and north-eastern part of Austria. Overall, the AFBI amounts approximately to a score of 60 indicating high forest biodiversity.

<https://www.bmnt.gv.at/forst/oesterreich-wald/waldstrategie-2020.html>

https://www.bfw.ac.at/webshop/index.php?id_product=326&controller=product

⁹⁵ https://www.Federal_Ministry_for_Sustainability_and_Tourism.gv.at/land/bio-lw/zahlen-fakten/BIO_WELTWEIT.html

5.7 GSPC Target 7: At least 75 per cent of known threatened plant species conserved in situ

Category of progress: Progress towards target at national level but at an insufficient rate

In 237 Natura 2000 sites, 37 plant species of the Habitat Directive (Annex II) occurring in Austria are listed as conservation objective.

Plant species	Number of Natura 2000 sites for this species	Plant species	Number of Natura 2000 sites for this species
<i>Adenophora lilifolia</i>	2	<i>Hamatocaulis vernicosus</i>	28
<i>Apium repens</i>	6	<i>Himantoglossum adriaticum</i>	112
<i>Artemisia laciniata</i>	1	<i>Iris humilis ssp. arenaria</i>	1
<i>Artemisia pancicii</i>	4	<i>Ligularia sibirica</i>	1
<i>Asplenium adulterinum</i>	8	<i>Liparis loeselii</i>	18
<i>Botrychium simplex</i>	2	<i>Mannia triandra</i>	9
<i>Buxbaumia viridis</i>	16	<i>Marsilea quadrifolia</i>	2
<i>Campanula zoysii</i>	2	<i>Myosotis rehsteineri</i>	2
<i>Cirsium brachycephalum</i>	5	<i>Najas flexilis</i>	1
<i>Coleanthus subtilis</i>	1	<i>Orthotrichum rogeri</i>	2
<i>Crambe tataria</i>	1	<i>Pulsatilla grandis</i>	22
<i>Cypripedium calceolus</i>	36	<i>Rhododendron luteum</i>	1
<i>Dianthus lumnitzeri</i>	2	<i>Riccia breidleri</i>	3
<i>Dicranum viride</i>	15	<i>Scapania massalongii</i>	5
<i>Distichophyllum carinatum</i>	2	<i>Serratula lycopifolia</i>	3
<i>Dracocephalum austriacum</i>	2	<i>Stipa styriaca</i>	1
<i>Eryngium alpinum</i>	2	<i>Tayloria rudolphiana</i>	4
<i>Gentianella bohemica</i>	4	<i>Thesium ebracteatum</i>	1
<i>Gladiolus palustris</i>	10	<i>Trifolium saxatile</i>	1

In Austria wild and endangered animals and plants are protected by regional legislation (e.g. protected species under nature conservation or hunting laws; plant conservation areas, wildlife protection areas).

The “Netzwerk Natur” is a species and habitat conservation programme of the City of Vienna. Representatives from each species group of strictly protected plants (and animals) were selected and classified as “of priority importance”. A total of 19 plant species are included.⁹⁶

5.8 GSPC 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

Category of progress: On track to achieve target at national level

A large proportion of the species identified as endangered in Austria have been conserved ex situ. Approximately one third of endemics are conserved in ex-situ facilities (Hölbling, M. 2013, Masterarbeit Universität Wien). Joint projects between Botanical Gardens in Austria and the Millennium Seedbank at the RBG Kew as well as the European Native Seed Conservation Network (ENSCONET) Consortium have been started to ensure that the target will be met by 2020.

Activities in nature conservation aim i.a. at conserving threatened species with seeds of gene banks, like using the seeds in some ecological areas.⁹⁷

Sources:

Hölbling M. (2013): Die “Global Strategy for Plant Conservation” in Österreich. Diplomarbeit, Universität Wien. <http://othes.univie.ac.at/30444/>.

Rivière S., Breman E., Kiehn M., Carta A., Müller J. (2018): How to meet the 2020 GSPC target 8 in Europe: priority-setting for seed banking of native threatened plants. – Biodivers. Conserv. 27(8), 1873-1890. <https://doi.org/10.1007/s10531-018-1513-2>.

⁹⁶ <https://www.wien.gv.at/umweltschutz/naturschutz/biotop/netzwerk.html>

⁹⁷ [https://doris.ooe.gv.at/viewer/\(S\(re22lwiwuhksmsglgtpcspuu\)\)/init.aspx?ks=alk&karte=naturschutz&sichtbar=Vorschlagsfl~ae~chen~20~Natura~20~2000;Kataster~20~10.2013&decode=true](https://doris.ooe.gv.at/viewer/(S(re22lwiwuhksmsglgtpcspuu))/init.aspx?ks=alk&karte=naturschutz&sichtbar=Vorschlagsfl~ae~chen~20~Natura~20~2000;Kataster~20~10.2013&decode=true)

5.9 GSPC Target 9: 70 per cent of the genetic diversity of crops including their wild relatives and other socio-economically valuable plant species conserved, while respecting, preserving and maintaining associated indigenous and local knowledge

Category of progress: Progress towards target at national level but at an insufficient rate

Austria has a **national inventory of plant species** (genetic resources) for food and agriculture (AGES). This national register of Austria for all ex-situ collections of plant genetic resources for food and agriculture is maintained by the National Agency for Health and Food Safety. The directory contains information about the stocks in Austrian gene banks, passport data, botanical names and popular names. Information on growth characteristics and photos are also available. <https://www.genbank.at>

The AGES gene bank in Linz is Austria's largest **gene bank for cereals, beans and medicinal herbs**. The collection now comprises more than 5,000 samples. Most of them date from the 1960s, 1970s and 1980s. This gene bank also contains seeds from over 150 endangered wild plants, sometimes seeds are also produced. The long-term storage facility also functions as a security storage facility for other gene banks. A backup copy of the stocks from Linz with around 2,000 seed samples is stored in the world's largest seed vault on the island of Spitsbergen in Norway. <https://www.genbank.at/nationales-verzeichnis/gesetzliche-grundlagen.html>

In Klosterneuburg (Lower Austria) is the largest **gene bank for fruits**, comprising 38 fruit species and more than 1,500 land races, meaning 17,000 individual plants (Federal College and Research Institute for Viticulture and Fruit Growing). <http://www.weinobstklosterneuburg.at/forschung/obstbau/Projekte/genbank-obst.html>

Vegetables are stored in **Horticultural College and Research Institute Schönbrunn** (Vienna) and feeding plants and animal races by the **Agricultural Research and Education Centre** (Raumberg-Gumpenstein, Styria).

Further gene banks are provided by e.g. University of Natural Resources and Applied Life Science, Division of Viticulture and Pomology, Division of Plant Breeding, Office of the Styrian Regional Government, Agriculture and Forestry, Trial Station for Horticulture and Viticulture. <http://www.dnw.boku.ac.at/wob/>

ARCHE NOAH Seed Archive: The collection includes seeds, onions and tubers of about 5,500 different origins. It is one of the largest private seed banks for cultivated plants in Europe. From the beginning the focus has been on vegetables, but also cereals, root crops, herbs, fibre and dye plants as well as ornamental plants are included, many of them originating in Central and South-eastern Europe.

Several NGOs work on the maintenance and use of traditional practices, just a few examples: <http://www.streuobstwiesn.at/home/>, <https://www.heckentag.at/>, <https://gruenland-viehwirtschaft.at/>, <http://www.wildblumensaatgut.at/>

In the context of the feasibility study “**The Austrian Collections and Data-bases on Species Diversity**” (Götzl et al. 2003), the evidence and living collections including agriculturally relevant collections were collected between 2001 and 2003.

5.10 GSPC Target 10: Effective management plans in place to prevent new biological invasions and to manage important areas for plant diversity that are invaded

Category of progress:	Progress towards target at national level but at an insufficient rate
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In 2015, EU Regulation No 11/43/2014 on the prevention and management of the introduction and spread of invasive alien species entered into force. The regulation is directly applicable in the member states, including Austria. The Regulation aims to combat already widespread invasive species of EU concern by providing for emergency and restoration measures for already damaged ecosystems. The primary aim, however, is to prevent the dissemination as a precautionary measure by means of action plans and management measures. For invasive Neophyta of EU concern occurring in Austria management plans are under development (see 2.9). Botanic Gardens in Austria have developed an early-warning system for new potentially invasive taxa in their collections.

Sources:

Bernhardt K.-G., Stöckl N., Kiehn M. (2017): Pflanzen mit invasivem Potenzial in Botanischen Gärten XIV: *Commelina communis* L. (Commelinaceae). – Carinthia II 207./127, 7–12.

Eberwein R.K., Berg C., Lechner M., Kiehn M. (2010): Pflanzen mit invasivem Potential in Botanischen Gärten. Initiativen der ARGE Österreichischer Botanischer Gärten. – Carinthia II 200/120: 77-80.

Kiehn M. (2015): Pflanzen mit invasivem Potenzial in Botanischen Gärten X: *Smyrnium perfoliatum* L. (Apiaceae). – Carinthia II 205/125: 73–82.

5.11 GSPC Target 11: No species of wild flora endangered by international trade

Category of progress:

On track to achieve target at national level

The Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) regulates international trade in endangered species of wild flora and fauna and their products. The implementation of the Convention protects more than 30,000 plant species threatened by international trade. By monitoring and controlling international trade, the threat to endangered animal and plant species and to parts and products thereof is to be contained. In Austria, the regulations have been in force since 1982. www.cites.at

5.12 GSPC Target 12: All wild harvested plant-based products sourced sustainably

Category of progress:

On track to achieve target at national level

The nature conservation laws of the Austrian provinces regulate the protection of wild plant species in Austria. In Lower Austria, for example, the picking of wild plants that are not protected is only permitted for “personal use” (§ 17 NÖ NschG 2000 Allgemeiner Pflanzen Pilz- und Tierartenschutz); the collection of larger quantities and commercial collection requires an exemption (§ 20). There is no information available on the extent of any collection permits in Austria.

5.13 GSPC 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

Category of progress:

On track to achieve target at national level

A register for Traditional Food is available. The register describes products and dishes that have been cultivated in Austria for at least three generations or 75 years with traditional knowledge, such as the traditional cultivation of spelt (*Triticum spelta*) in Burgenland. The register also includes products that are processed, such as traditionally produced brandy from the roots of the Yellow Gentian (*Gentiana lutea*) and Dotted Gentian (*Gentiana punctata*) in Tyrol.⁹⁸

The "AGRI-CULTURA ALPINA" knowledge platform collects agricultural knowledge about the cultivation, keeping, breeding and production techniques of traditional crops and livestock.

Knowledge about the use of plants as wild vegetables and wild fruit, for medicinal purposes and practical use is compiled <http://www.boehlau-verlag.com/>

Sources:

Machatschek, M. (2017): Nahrhafte Landschaft 4. Von Ferkelkräutern, Wiesenknopf, Ziegenmilch, Ruchgras, Rasch, Birnmehl, Kraterellen und anderen wildwachsenden Nutzpflanzen. Böhlau Verlag. Wien, Köln, Weimar. <http://www.boehlau-verlag.com/>

Machatschek, M. (2002): Laubgeschichten. Gebrauchswissen einer alten Baumwirtschaft, Speise- und Futterlaubkultur. Böhlau Verlag. Wien, Köln, Weimar. <http://www.boehlau-verlag.com/>

⁹⁸ <https://www.FederalMinistryforSustainabilityandTourism.gv.at/land/lebensmittel/trad-lebensmittel/getraenke/enzian.html>

Machatschek M. & Mauthner, E. (2015): Speisekammer aus der Natur. Bevorratung und Haltbarmachung von Wildpflanzen. Böhlau Verlag. Wien, Köln, Weimar.

<http://www.boehlau-verlag.com/>

5.14 GSPC Target 15: The number of trained people working with appropriate facilities in plant conservation increased, according to national needs, to achieve the targets of this strategy

Category of progress:

On track to achieve target at national level

At least five universities (Graz, Salzburg, Innsbruck and two in Vienna) offer courses of study with focus on plant conservation and science.

There are some courses for plant conservation in Austria e.g. at the University College for Agrarian and Environmental Pedagogy⁹⁹, Agricultural training institute¹⁰⁰ or "Bodensee Akademie und Netzwerk blühendes Vorarlberg"¹⁰¹.

5.15 GSPC Target 14: The importance of plant diversity and the need for its conservation incorporated into communication, education and public awareness programmes

Category of progress:

On track to achieve target at national level

There are many activities at different levels to achieve this goal, see the following selection and 4.1:

www.naturbeobachtung.at offers an opportunity to record native species diversity, e.g. flowering plants as well as trees and shrubs.

<https://www.naturbeobachtung.at/platform/mo/nabeat/index.do>

⁹⁹ <http://www.agrarumweltpaedagogik.ac.at/fort-und-weiterbildung/hochschullehrgaenge/wildkraeuter-und-arzneipflanzen/index.html>

¹⁰⁰ <https://noe.lfi.at/nahrhafte-landschaft+2500+1588070>

¹⁰¹ <https://naturschutzbund.at/newsreader-505/items/lehrgang-bluehende-landschaft-2018.html>

“We look at our alpine pastures and grasslands” – biodiversity monitoring by farmers. <http://alm.biodiversitaetsmonitoring.at/index.php/projekte/projektinfos>, <http://wiese.biodiversitaetsmonitoring.at/index.php/de/>

Sparkling Science¹⁰² – Through many of their projects, scientists work together with young people on research questions, including natural sciences. Project example: “Almwaal” – irrigation of meadows and pastures in the alpine cultural landscape – importance of an old cultural technique for biodiversity and alpine pasture management¹⁰³.

Presentations and excursions are offered by all botanical gardens and „Mycological working group“, e.g. <http://www.botanik.univie.ac.at/hbv/>, <https://www.linz.at/umwelt/4175.asp>,

https://www.graztourismus.at/de/sehen-und-erleben/sightseeing/sehenswuerdigkeiten/botanischer-garten_sh-1196,

<http://www.landesmuseum.at/de/standorte/biologiezentrum-linz/entomologie/mykologie.html>

Campaign days: Day of species diversity (March), Pannonian Nature Experience Days in Burgenland (April), Day of Nature in Salzburg (June), Geo-day of species diversity (June), week of species diversity.

The Life & Science Camp of the University of Vienna serves as a contact point for the Viennese population, schools and companies, and creates space for public engagement and knowledge exchange. <http://grueneschule.univie.ac.at/>

Species of the year: With this action, the Nature Conservation Union wants to raise awareness of certain species and, among other things, draw attention to threatening factors. <https://naturschutzbund.at/natur-des-jahres.html>

¹⁰² <http://www.sparklingscience.at/>

¹⁰³ [http://www.sparklingscience.at/de/projects/show.html?--typo3_neos_nodetypes-page\[id\]=583](http://www.sparklingscience.at/de/projects/show.html?--typo3_neos_nodetypes-page[id]=583)

5.16 GSPC Target 16: Institutions, networks and partnerships for plant conservation established or strengthened at national, regional and international levels to achieve the targets of this Strategy

Category of progress:

On track to achieve target at national level

In Austria there are various networks that directly or indirectly serve the goal of plant conservation. Botanical gardens in Austria are structured and financed in various ways. There are university gardens, gardens sponsored by the federal state, provinces and local governments as well as privately financed botanical gardens. In 1998, the botanical gardens of Austria merged into a joint working group. The main goal is, among other things, the exchange of experiences and the improvement of communication between the gardens.

<http://www.botanik.univie.ac.at/hbv/index.php?nav=103>

The Botanical garden Vienna is e.g. member in following associations.

<http://www.botanik.univie.ac.at/hbv/index.php?nav=84>

- Arbeitsgemeinschaft Österreichischer Botanischer Gärten
- BCGI – The world's largest plant conservation network
- International Agenda for Botanic Gardens in Conservation
- International Association of Botanic Gardens (IABG)
- Verband Botanischer Gärten e.V.
- European Native Seed Conservation Network (ENSCONET)

Within the framework of the “European Cooperative Programme for Plant Genetic Resources” – ECPGR” network, in which Austria is participating, there is a technical exchange, a coordinated procedure for the documentation and evaluation of PGR and the maintenance of a European search catalogue for PGR.¹⁰⁴ <https://www.genbank.at/nationales-verzeichnis/gesetzliche-grundlagen.html>

The AGES – Department of Plant Genetic Resources – cooperates with the nature conservation department of Upper Austria and is in regular contact with the botanical gardens, e.g. Linz and Salzburg.

<https://www.ages.at/themen/landwirtschaft/pflanzengenetische-ressourcen/>

¹⁰⁴ <http://www.ecpgr.cgiar.org/>



6 Updated biodiversity country profiles

6.1 Biodiversity facts

6.1.1 Status and trends of biodiversity, including benefits from biodiversity and ecosystem services and functions

Despite its small size (83,853 km²) Austria has an exceptionally diversified landscape, climate and hence biodiversity. In Austria, the Alpine, the Continental and Pannonian biogeographic regions converge. Austria has the greatest share (32%) of the Alpine arc of all Alpine countries. The country has three major landscape divisions: the Alps, the forelands, basins, the granite and gneiss highlands of the Bohemian massif. The Alps cover 60% of Austria's territory which has landscapes with the highest significance for biodiversity, much of the areas remained untouched by mankind. Also, the zone adjoining, the Alpine grassland and the "Krummholz" region (stunted clumps of trees) largely represent semi-natural areas. In the highest area of the Alps, the Central Alps, most of the almost 900 Austrian glaciers are found. The Northern part of Austria is dominated by the low mountain range of the Bohemian massif. Forests alternate with small areas of arable land, grassland and hedges. The forelands and basins form the transition zone between the Alps; the granite and gneiss highlands and the great Pannonian Basin bordering to the East. These areas are the most agriculturally used in Austria, nevertheless, many natural treasures can be found, e.g. Lake Neusiedl and its salt marshes being one of Europe's most important bird areas, the Danube floodplains to the East of Vienna, or the cultural landscapes characterized by viticulture such as the Wachau region.

Austria is home to around 2,900 indigenous fern and flowering plant species, around 8,500 species of algae, moss and lichen, 101 mammal species, around 400 bird species, of which 212 have been confirmed as breeding birds, 14 reptile and 20 amphibian species and 84 fish species. The number of invertebrates is estimated to be over 46,000. The number of fungi occurring in Austria is estimated at around 10,000 species. The total species diversity of Austria therefore amounts to about 68,000 species. In Austria, 488 different types of biotopes can be distinguished.

Of the 3,000 fern and flowering plants in Austria, 40% were at risk at the last assessment 15 years ago. An update of the Red List of endangered plant species is in preparation. The most recent

Red Lists¹⁰⁵ have estimated that 27% of mammals, 31% of breeding birds¹⁰⁶ and approx. 60% of amphibians and 64% of reptiles and 46% of fish are threatened. These figures include the categories critically endangered, endangered and vulnerable.

Out of the 488 biotope types occurring in Austria, 246 were classified in the Red Lists as endangered and severely endangered, 33 are threatened with complete destruction. Five types of biotopes have been completely destroyed, i.e. large, semi-natural watercourses at lower altitudes and inland dunes. The proportion of biotope types assigned to a red list category is highest in the groups grassland (90%), bogs, swamps and springs (83%) and waterways (76%).

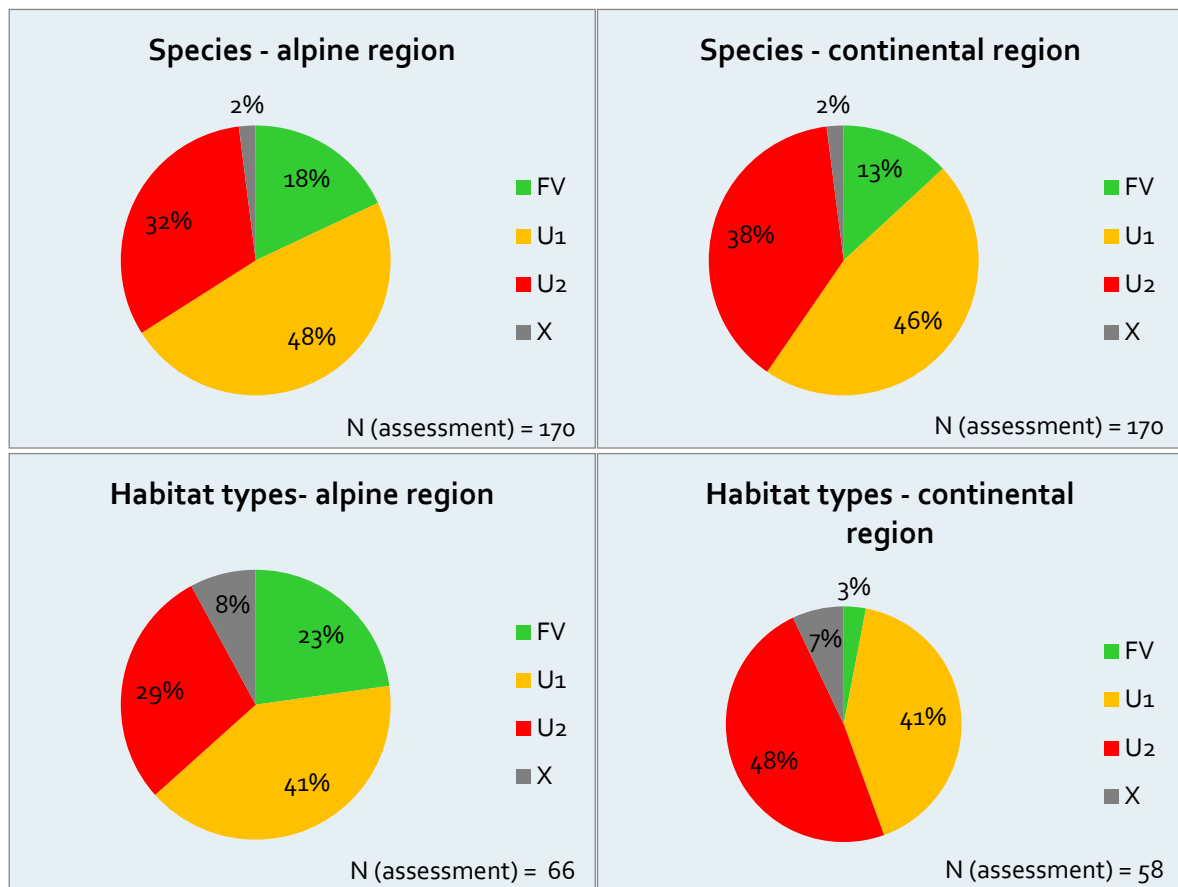


Figure 7: Conservation status according article 17 report of the EU Habitat Directive (FV=favourable, U1=unfavourable-inadequate, U2=unfavourable-bad, x=unknown) (Source: Österreichischer Bericht gemäß Artikel 17 FFH-Richtlinie, Berichtszeitraum 2007-2012, Umweltbundesamt für die Bundesländer Österreichs.

http://www.verwaltung.steiermark.at/cms/dokumente/12003260_74838465/7748fbc2/Art%2017%20Bericht%202007%20bis%202012.pdf)

¹⁰⁵ http://www.umweltbundesamt.at/downloads_rl-tiere/

¹⁰⁶ http://www.umweltbundesamt.at/downloads_rl-tiere/

The Habitats Directive 92/43/ECC, requires EU Member States to monitor and report on the conservation status of species and habitats of community interest. Austria's last report (reporting period 2007-2012) shows that the conservation status of the alpine region is better than that of the continental region. Compared to the 2007 report, six habitat types in the Alpine region and four habitat types in the continental region have deteriorated during the period 2007 to 2012. In terms of species, improvements and deteriorations are balanced.

In 2013, the share of rivers in very good and good ecological status and with good potential was just under 40%; in 2009 the share was 37%. Most of the watercourses identified as significantly altered do not yet correspond to the good ecological potential; measures to improve the hydromorphological conditions are particularly necessary here. 55 of the 62 lakes larger than 50 ha are in good condition; for seven lakes the good condition has not been achieved due to material discharges and hydromorphological pressures.¹⁰⁷

For many species and ecosystems, knowledge on their sensitivity towards climate change is scarce. Taking into account uncertainties some impacts have been identified: Bogs and old growth forests can only adjust slowly and are at high risk. In alpine habitats, cold-adapted plants may move upwards and locally increase species diversity. On the other hand increasing landscape fragmentation may lead to the local extinction of some species. Some generalist animal species will benefit while habitat specialists may be threatened. Fish communities may shift upstream due to warming of running waters.¹⁰⁸

6.1.2 Main pressures on and drivers of change to biodiversity (direct and indirect)

The driving forces behind the changes in biological diversity are; lifestyle, prosperity, consumer behavior including increases in the consumption of food with a higher carbon footprint, mobility behavior, residential preferences, higher energy consumption etc. The increased pressure on biological diversity arises in particular from:

- Land use for traffic routes, settlements, industry and trade, energy production, technical flood protection, leisure facilities and other infrastructures
- Hydrological changes, e.g. drainage of wet grassland, hydroelectric power stations
- Intensive agriculture and forestry or abandonment of agricultural land use

^{107, 101} https://www.bmnt.gv.at/wasser/wisa/fachinformation/ngp/ngp-2015/text/textdokument_ngp2015.html

¹⁰⁸ Dokulil, M. et al. (2014): Der Einfluss des Klimawandels auf die Biosphäre und Ökosystemleistungen. In: Kromp-Kolb, H. et al.: Österreichischer Sachstandsbericht Klimawandel 2014. Verlag der Österreichischen Akademie der Wissenschaften, Band 2, Kap. 3: 467-556. http://www.austriaca.at/APPC_AAR2014.pdf;

- Presence of pollutants or nutrients particular in semi-natural habitats and the associated effects on the species spectrum, e.g. spread of nutrient-loving, widespread species
- Non-sustainable fishing and hunting; the stocking of harmful non-native fish species (e.g. asian grasscarps) influences the fish species spectrum, high game populations can prevent a natural rejuvenation of forest populations due to the browsing by game
- Tourist activities and leisure activities, which have an influence due to their scale of the area requirements but also due to direct disturbances of species
- Invasive alien species, displacing native species
- Climate change leads to the spread of thermophilic organisms, the displacement of cold climate favouring organisms and a dramatic reduction of glaciers.

6.2 Measures to enhance implementation of the Convention

6.2.1 Implementation of the NBSAP

The new Biodiversity Strategy Austria 2020+ was approved in October 2014. The national strategy comprises five fields of action, (1) Knowing and acknowledging biodiversity, (2) Sustainable use of biodiversity, (3) Reducing pressures on biodiversity, (4) Conserving and developing biodiversity, (5) Securing global biodiversity, including twelve targets. The twelve targets are divided into specific measurable sub-targets, which are also discussed in section I and III of this national report. The implementation of the Biodiversity Strategy Austria 2020+ is acknowledged as a shared responsibility of stakeholders and decision makers at various levels – Ministries, Federal Provinces, social partners, and representatives of interest groups, scientists, experts, land owners, NGOs and many others.

<https://www.cbd.int/doc/world/at/at-nbsap-v3-en.pdf>

A National Biodiversity Commission chaired by the Ministry of Sustainability and Tourism (BMNT) was in charge of the elaboration of the Biodiversity Strategy Austria 2020+, as well as of the preparation of the national reports to the CBD. It serves as a platform for information exchange and coordination of activities among its members. The Commission comprises organizations on federal and regional level which are responsible for the implementation of the biodiversity objectives.

As a basis for the evaluation of the implementation of the Biodiversity Strategy Austria 2020+, projects and measures that took place in the period from 2010 onwards were recorded in a database. The 511 database entries (September 2017) have been assigned to the targets of the national strategy and provide a good overview of activities for the conservation of

biological diversity in Austria. There is no claim for completeness; rather, it can be assumed that numerous additional projects dealing with the protection and sustainable use of biological diversity have been implemented. The projects and measures were assigned to the specific biodiversity targets, to their geographical location (provinces), to funding authorities, and to their main conservation objectives (plants, animals, habitats) in the frame of an implementation report of the Biodiversity Strategy Austria¹⁰⁹. In this report an assessment of nine of the twelve national targets was conducted, which shows a positive to neutral trend of eight targets and a good to intermediate status of six targets.

The implementation of the Austrian Biodiversity Strategy will be evaluated by the Biodiversity Commission after 2020.

6.2.2 Overall actions taken to contribute to the implementation of the Strategic Plan for Biodiversity 2011-2020

Communication and awareness raising campaigns, which have been carried out on the national, regional or local level focusing specific target groups and/or the general public, have led to a general increase in the number of people and their level of understanding, who agree that biodiversity has a positive impact on economic development (e.g. <http://innovate4nature.at/>, <https://naturschutzbund.at/vielfaltleben.html>).

Approximately 16,5% of the territory of Austria is protected under different nature conservation categories, such as, Natura 2000 sites, national parks or nature conservation areas, and about 12% as less strictly protected sites, including landscape conservation areas. In implementing the Ramsar Convention, 23 Ramsar sites are designated.

The Natural Heritage "Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe" stretches over twelve countries. Austria is part of this unique natural heritage; (1) The Dürrenstein Wilderness Area includes the largest primeval Beech forest in the Alps. The primeval and old growth Beech forests are embedded in a natural landscape of alpine Krummholz-belt, rock and scree areas as well as alpine grasslands. (2) The Kalkalpen National Park consists of four areas with high valuable beech forests that are embedded within the protected area.

¹⁰⁹ Umweltbundesamt (in press). Umsetzung der Biodiversitäts-Strategie Österreich 2020+ Zwischenbericht 2010 bis 2017. Vienna, Austria.

Agriculture and forestry play an important role in conserving biodiversity. In 2016, the Austrian Forest Strategy 2020+ was adopted, setting priorities for sustainable forest management. The vision 2030 of the Austrian Forest Strategy provides for the promotion of biological diversity in Austrian forests with their species, genes, ecosystems and landscapes through sustainable, multifunctional forest management, which also includes targeted external use.

A common basis of understanding of land use and biodiversity, is of fundamental significance if biodiversity conservation measures are to be implemented successfully. Firstly, the Austrian Forest Dialogue deals with game-related issues and, secondly, the Austrian Forest-Hunting-Dialogue was launched in 2012. The "Principles, Criteria and Indicators of Sustainable Hunting" were developed in a participatory process and are generally intended to provide a fundamental basis.

Further measures to safeguard biodiversity in Austria's forests include the Austrian Forest Ecology Programme to safeguard natural diversity and the Austrian Natural Forest Reserves Programme, which is intended to set aside forests for the natural development of forest ecosystems. There is no direct human intervention into the reserves. Since the beginning of the Natural Forest Reserves Programme, almost 200 reserves with a total area of around 8,400 ha have been contractually secured to date. The programme contributes to bringing new findings from research, to support the teaching of ecologically oriented, near-natural forest management. The aim of the natural forest reserve programme is to create at least one representative natural forest reserve per forest community and growth forest biogeographic area (in Austria there are a total of 125 forest communities in 22 growth forest geographic areas. The programme contributes to bringing new findings for research and teaching (basic research) and aims at the provision of new findings for ecologically oriented, near-natural forest management. Forest owners provide the areas voluntarily and receive compensations for refraining from timber extraction. In the future, the main focus will be on acquiring new knowledge in the development of ecosystems, networking with other research areas and drawing appropriate conclusions for forest management practice.

The Austrian Rural Development (RD) Programme (BMLFUW, 2017a) (Pillar II of the CAP) based on Regulations (EU) No. 1305/2013, 1306/2013 and 1303/2013 is the main element of Austria's agricultural policy. It is intended to support modern, efficient and sustainable agriculture production, but also the regional economy and the communities, and set social aspects. 44 measures of the Austrian RD Programme (RD 14-20) were classified as effective for biodiversity. Key instruments include the Agri-Environmental Programme or payments for less favoured areas (e.g. mountain areas). Beside these area-related measures, there is an

approach to enhance and foster knowledge and awareness for an environmentally friendly production and to establish structures to increase agrobiodiversity.

Another key measure to promote biological diversity is organic farming, which has positive effects on animal and plant diversity by dispensing with synthetic chemical pesticides in combination with adherence to a wide variety of crop rotations. Currently, about 22% of Austria's agricultural area (around 550,000 ha including alpine pastures) is farmed organically, placing Austria at the top of an EU-wide ranking.

Biological diversity is of great significance to tourism and leisure activities. An intact natural environment and landscape is an important competitive advantage and a basic requirement for tourism. Many of the zones with the greatest tourism intensity are located in Alpine regions and conservation areas.

A "Focal Point Neobiota" was established in Austria as an information and networking hub. It promotes neobiota management measures, carries out awareness raising activities and compiles recent scientific findings. The Focal Point supports the Federal Ministry for Sustainability and Tourism in the implementation of the EU Regulation No 1143/2014 of the European Parliament and the Council on the prevention and management of the introduction and spread of invasive alien species.¹¹⁰

6.2.3 Support mechanisms for national implementation (legislation, funding, capacity-building, coordination, mainstreaming etc.)

As Austria is a federal state, nature conservation and other biodiversity-related issues, such as hunting, fisheries and spatial planning, are in the competence of the Austrian provinces, ultimately this means that Austria has nine state nature conservation laws. In order to implement the EU Nature Directives and the EU Regulation on the Prevention and Management of the Introduction and Spread of Invasive Alien Species, the corresponding legal provisions in the relevant laws of the provinces and the Federal Government were adopted. Austria ratified the Nagoya Protocol in 2018. All legal acts can be found in the Legal Information System of Austria.¹¹¹

Funding programmes and information campaigns are offered both by the provinces and the federal government – partly with EU co-financing and by NGOs.

¹¹⁰ <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32014R1143&from=EN>

¹¹¹ <https://www.ris.bka.gv.at/defaultEn.aspx>

The Agri-Environmental Programme ÖPUL, as part of the Rural Development Programme, plays a significant role in ensuring the sustainable management of natural resources and the conservation of Austria's cultivated landscapes rich in species and structural diversity by granting payments to farmers for environmental services.

Biodiversity related research is undertaken at several universities across Austria. In addition, a number of programmes exist in Austria, which support research on biodiversity related issues. In the Austrian Climate Research Programme (ACRP)¹¹² within the Climate and Energy Fund, a framework for supporting research questions on issues on climate change, adaptation and biodiversity is available. The StartClim¹¹³ research funding programme also supports research on climate change and biodiversity, in particular alien species, alpine animal species, forest boundaries and the clarification of methodological questions on monitoring biodiversity in the context of climate change.

Austrian companies have been realizing that biological diversity is a prerequisite for many production processes and services. The specialist platform respACT¹¹⁴ was found in 2007 to support Austrian enterprises integrating social and ecological targets. There is also the "EcoBusinessPlan", which is an environmental service package of the City of Vienna for companies. It supports companies in implementing environmentally relevant measures in their processes and shall help to reduce costs.

6.2.4 Mechanisms for monitoring and reviewing implementation

There are essential monitoring activities in place focusing on e.g. rural development, forests (Austrian Forest Inventory), monitoring of water bodies and ground water, monitoring of breeding birds, amphibians, reptiles and other species (groups), and monitoring according the Habitat Directive.

On regional level nature and mountain guards (Berg- und Naturwacht) are engaged in monitoring programmes and practical eradication measures concerning invasive alien plants.

The initiative "Biodiversity Monitoring with Farmers" launched in 2007, aims to sharpen farmers' awareness of biodiversity and its influencing factors. Almost 700 farmers from all

¹¹² <https://www.klimafonds.gv.at/press/austrian-climate-research-programme-43-millionen-euro-fuer-klimaforschung/>

¹¹³ <http://www.startclim.at/>

¹¹⁴ <https://www.bmdw.gv.at/Aussenwirtschaft/nachhaltigkeit/Seiten/respACT-austrianbusinesscouncilforsustainabledevelopment.aspx>

over Austria observe and document their meadows, Alpine pastures and forests. The idea behind this is to increase farmers' enthusiasm for biodiversity and thus win them over as long-term partners in nature conservation.

A comprehensive systematic monitoring, "ÖBM-Kulturlandschaft", of the status of biodiversity in rural ecosystems was started in 2017, with the first results for 2017 now available. In 49 quadrants, 1299 species of vascular plants, 69 species of grasshoppers and 103 species of butterflies were mapped. The focus of this monitoring lies in habitat types, vascular plants, grasshoppers and butterflies and is closely aligned with methods applied in the project "Biodiversity-Nature-Safety" (BINATS), so that comparability with data collected during the BINATS project in 2007/2008 and the surveillance 2017 and 2018 can be ensured. First results for 2017 are available: in 49 quadrants 1299 species of vascular plants, 69 species of grasshoppers and 103 species of butterflies were mapped.

The international Global Biodiversity Information Facility initiative provides data on global biodiversity via a global online database. The GBIF Austria portal currently provides approx. 4.2 million data records on more than 40,000 animal, plant (incl. lichen) and fungus species. Most of these species are native to Austria. The GBIF-Austria database network consists of 16 databases. Approximately 100,000 new downloadable data records are made available per year. <http://www.gbif.at/>

The "Citizen Science" has been a major focus in the work of many NGOs, e.g. BirdLife Österreich, Naturschutzbund Österreich. www.naturbeobachtung.at is one of Austria's platforms to report nature observations with more than 400.000 observations and 250.000 pictures uploaded so far, including a network of about 6.000 nature observers, 50 scientific experts and platform operators. Active nature observation is a good possibility to get people enthusiastic about nature and motivate them to protect it. Reported observations are constantly validated by voluntary scientific experts through using a special system on the website to verify uploaded entries (mostly by means of uploaded photos). Launched online in 2017, within the first year more than 70.000 nature observations have been validated. The data is displayed in interactive distribution maps as well as different image galleries. They are the basis for field mappings, research studies and scientific publications. www.naturbeobachtung.at

A large, dark green geometric shape, resembling a right-angled triangle or a trapezoid, is positioned in the upper right quadrant of the page. It has a white diagonal line running from the top-left corner to the bottom-right corner, creating a white triangular area on the left and a dark green area on the right.

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