|  |  |
| --- | --- |
| **Project ID: 2021-1-CZ01-KA220-SCH-000034484**Ein Bild, das Grafiken, Grafikdesign, Cartoon, Text enthält.  Automatisch generierte Beschreibung**COURSE FOR ENVIRONMENTAL EDUCATION***e-Modules: Teaching Learning activities and their technology enhanced material set to develop*Ein Bild, das Text, Schrift, Logo, Grafiken enthält.  Automatisch generierte Beschreibung**Thematic Units for Week-Long Workshop Sessions:****M4: Ecosystem Forest****COURSE AUTHORs:*****©Tatjana Christelbauer MA (TC), contribution of the Vienna Institute for Blind focus group students, participants in the ERASMUS+ project LeMOON, guided by Dipl. Ped. Carla Laszakovits***

|  |
| --- |
|  |

***DISCLAIMER****Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.***COURSE SHARING LICENSE CC BY-NC-SA**= **Canonical URL:** <https://creativecommons.org/licenses/by-nc-nd/4.0/>**MODULE4, Part2: Human-Nature Ecosystem****LESSON: Ecosystem Forest: Reports from BVI students on Sustainability of the natural resources: Austrian Forests****SUBJECTS: Environmental education, Arts, Policy learning, AI, English, … inclusive approach** |

# 1. COURSE TIME, TARGET AND TOPIC

* **Age of target students:** 15+
* **Teaching time:** 1+ hour
* **Disciplines:** Geography, Environmental Education, Arts, Policy Learning, AI, English, …
* **Title:** Austrian Forests: policy acts and arts

# 2. COURSE OBJECTIVES

## Competences promoted in this lesson:

* Communication in foreign languages competency
* Digital competency
* Social and global citizenship-related competencies,
* Creative thinking
* Research and presentation competence

## Lesson objectives:

* read brief reports composed by BVI students from Vienna on Austrian forests
* discuss the role forest have in sustainable development and its impact on humans
* find inspiring ideas from arts to experience forest as a source for creative engagement and wellbeing
* make research about policy regulations related to forest in your country
* visit forest, create activities while visiting, record sounds in the forest, get inspired for more

# 3. LEARNING – TEACHING PROCESSES

There are 4 activities in this lesson:

1. **ENGAGE:** read reports from BVI students
2. **EXPLORE: make research about forestry in your homeplace / country and how is forestry managed, regulated and protected from destruction; make research about forest in arts and its impact on human life**
3. **EXPLAIN: forestry management and regulation in your local community/at the national level**
4. **EXTEND: Forest Expedition journal, art project inspired by forest in your home place or**

### ENGAGE

* + - 1. Introductory insights from the UNECE[[1]](#footnote-1):

**The Convention on Biological Diversity (1992)** defines an ecosystem as

“*a complex of living organisms and the abiotic environment with which they interact in a specified location*.”

In other words, it is a local network of interacting plants and animals, and the landscape in which they live. Humankind and ecosystems are strongly interrelated in a multitude of ways. Direct and indirect benefits from ecosystems are known as ecosystem services. This term was popularized by the Millennium Ecosystem Assessment (MA).
Forest ecosystem services (FES) are those services deriving from forest ecosystems. Watch the video “[**One Single Tree**](https://www.youtube.com/watch?v=e-Xk3jWFm10)" to get an impression on how we benefit from trees (Winter and Schnabel, CIFOR 2015).

Internationally, three main classification different approaches to classify ecosystem services systems are applied: **Millennium Ecosystem Assessment (MA 2005)**, Economics of Ecosystems and Biodiversity (TEEB 2010) and Common International Classification of Ecosystem Services (CICES 2013).

For a more detailed comparison of the international classification systems have a look at the [**Forest Europe Report on Valuation of Forest Ecosystem Services (2014)**](http://www.foresteurope.org/documentos/Report_Valuation_FES_ForestEurope.pdf)**.**

Humankind and ecosystems are strongly interrelated in a multitude of ways. Direct and indirect benefits from ecosystems are known as **ecosystem services**. Forest ecosystem services (FES) are those services deriving from forest ecosystems.

The Millennium Ecosystem Assessment (MA), a major UN-sponsored effort to analyze the impact of human actions on ecosystems and human well-being, identified four major categories of ecosystem services: provisioning, regulating, cultural and supporting services.

* + - 1. **Reports on Forestry in Austria form BVI Students, Vienna**

***Entry guide***

The term *sustainability* dates back from *sylviculture* (or forestry, a concept of sustainable forestry, introduced in the work of Hans Carl von Carlowitz´s „Sylvicultura Oeconomica‟ from 1713.

*How forest environment matters in sustainable development?*

*“Forests have a significant role in reducing the risk of natural disasters, including floods, droughts, landslides and other extreme events. At global level, forests mitigate climate change through carbon sequestration, contribute to the balance of oxygen, carbon dioxide and humidity in the air and protect watersheds, which supply 75% of freshwater worldwide.*

*Sustainable Development Goal* ***SDG 15*** *aims to “protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”.[[2]](#footnote-2)*

*„Forests interact with wide-ranging sectors and issues, including agriculture, water, energy, tourism and health, among others. Agricultural expansion is often the main driver of deforestation in many regions, while at the same time forests are important for food security and nutrition, especially for people living in remote areas. In order to end hunger and poverty in all its forms everywhere, national governments should ensure policy coherence across ministries and integrate strategies that deal with forests, agriculture, food, land use, and rural and national development while promoting sustainable consumption and production in close partnership with the private sector, industries and the civil society, among other stakeholders. Forests also regulate the provision of water and water-related ecosystem services within a larger climate forest-water-people system, offering sustainable solutions to address pressure from increasing and changing demands from growing population and economic development. Approximately 75 per cent of the world’s accessible freshwater derive from forested watersheds, hence forest-based solutions offer a great potential for the sustainable management of water resources.“[[3]](#footnote-3)*

***Austrian Forests***

(Shared by Simon BBI Vienna)

*Austria, a picturesque country in Central Europe, is renowned for its stunning landscapes and lush forests. These woodlands, covering approximately 47% of the country's total land area, are vital to Austria's biodiversity and environmental balance.*

*Diversity of flora and fauna:*

*Austria's forests are home to a wide variety of plant and animal species. From towering pine trees to delicate wildflowers, the flora here is diverse and vibrant. Similarly, the forests provide a habitat for numerous animal species, including deer, squirrels, and various bird species.*

**Forests and climate change:**

*Austria's forests play a significant role in combating climate change. Trees act as natural carbon sinks, absorbing carbon dioxide from the atmosphere. The country's commitment to preserving and expanding its forested areas contributes to global efforts in mitigating the effects of climate change.*

*Forests supply us with the environmental friendly energy and offer us spaces for recreation. Forests can also filtrate water and important minerals. Forests in Austria are the key of each line of industry. Forestry and the timber industry are important economic factors in Austria.*

(Shared by Dimana BBI Vienna)

*Austria is one of the most forested countries in Europe. There are 3 different forest types such as: mixed forest, deciduous forest, and coniferous forest.* (Shared by Maegan, BBI Vienna)

*82% of the forests belong to private people (145 000 people) the other 18% are public forests. In the last ten years the forest area has increased by six hectares every day. Our forests are also a home to wildlife. Austria has a Economic and recreational value. Our forests are also good for hiking and outdoor activities.* (Shared by Lea, BBI Vienna)

**Forests in Austria: A Natural Asset**

*Austria, nestled in the heart of Europe, is blessed with abundant forests. These forests are vital for the environment and offer various recreational opportunities for people. In this essay, we will delve deeper into Austrian forests, their significance, and the common trees and plants that thrive in these wooded areas.*

*Austria is fortunate to have about 47% of its land blanketed by forests, a substantial portion when compared to many other European countries. These forests play a pivotal role in environmental conservation, acting as a natural carbon reservoir and contributing to clean air. Some well-known forests in Austria include the Vienna Woods, Kalkalpen National Park, and the Bohemian Forest.*

*The Vienna Woods, encircling the capital city of Vienna, provide a serene escape for both city residents and visitors. This forest area is characterized by gentle hills, dense tree growth, and a network of hiking trails, making it a favored destination for nature enthusiasts.*

*Kalkalpen National Park, situated in Upper Austria, boasts a rich biodiversity. It is home to rare animal and plant species like the lynx and the Eurasian eagle-owl. The Park is a model of sustainable forest management and nature conservation, showcasing the harmonious coexistence between humans and nature.*

*The Bohemian Forest, also known as Šumava in the Czech Republic, stretches across the Austrian-Czech border and is a pristine wilderness area. It is a popular destination for hikers and nature lovers, offering an opportunity to observe wildlife and immerse in the natural surroundings.*

*Austria's forests are not only significant for nature but also contribute to the country's economy. The timber industry is a major player in Austria, and the implementation of sustainable forest management practices is crucial to ensure the longevity of these forests.*

*Common trees that thrive in Austrian forests include spruce, fir, beech, oak, and pine. On the forest floor, you can find a variety of plant species, such as wildflowers, ferns, and mosses, contributing to the rich biodiversity of the forests.*

*In conclusion, Austrian forests are a valuable natural resource. They play a crucial role in environmental conservation, offer diverse recreational opportunities, and support the country's economy. Advocating for the protection and sustainable management of these forests is essential to ensure they remain a valuable asset for current and future generations.*

*(*Shared byXenia[4 (fao.org)](https://www.fao.org/3/w3722e/w3722e05.htm) with assistance of the Chat GPT)

Almost half of Austria is covered with forests approximately 3 878 000 ha (46,2 per cent).

In the forests you can relax. A lot of people go skiing and walking. The forest provides with wood and minerals and protects us from natural dangers such as avalanches. Forests are important places for plants and animals like wild boars, deer, roe deer and different birds. The forest filters Co2.

By clearing forest, we get wood that the sectors of industry can use to make furniture and other things.

**The basic principles of our Austrian Forest Act:**

Take good care of the forests that they are preserved.

Securing possible money for the next generations.

Reforest the forests and provide special protection.

Protect the forest from pests, air pollution and fires.

The staff should be well trained that they know how they can be carefully with the forests.

The state should support improvements in the impact of forests.

Report from BVI students

Vienna Institute for blind and visually impaired BBI

Supported by teacher Carla Laszakovits, guided by Tatjana Christelbauer MA

Vienna, October 2023

### EXPLORE

**3. Policy regulations, Forest in arts**

**Weblinks:**

Forests in sustainable development: SDG 9.7:

<https://sustainabledevelopment.un.org/content/documents/25890UNFF15_Bureaus_Input.pdf>

Austria Forest Act:

<https://info.bml.gv.at/en/topics/forests/austrias-forests/forest-law/forest-act-1975.html#:~:text=The%20objective%20of%20the%201975,effects%20and%20sustainable%20forest%20management>.

Contribution of the Austrian Forest and Wood sector to Sustainable Development Goals

<https://info.bml.gv.at/service/publikationen/wald/Contribution-of-the-Austrian-forest-and-wood-sector-to-the-Sustainable-Development-Goals.html>

Austrian Forest in arts:

<https://www.proholz.at/zuschnitt/91/der-wald-in-der-kunst>

<https://www.youtube.com/watch?v=vzZLiXhyBo8>

<https://www.youtube.com/watch?v=vuTJGKkWL9I>

<https://www.youtube.com/watch?v=uxY7X1p9Y3k>

WWF: <https://www.youtube.com/watch?v=tDW_rbdP7Ls>

<https://www.klauslittmann.com/en/projects/for-forest-nil-the-unending-attraction-of-nature-a-temporary-art-intervention-by-klaus-littmann-2019#:~:text=The%20Project&text=%E2%80%9EFOR%20FOREST%20%E2%80%93%20The%20Unending%20Attraction,September%20to%2027%20October%202019>.

### EXPLAIN

**3.1. Forest in sustainable development**

Explain what you have learned about forestry in sustainable development while reading the brief notes of BVI students on Austrian forestry.

*How can arts contribute to awareness raising for the protection of the forest, and to prevention of its environmental degradation?*

*What important role have the forest environment for humans?*

*What are some sustainable forestry practices that can help maintain healthy forest ecosystems while meeting human needs for resources like paper?*

*How do deforestation and forest degradation impact biodiversity and ecosystem services, and what strategies can be implemented to mitigate these effects?*

*In what ways can communities living near forests be involved in sustainable forest management and conservation efforts?*

*How does climate change affect forests, and what are some adaptive measures that can be taken to help forests withstand changing environmental conditions?*

### EXTEND

**3.2. Fostering creativity, environmental stewardship, and community engagement**

**Some ideas for further research and engagement**

***Collaborative Art Installation****:* Organize a school-wide art project where students work together to create an immersive forest-inspired installation. This could involve painting murals, crafting sculptures from natural materials, or even designing a forest-themed interactive exhibit.

***Forest Awareness Day****:* Plan and host an event at school dedicated to raising awareness about the importance of forests for human well-being and environmental sustainability. This could include informative presentations, interactive workshops, and engaging activities such as tree planting or eco-friendly craft stations.

***Forest Exploration Excursion****:* Arrange a field trip to a nearby forest or nature reserve where students can immerse themselves in the natural environment. During the excursion, encourage students to record sounds, capture photographs, and collect natural materials to inspire creative projects such as composing music, writing poetry, or crafting artwork.

***Outdoor Classroom Experience****:* Coordinate an outdoor lesson or educational workshop in the forest, if possible. This hands-on learning experience can provide students with a deeper understanding of forest ecology, sustainable forestry practices, and the interconnectedness of ecosystems. Activities could include identifying plant and animal species, conducting environmental surveys, or participating in forest restoration efforts.

***Forest Conservation Campaign***: initiate a conservation campaign focused on protecting local forests and promoting sustainable land management practices. This could involve advocacy efforts, community outreach initiatives, and collaborative projects with environmental organizations to address issues such as deforestation, habitat loss, and wildlife conservation.

### EVALUATE

**Create an Forest Expedition Journal**

Objective: The Forest Expedition Journal is designed to assess students' understanding of forest ecosystems, sustainable forestry practices, and the importance of forests in sustainable development. It encourages students to apply their knowledge in a real-world context and reflect on their experiences in the forest.

**Some instructions:**

**Pre-Expedition Preparation:** Provide students with background information on forest ecology, biodiversity, sustainable forestry practices, and the significance of forests in sustainable development. Introduce the objectives of the Forest Expedition Journal and explain the expectations for completion.

**Forest Expedition:** Organize a field trip to a nearby forest or nature reserve, ensuring adequate supervision and safety measures. During the expedition, encourage students to observe, explore, and interact with the forest environment. Provide opportunities for hands-on learning, such as identifying plant and animal species, examining soil composition, and discussing ecosystem dynamics.

**Journal Entries:** Throughout the expedition, students will document their observations, experiences, and reflections in their Forest Expedition Journal. Each journal entry should include:

°Description of the forest environment: Students should describe the physical characteristics of the forest, including vegetation types, wildlife species, and ecosystem interactions.

°Observations of biodiversity: Students should record their observations of plant and animal species encountered during the expedition, noting species diversity and interactions.

°Insights on sustainable forestry: Students should reflect on sustainable forestry practices discussed during class and observe any evidence of forest management techniques, such as selective logging, reforestation efforts, or wildlife conservation measures.

°Personal reflections: Students should express their thoughts, feelings, and insights gained from the forest expedition, including any newfound appreciation for forests and their role in sustainable development.

**Evaluation:** Assess students' Forest Expedition Journals based on the depth of their observations, critical thinking skills, understanding of forest ecology and sustainability concepts, and ability to articulate personal reflections. Consider criteria such as accuracy of observations, integration of ecological principles, creativity in journal presentation, and depth of reflection.

1. Source: UNECE webpage: <https://unece.org/ecosystem-services-0> [↑](#footnote-ref-1)
2. Source: https://sustainabledevelopment.un.org/topics/forests [↑](#footnote-ref-2)
3. Source: <https://sustainabledevelopment.un.org/index.php?page=view&type=30022&nr=2472&menu=3170> [↑](#footnote-ref-3)