

Country report for Austria (not only) related to forest health issues of nut trees

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Juglans nigra L.

Black walnut, American walnut

Drought
tolerance



Frost
tolerance



Shade
tolerance



Waterlogging
tolerance

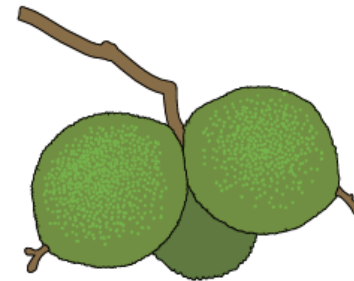
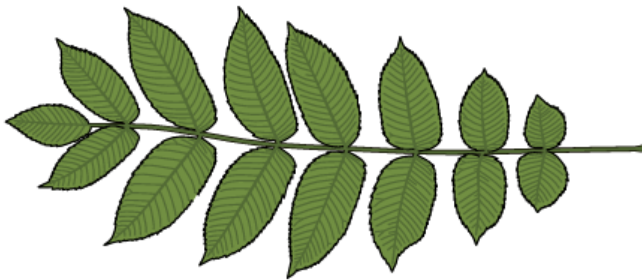


Allergic
potential



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ORIGIN: Eastern and western USA

INTRODUCED TO EUROPE: Early 17th century

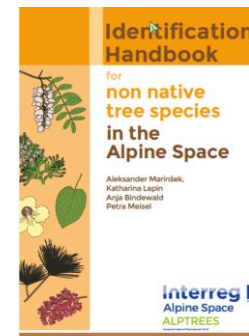
OCCURRENCE IN THE ALPINE SPACE: Forest plantations, ornamental tree in parks and urban areas

MAIN CHARACTERISTICS: Can grow to a height of 38 m, but generally reaches around 25 m. It has very large, alternate, pinnately compound **leaves** with 9-25 aromatic leaflets. The twigs feature a prominently chambered pith. It produces large, leathery, terminal **fruits** (botanically a false drupe) containing a single thick-shelled **seed**. Seed crops are irregular. Seed production can be abundant every 3-5 years. The **bark** is dark grey or brown in youth; in older trees, it can become almost black (giving the species its common name) and deeply cracked into regular patterns. The young sprouts are densely hairy. The buds are yellow-brown, hairy, and sticky, and the terminal bud is larger than the lateral buds.

ECOLOGY: Optimal growing conditions for are deep, rich, loose, moist soils in lowlands, preferably in river valleys. It cannot tolerate heavy clay soils or habitats that are flooded for long periods. The black walnut is a heliophyte that can withstand moderate drought and temperatures down to -30°C, though frost can damage young trees. Compared to *Juglans regia*, it grows faster, better, and is more resistant to diseases and pests.

SIMILAR TREES: *Juglans x intermedia*, *Fraxinus excelsior*

Occurrence



LINK: <https://www.bfw.gv.at/alptrees-handbuecher/>

Management and use of *Juglans nigra* L.

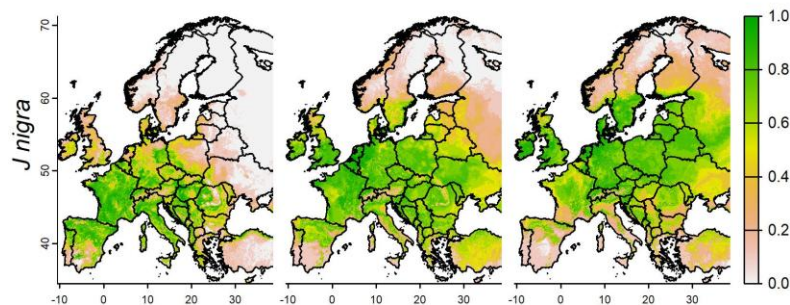
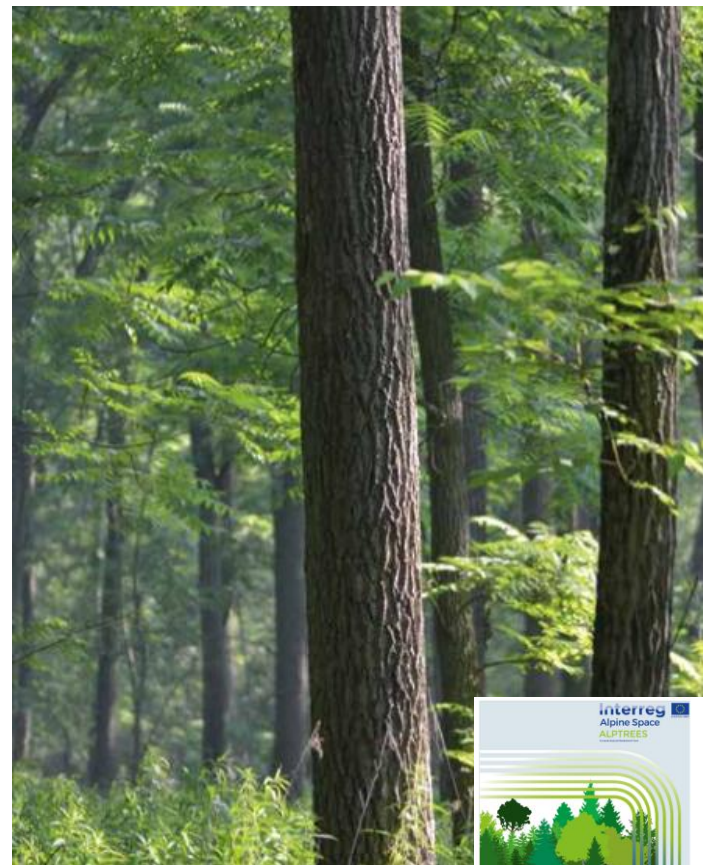
Primary Objective: The exclusive goal of cultivating black walnut is to produce top-quality wood for high-end uses.

Establishment Method: Trees are regenerated by either planting or direct seeding on bare land, and can be grown in both monocultures (single-species) and mixed stands.

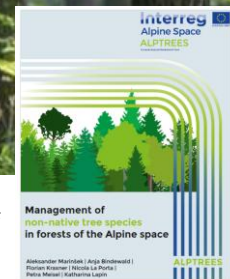
Rotation Period: Management of these stands spans a long-term rotation period of up to 80 years.

Mandatory Maintenance: Cultivation requires mandatory weeding, as well as mandatory high and formative pruning to ensure timber quality.

Stand Management: Density and tree growth are controlled through cleaning and respacing (in dense stands) alongside thinning (mostly from above).



Chakraborty, D. (2024). Dataset on Potential Distribution of Non-native Tree species in Europe (Version Version1) [Data set]. Zenodo. <https://doi.org/10.5281/zenodo.10782504>



Management and use of *Juglans nigra* L.

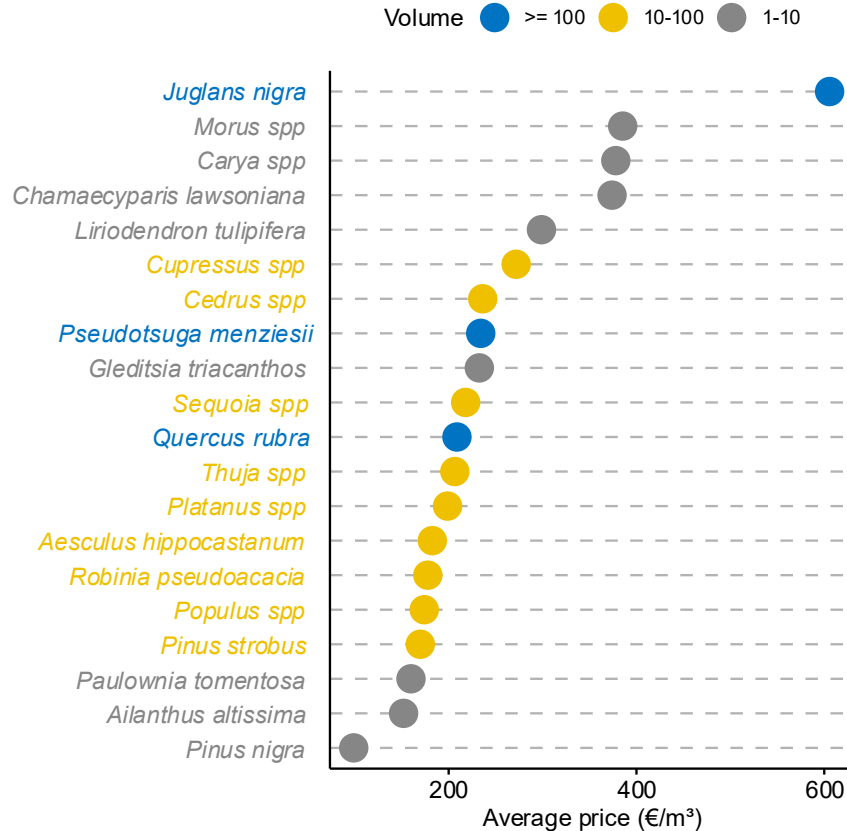


photo: Eric Meier, www.wood-database.com



Figure 5: Left - Black walnut (*Juglans nigra*) in the forest stand, right - veneer sample of its wood

Pests and diseases of *Juglans nigra* L.

In Europe, **black walnut (*Juglans nigra*)** experiences relatively few insect outbreaks compared to the USA.

Thousand cankers disease is a major threat to black walnut in both America and Europe.

In the species' native range, thousand cankers disease can cause:

- Tree decline
- Tree mortality (death)

The disease was first detected in **Italy in 2013** and has been spreading toward **Slovenia**.

- **Inonotus hysspidus** can infect black walnut and cause **white rot** of the wood.
- **White-berried mistletoe** can infest the crowns of black walnut trees.
- **Yellow mistletoe** can also infest black walnut crowns.
- Black walnut is susceptible to **root collar decay** caused by the fungus ***Phytophthora cactorum***.



Invasiveness and risks



PHASE introduction

NAME alien species

establishment and reproduction

naturalized alien species

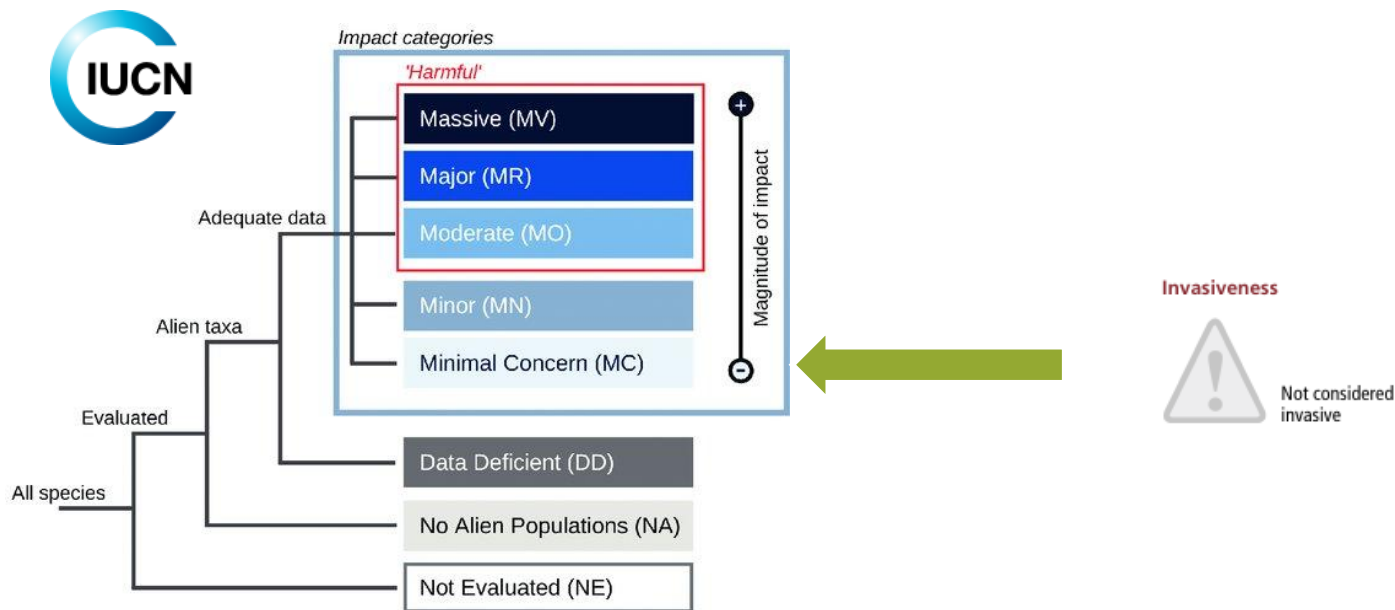
spreading and causing damage

invasive alien species

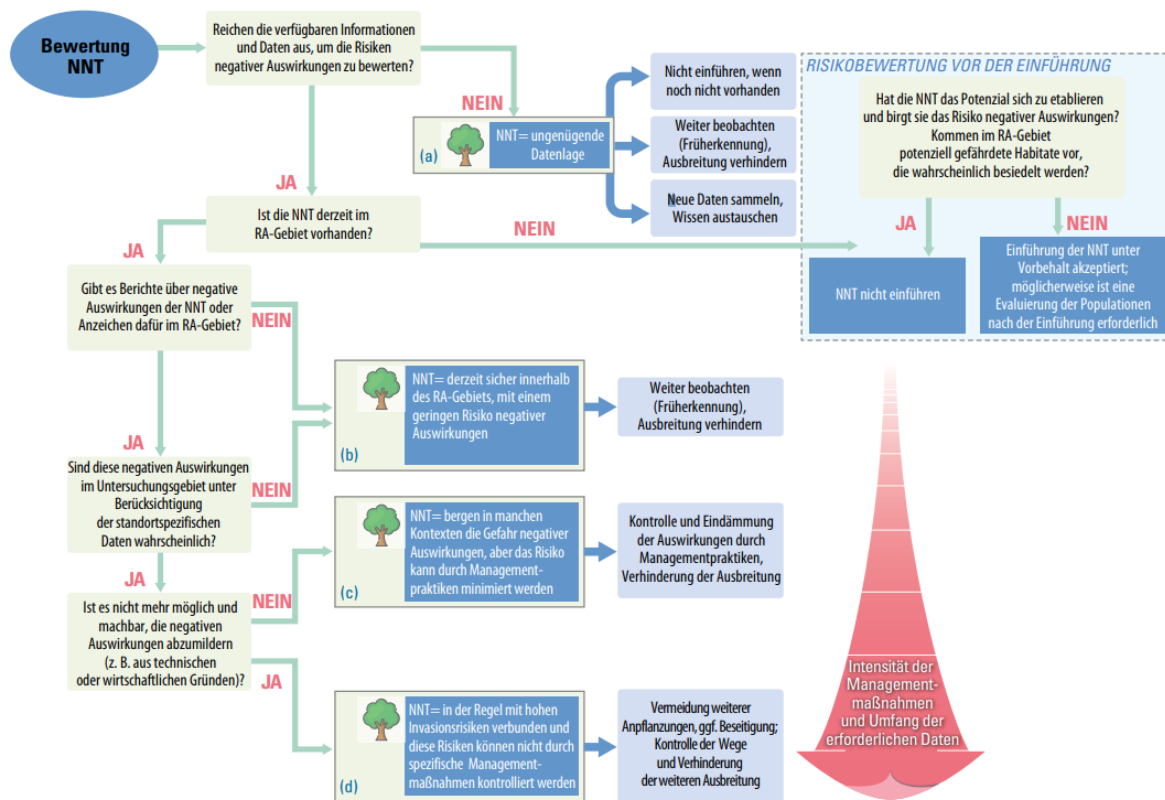
Non-invasive trees
refer to NNT that do not
show or suggest any
negative impact so far,
or their effects are
unknown.

(Potentially) Invasive trees refer to NNT whose
introduction, establishment and/or spread pose
potential or actual risks to the native biodiversity,
ecosystem functioning, or socio-economy
including human health.

Invasiveness and risks



Site-Specific Risk Assessment

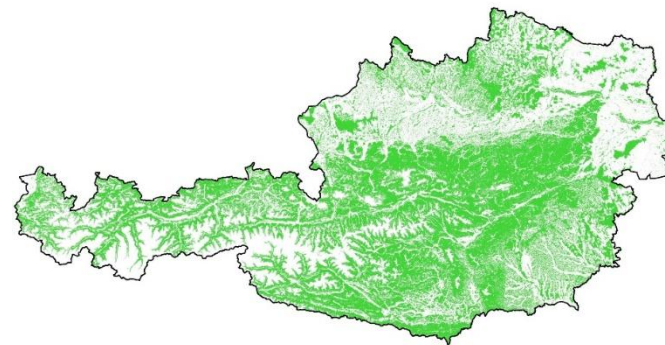
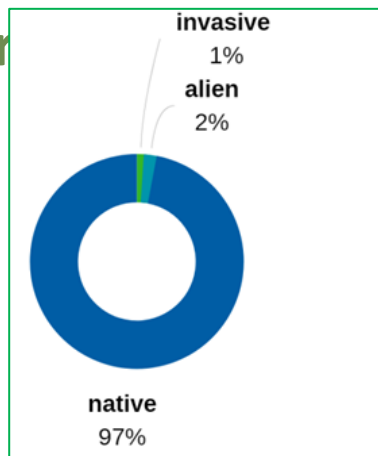
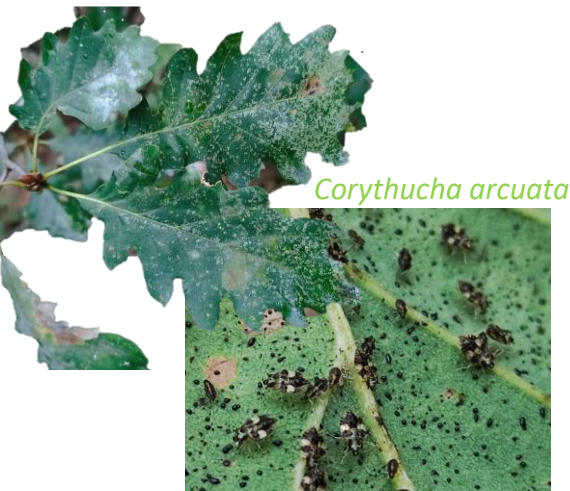


Step

Pre-risk assessment

- 1 STEP Definition of the risk assessment (RA) area
- 2 STEP Identification of the current and potential occurrence of NNT
- 3 STEP Collation of relevant and available knowledge on NNT
- 4 STEP Inventory of site-specific habitat features important for nature conservation value
- 5 STEP Generation of site-specific knowledge on the risks posed by NNT in the RA area
- 6 STEP Assessment of the current and potential impact of NNT in the RA area
- 7 STEP Development of management recommendations
- 8 STEP Conclusion of the SSRA

Other IAS Forests in Austria



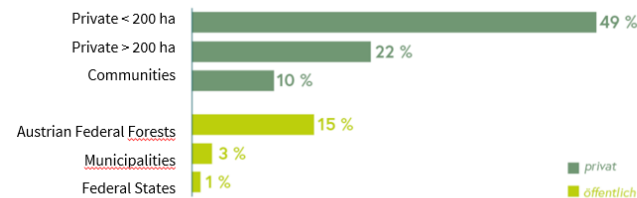
Forest Cover: 49.7% (3.79 Mio. Ha)

Forest Owners: 137.000

81 % privately owned forest (partly < 5 ha)

15 % state owned forests

4% municipality and federal state-owned forests



First record of the ambrosia beetle *Cnestus mutilatus*



Two females were captured in an **APSD Styria survey trap** in **Straß** (near the Slovenian border) in **July 2025**.

No infested trees were found; further investigations are underway to determine the extent of the occurrence.

Cnestus mutilatus has been captured several times in **Slovenia**, but no damage has been reported.

Note: Non-European **Scolytinae** (bark and ambrosia beetles) are classified as **quarantine pests in the European Union**.

Oak lace bug (*Corythucha arcuata*)



Photo: Hoch, BFW



Photo: Connell, BFW

Introduced from North America (first detected in Italy in 2000). It attacks all native European oak species; the northern red oak (*Quercus rubra*) has not yet been identified as a host in Europe.

Oak lace bug (*Corythucha arcuata*)

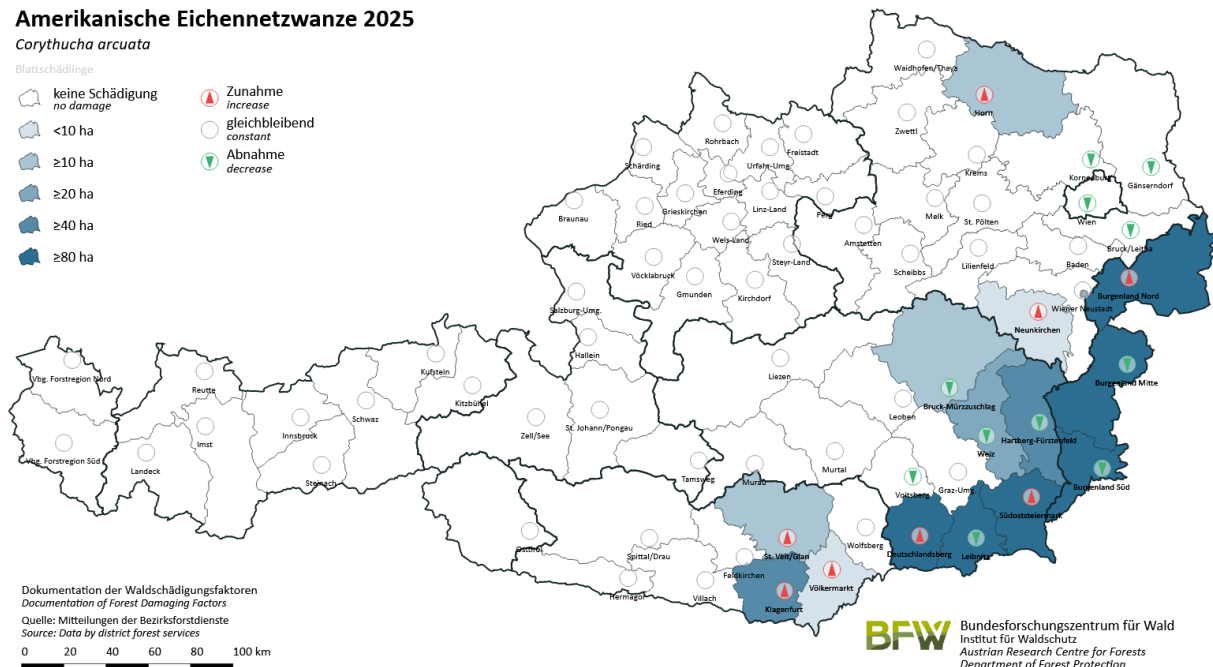
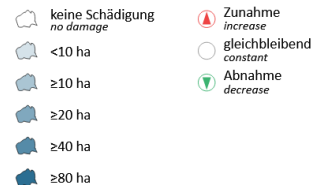
The infestation area in Austria has expanded westward.

The infestation in 2025 is less severe than in 2024 (presumably due to weather conditions) – consequently, the DWF reports a decrease in the damaged area in some districts.

Amerikanische Eichennetzwanze 2025

Corythucha arcuata

Blattschädlinge



Areas of damage reported by district forestry authorities
(documentation of forest damage factors)

Project Ash in Distress:

We bring the ash back into the forest!

Ash dieback pathogen: *Hymenoscyphus fraxineus* introduced from East Asia

Dieback of twigs and crowns, Root Collar Necrosis; Infected trees are increasingly susceptible to secondary, root rot pathogens and prone to windthrow

Results so far:

Collection of progeny from 600 disease tolerant mother trees

Setting up and evaluation planting experiments with over 35.000 of these mother trees, selection of >1000 elite clones

Assessment of the genetic variation, hybridization and correlation of gene loci with disease tolerance

Selection of highly tolerant individuals for the establishment of 3 seed orchards

BFW Establishment of several plots with a total of over 4.000 individual trees in Upper Austria, Salzburg and Lower Austria

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Outlook: Forest Restoration after Invasion



Official Journal
of the European Union

EN
L series

2024/1991

29.7.2024

REGULATION (EU) 2024/1991 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 24 June 2024

on nature restoration and amending Regulation (EU) 2022/869

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

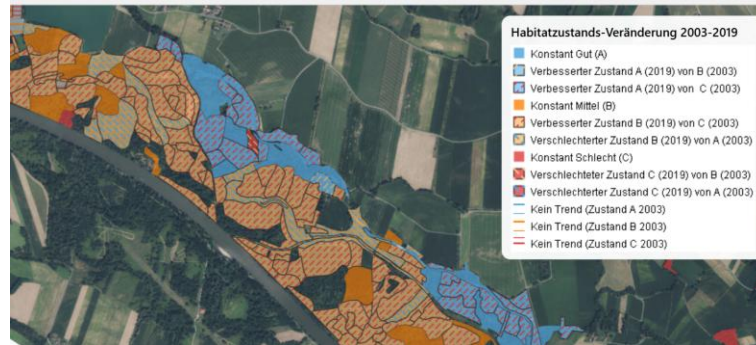
Having regard to the Treaty on the Functioning of the European Union, and in particular Article 192(1) thereof,

Having regard to the proposal from the European Commission,

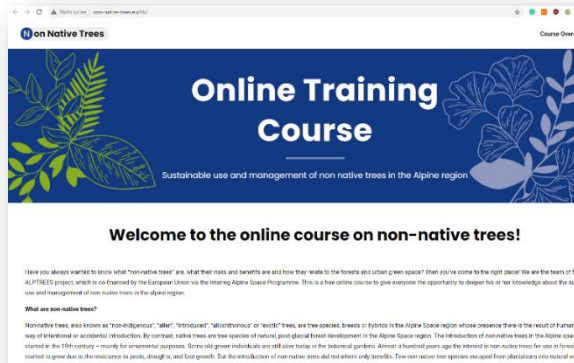
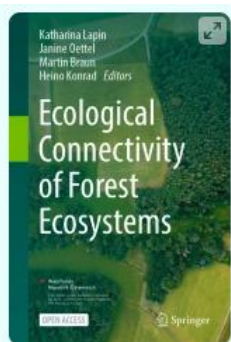
After transmission of the draft legislative act to the national parliaments,



Zeigerarten und Risikofaktoren im Auwald an der Grenzmu



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<https://www.inaturalist.org/>



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