

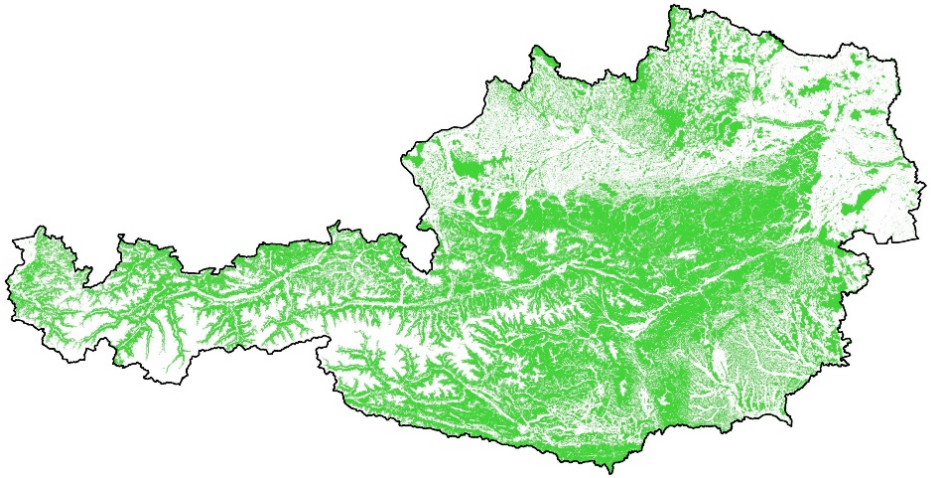
BFW BUNDES FORSCHUNGS ZENTRUM FÜR WALD

Forests in Transition: Neophytes in Austria's Forests

Katharina Lapin & Cornelia Amon
Head | Department of Forest Biodiversity
Austrian Research Centre for Forests (BFW)

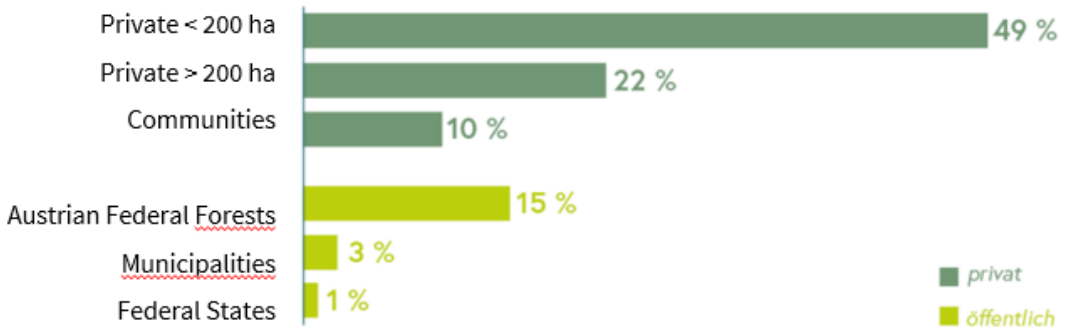
REUFIS Annual Meeting 2025
organized by the FAO Regional Office for Europe and Central Asia
13 October 2025

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

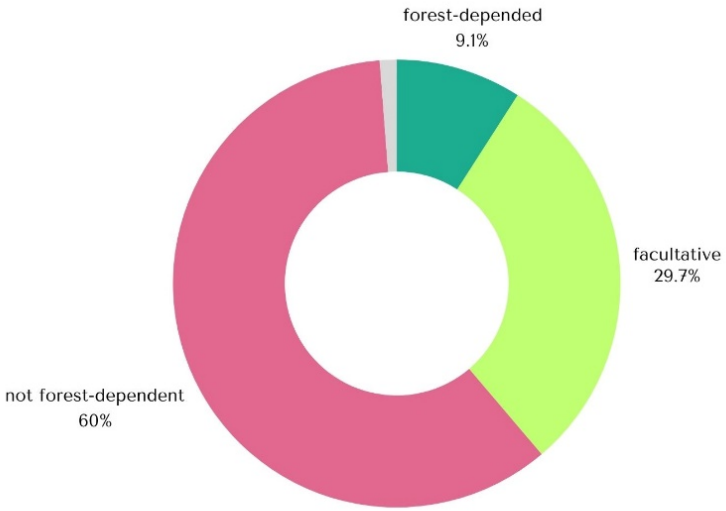


BFW
BILDUNG
FORSCHUNG
WALD

Alien Plants in Austria

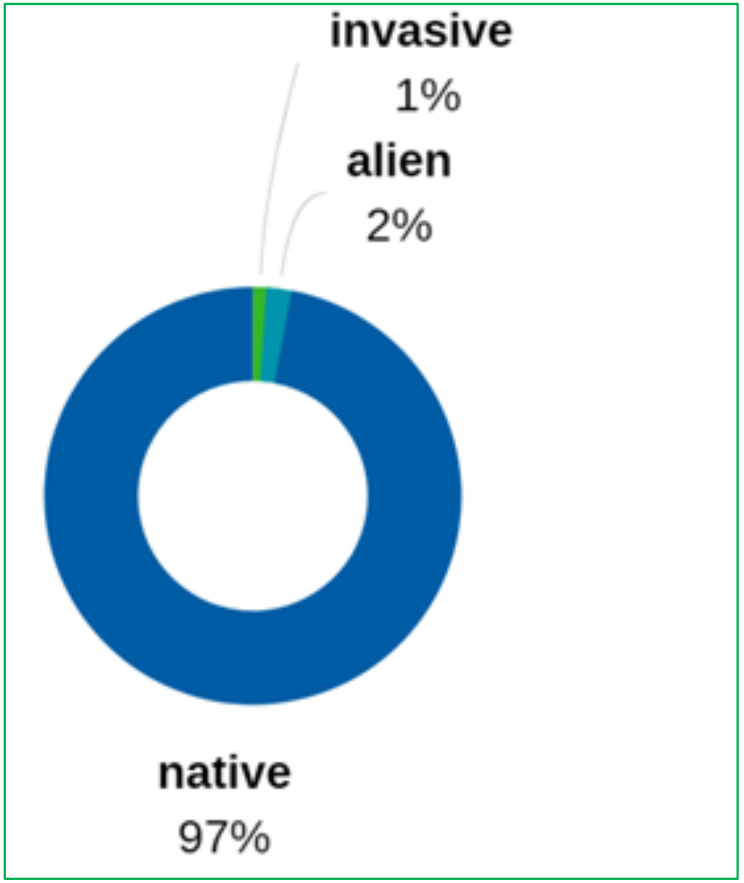
1.110

neophytic vascular plant species



vascular plants
n=3851

In forests



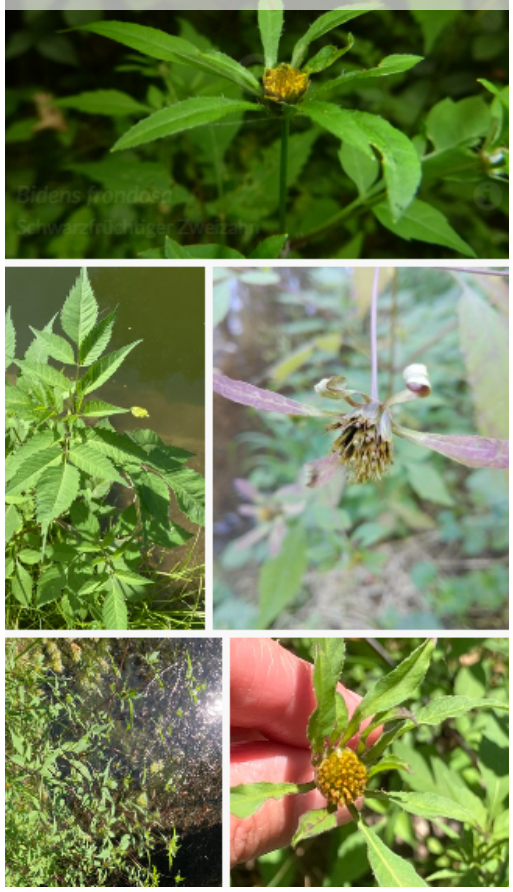
BFW
BILDUNG
FORSCHUNG
WALD

Non-invasive alien plants in forests

Acer tataricum
Tatarischer Steppen-Ahorn



Bidens frondosa
Schwarzfrüchtiger Zweizahn



Aesculus hippocastanum
Gewöhnliche Rosskastanie



Telekia speciosa
Gewöhnliche Telekie



Management of Non-Native Trees in Urban, Peri-Urban and Forest Ecosystems in the Alpine Region

- In total **526 NNT** are currently growing in **forests and urban** areas in the Alpine Space
- **67%** are currently being cultivated exclusively in cities

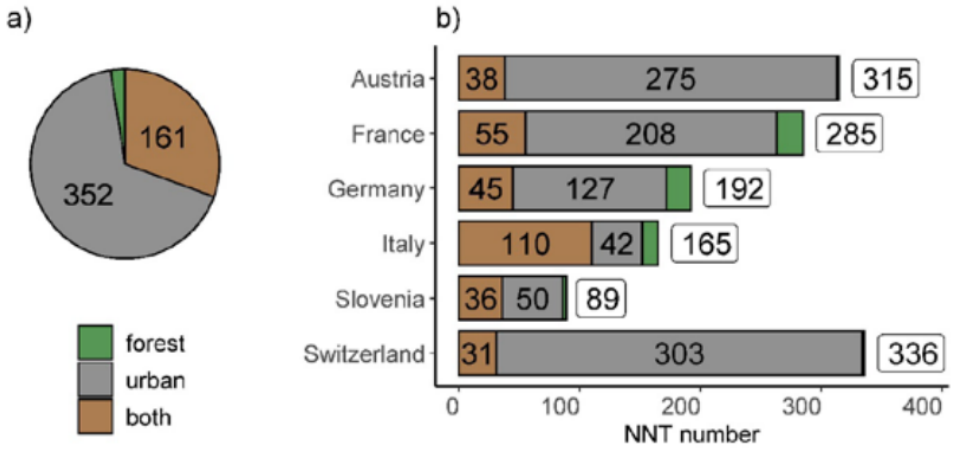


Figure 6 NNT growing in forests, cities or both forests and cities a) across the entire Alpine Space region, b) for the individual countries in the Alpine Space. The box contains the total number of NNT in each case.

- Most NNT from **Asia** (248, i.e. 53%), **North America** (180, i.e. 39%)

BFW
BILDUNG
FORSCHUNG
WALD

Management of Non-Native Trees in Urban, Peri-Urban and Forest Ecosystems in the Alpine Region

Interreg Alpine Space ALPTREES



Cedrus libani A. Rich (Lebanon cedar)

Safe NNT that currently pose no risks



Pseudotsuga menziesii (Mirb.) Franco (Douglas-fir)

NNT that can pose risks in some environmental contexts, but are safe in other environments



Prunus serotina Ehrh. (black cherry)

NNT expected to pose high risks and that cannot be controlled by specific management measures

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.


Invasive Alien Plants

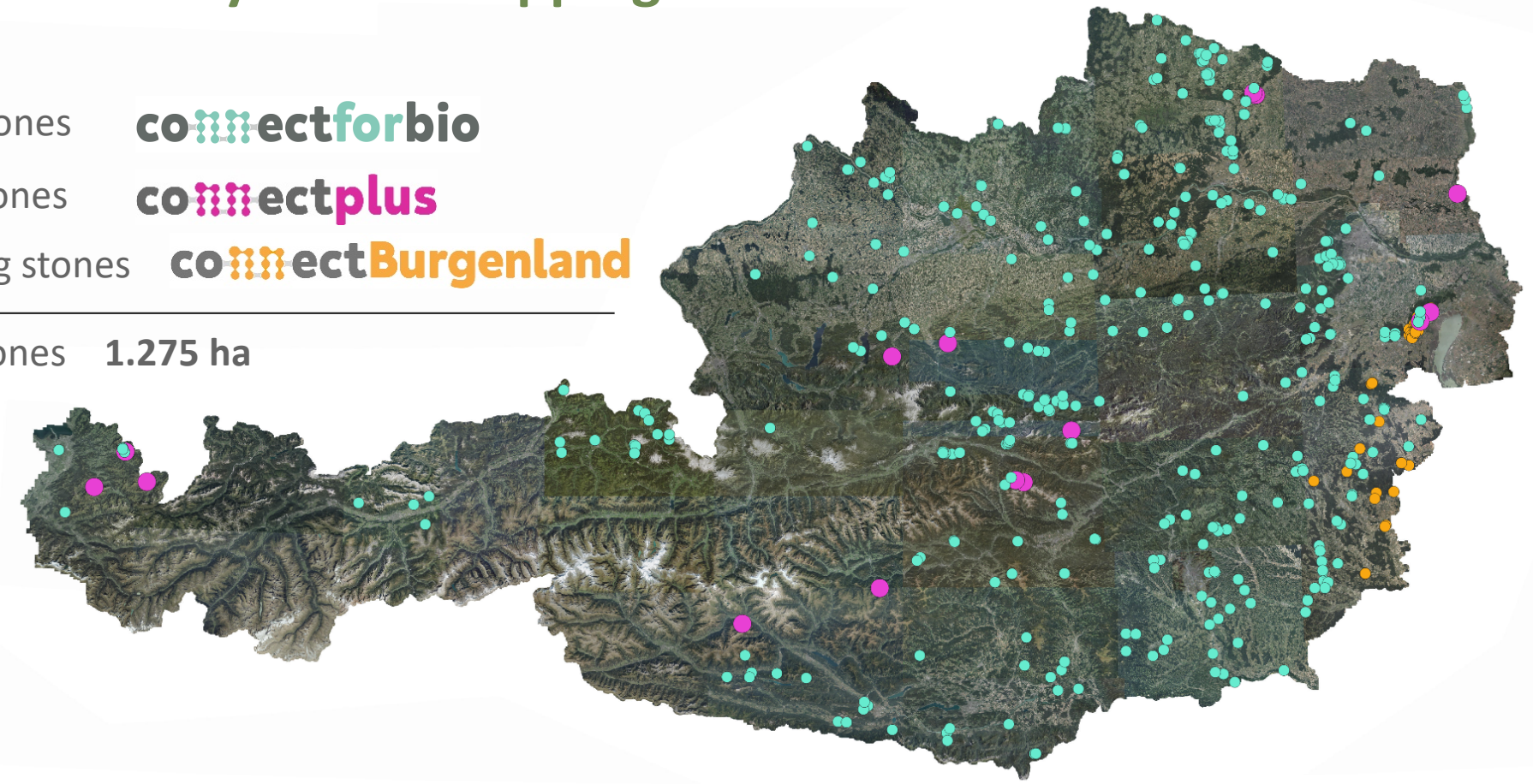
The result after 4 years of stepping stones

371 stepping stones connectforbio

15 stepping stones connectplus

47+13 stepping stones connectBurgenland

446 stepping stones **1.275 ha**



BFW
BILDUNG
FORSCHUNG
WALD

Waldfonds
Republik Österreich
Eine Initiative des Bundesministeriums für Land- und Forstwirtschaft, Regionen und Wasserwirtschaft

Bundesministerium
Land- und Forstwirtschaft,
Klima- und Umweltschutz,
Regionen und Wasserwirtschaft

LE 14-20
Entwicklung für den ländlichen Raum

Europäischer Landwirtschaftsfonds für die Entwicklung des ländlichen Raums: Hier investiert Europa in die ländlichen Gebiete.

Bundesministerium
Land- und Forstwirtschaft,
Klima- und Umweltschutz,
Regionen und Wasserwirtschaft

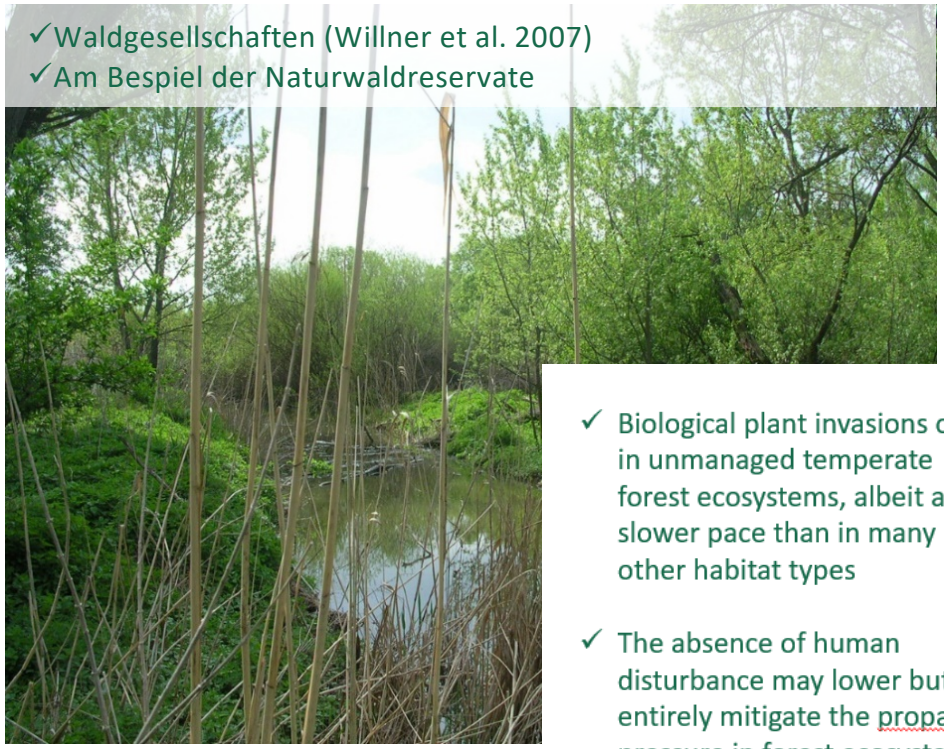
LE 14-20
Entwicklung für den ländlichen Raum

Land
Burgenland

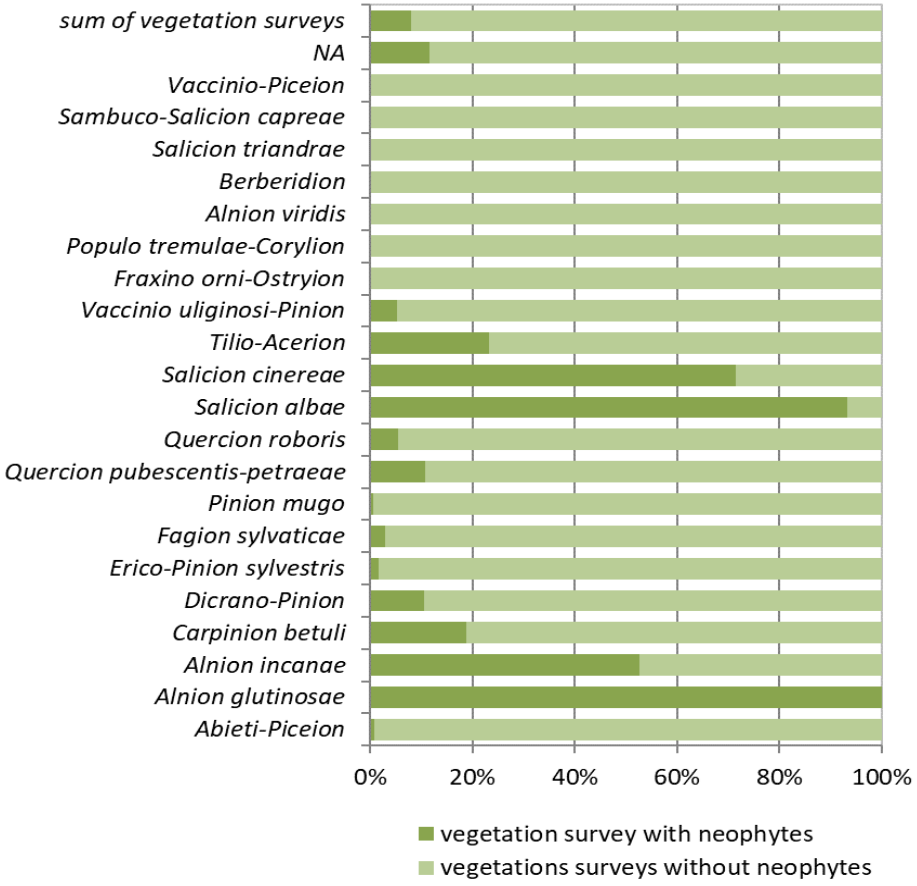
Europäischer Landwirtschaftsfonds für die Entwicklung des ländlichen Raums: Hier investiert Europa in die ländlichen Gebiete.

Spread of invasive alien plant species in Austrian forests

✓Waldgesellschaften (Willner et al. 2007)
✓Am Bespiel der Naturwaldreservate



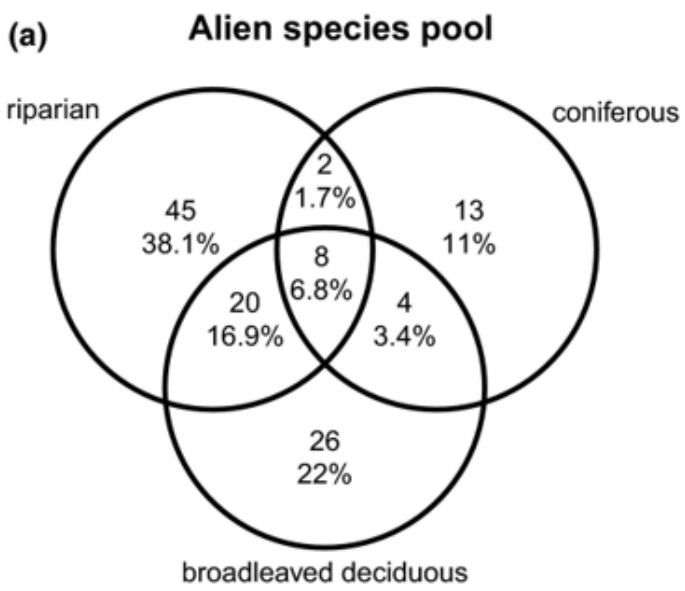
- ✓ Biological plant invasions occur in unmanaged temperate forest ecosystems, albeit at a slower pace than in many other habitat types
- ✓ The absence of human disturbance may lower but not entirely mitigate the propagule pressure in forest ecosystems
- ✓ Climatic limitation (elevation) is the main driver for the spread of IAS into unmanaged temperate European forests



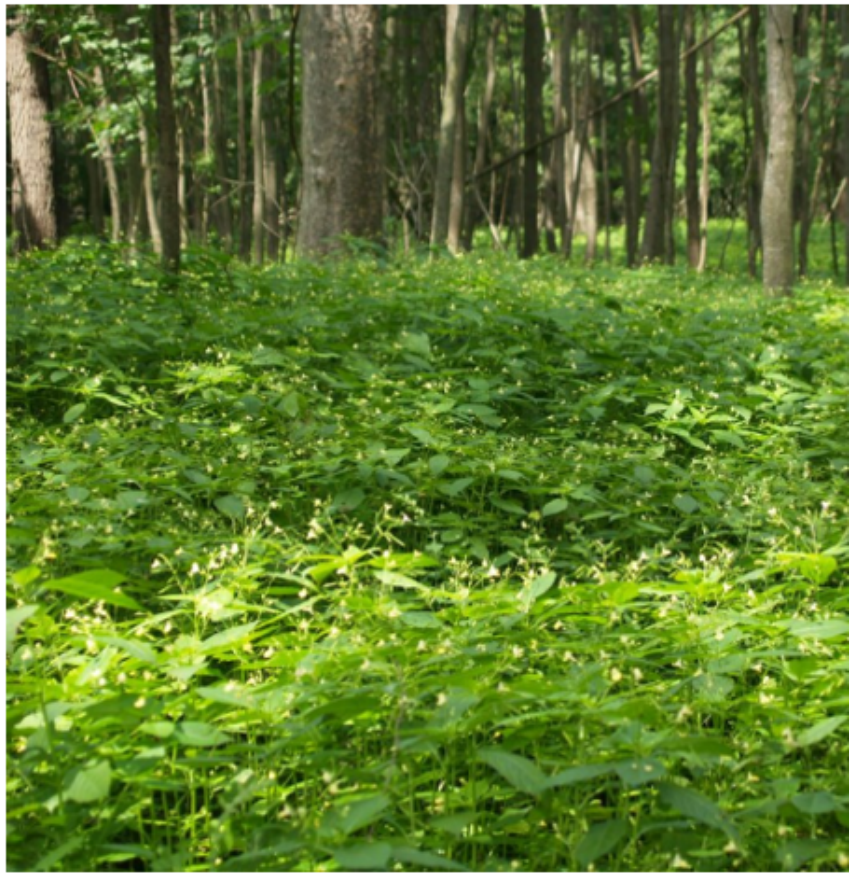
BFW
BILDUNG
FORSCHUNG
WALD

Spread of invasive alien plant species in Austrian forests

- **effect** on endemic species, plant communities and ecosystems *(Pyšek et al., 2008; Vila et al., 2011, Blackburn et al (2011)*
- long-term consequences **for succession processes** & **loss of biodiversity**
- *(Shine et al., 2010)*
- **threat** to endemic tree and shrub species in Europe.
- *(IUCN, 2018; BGCI, 2013)*
- **increasingly colonizing** forested areas, in particular riparian forests. *(Berg et al. 2016)*



Differences in invasion across woodland habitats.
(Wagner et al.2017) Diversity and Distributions 23: 969–981



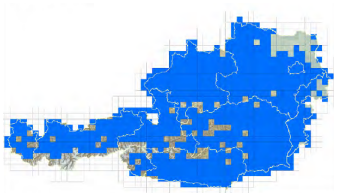
© Lapin, *Impatiens parviflora* in the Danube floodplains, Lower Austria (2011)

Alien plants in Austrian forests



Impatiens glandulifera

Drüsiges Springkraut



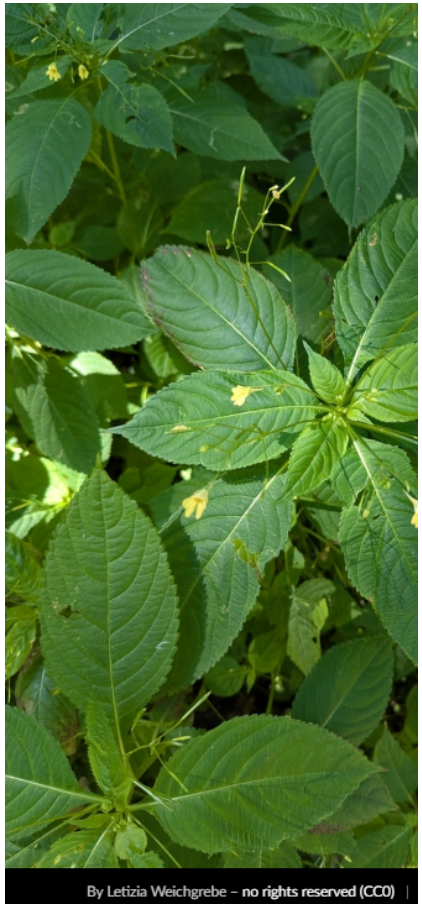
umweltbundesamt

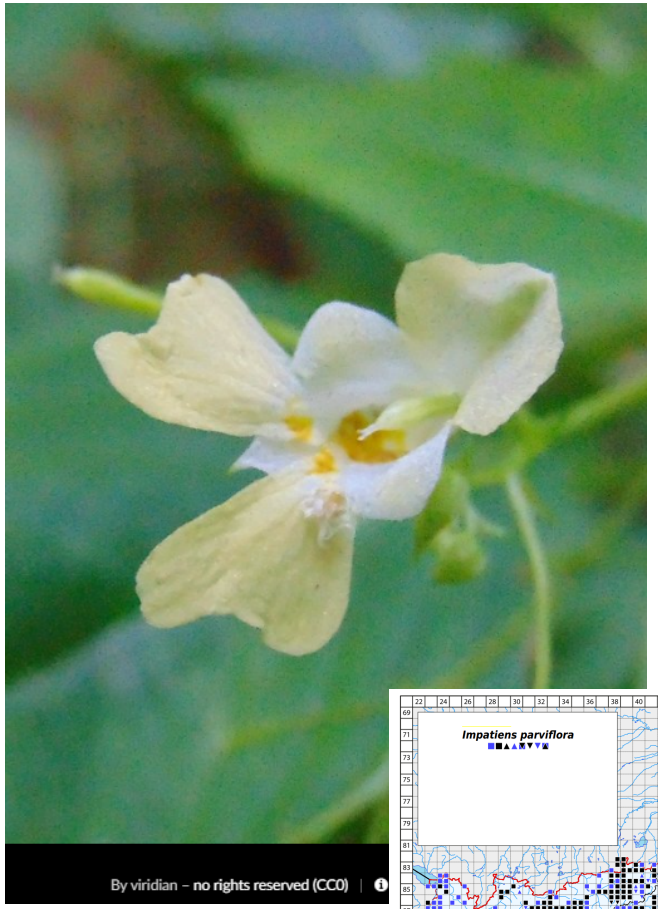
BFW

BILDUNG
FORSCHUNG
WALD

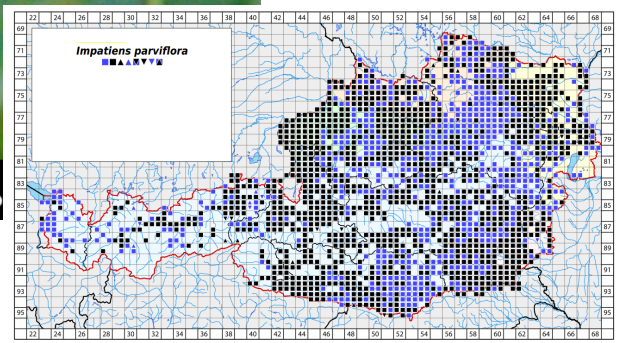
Alien plants in Austrian forests







Impatiens parviflora
Kleines Springkraut



BFW
BILDUNG
FORSCHUNG
WALD

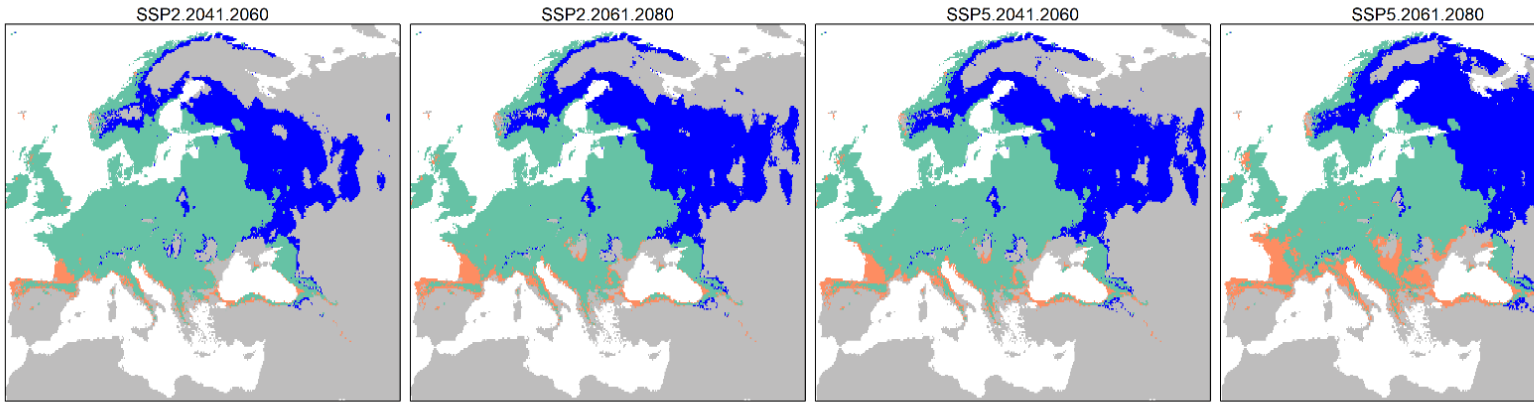
Alien plants in Austrian forests





Reynoutria spp.
Staudenknöterich

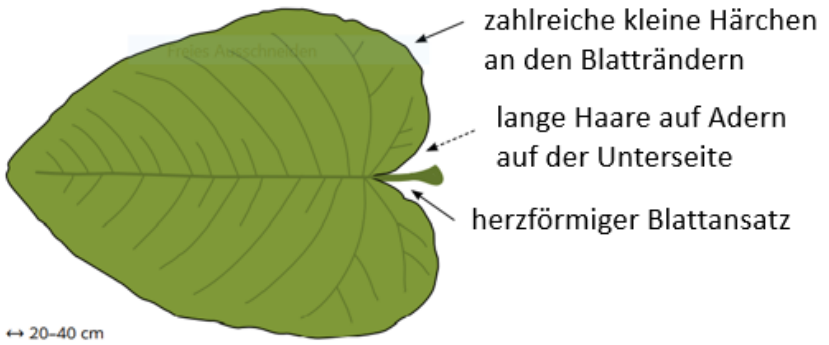




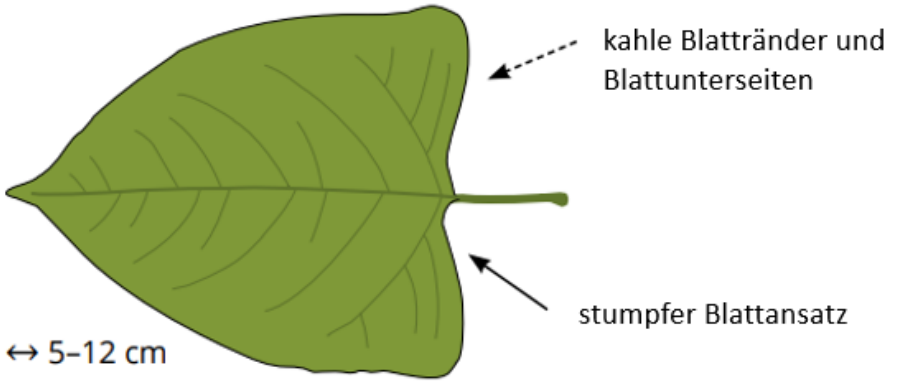
Alien plants in Austrian forests

Reynoutria spp.
Staudenknöterich

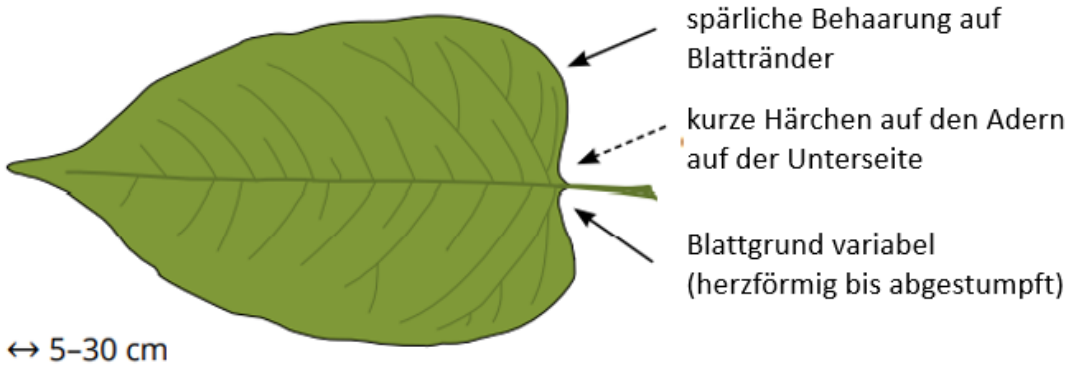
Riesenstaudenknöterich (*Reynoutria* sachalinensis)



Japanischer Staudenknöterich (*Reynoutria* japonica)



Böhmischer Staudenknöterich (*Reynoutria* x bohemica)

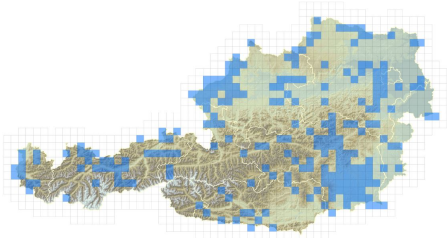


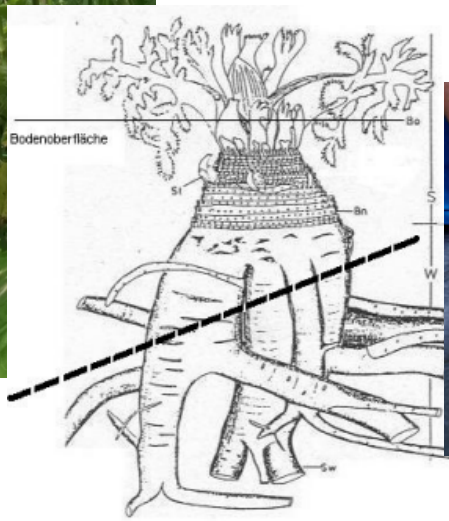
Alien plants in Austrian forests





Heracleum mantegazzianum
Riesen-Bärenklau,





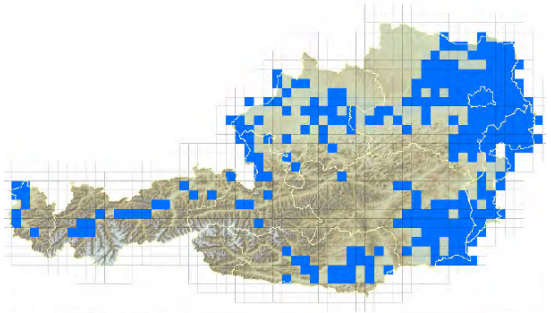


Alien plants in Austrian forests



Ailanthus altissima

Götterbaum

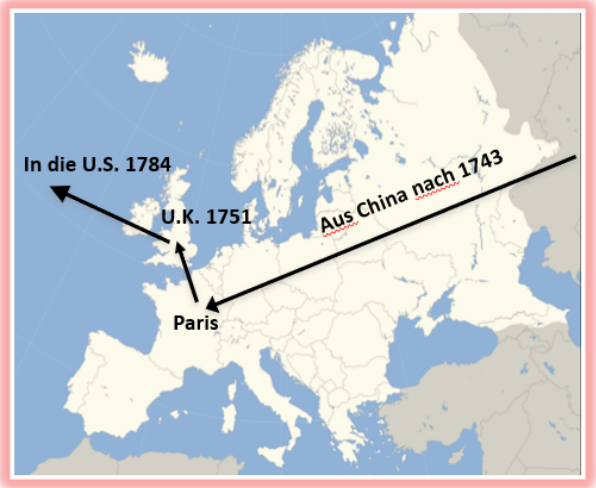


BFW

BILDUNG
FORSCHUNG
WALD

Pierre d'Incarville
1706 –1757





(Hu 1979, Swingle 1916, Van Loo et al. 2018, NNEXT conference)

Invasive Neophyten im Wald







Ailanthus altissima
Götterbaum

Injection of fungal pathogens of the genus Verticillium
Fungal spore suspension with a concentration of 1 x 10^6 conidia per milliliter (AILANTEX).

Alien plants in Austrian forests



Ailanthus altissima
Götterbaum






Focus: Early warning &
Detection



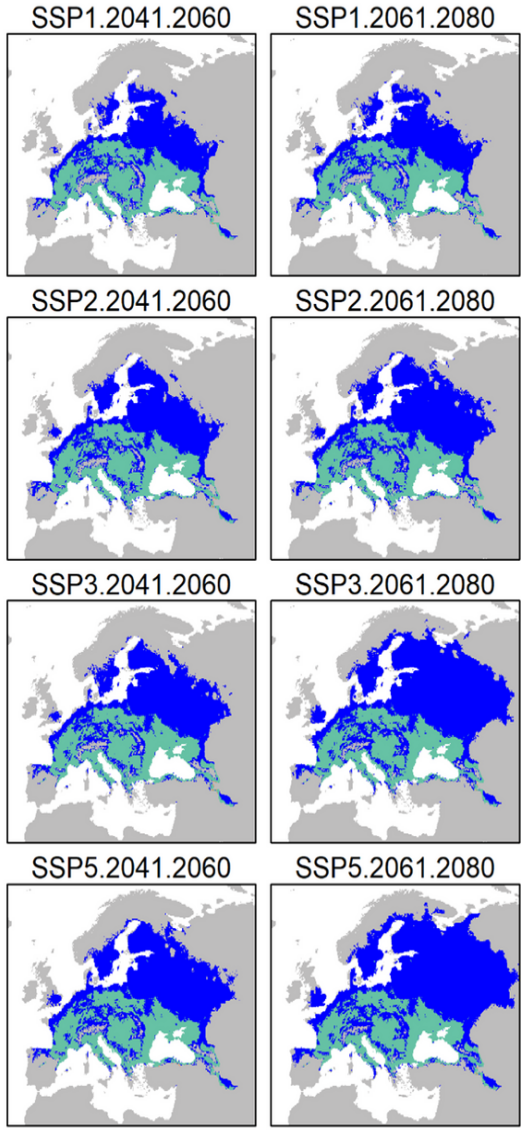
Amorpha fruticosa
Bastardindigo

BFW
BILDUNG
FORSCHUNG
WALD

Early detection

- Species distribution models are of immense value when it comes to identifying potential risks posed by non-native plants in the early stages of invasion.
- SDMs for mapping the invasion risk of non-native plants depend on the quality and quantity of occurrence data.





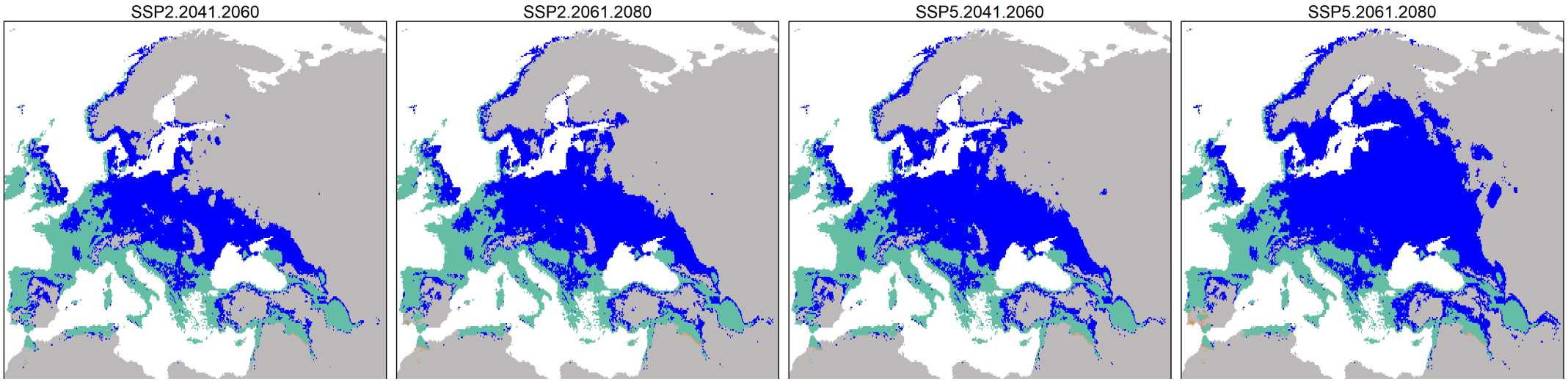
BFW
BILDUNG
FORSCHUNG
WALD

Lapin & Dydersky (2024) Expanding Range of the Invasive Shrub Amorpha fruticosa under Changing
journal Regional Environmental Change;

Potential invasive Alien species in future



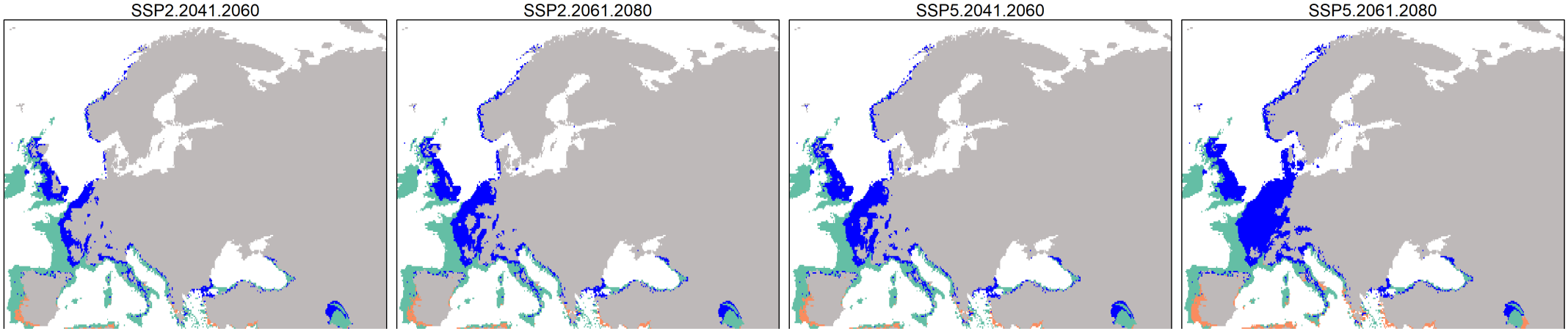
Broussonetia papyrifera
Papiermaulbeerbaum



Potential invasive Alien species in future



Tradescantia fluminensis
Rio-Dreimasterblume



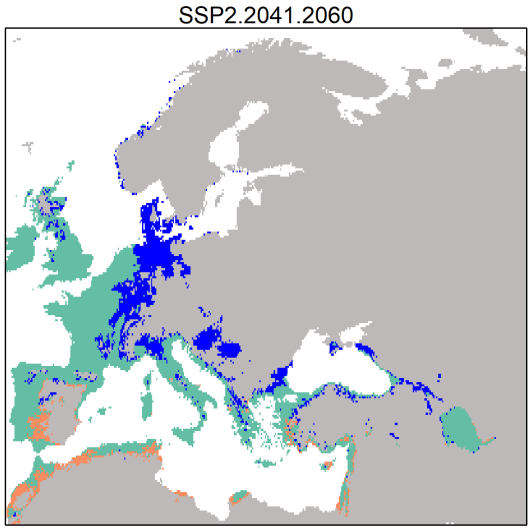
Potential invasive Alien species in future

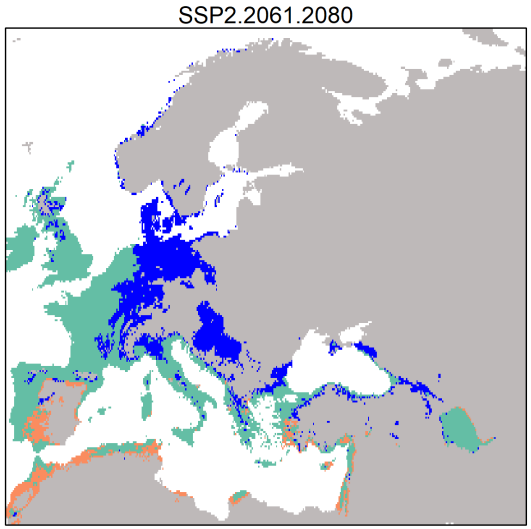


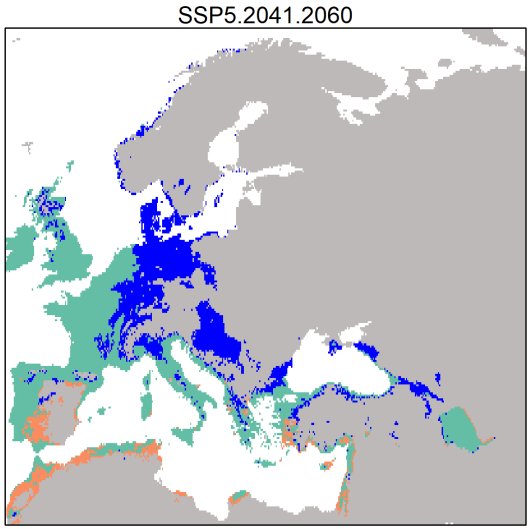


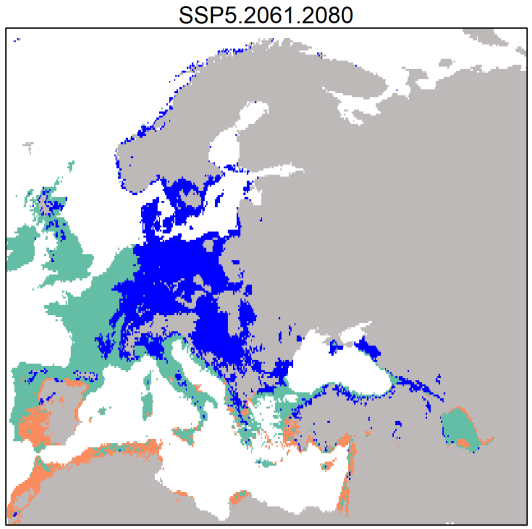


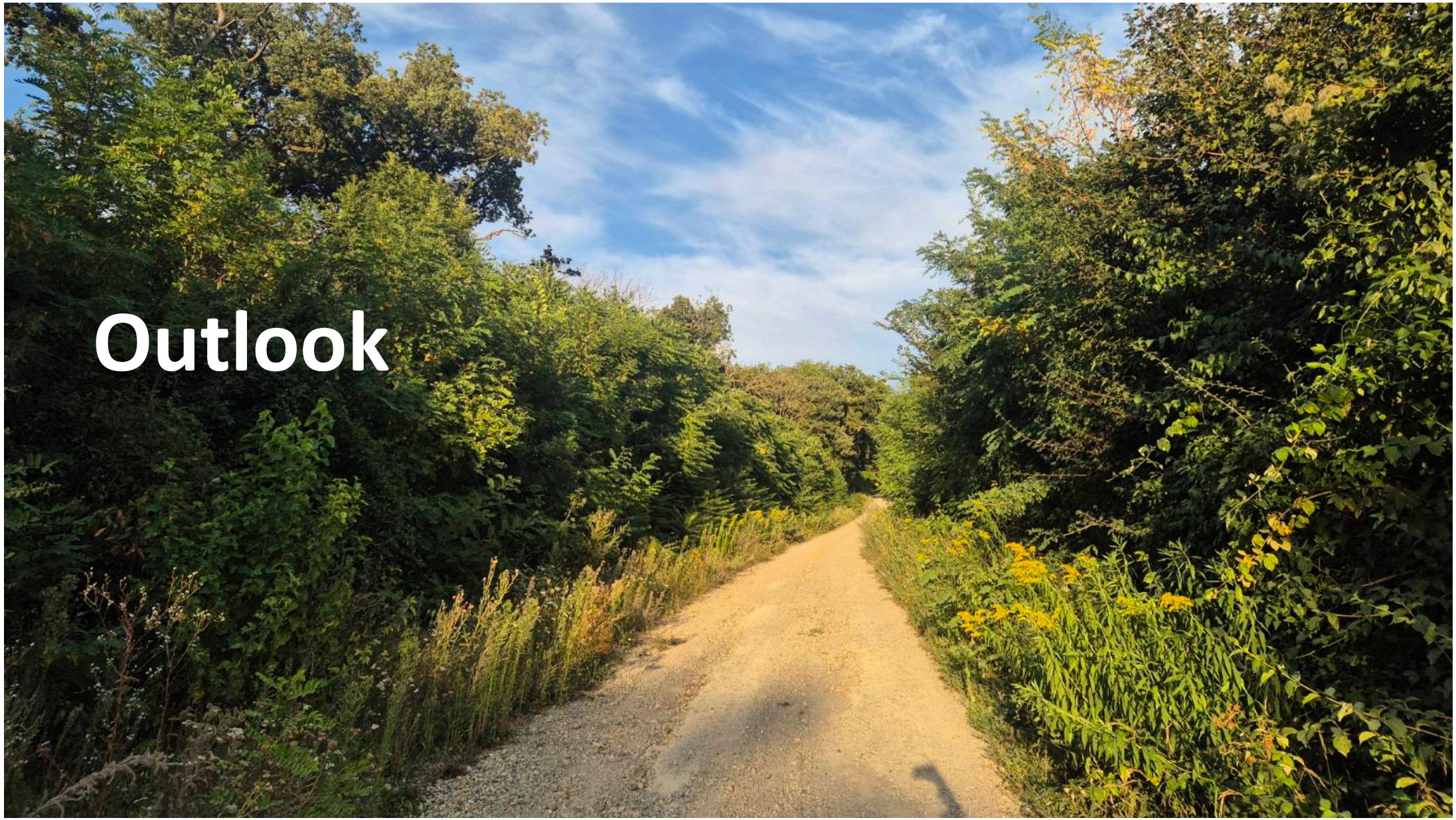
Cortaderia selloana
Pampas Grass





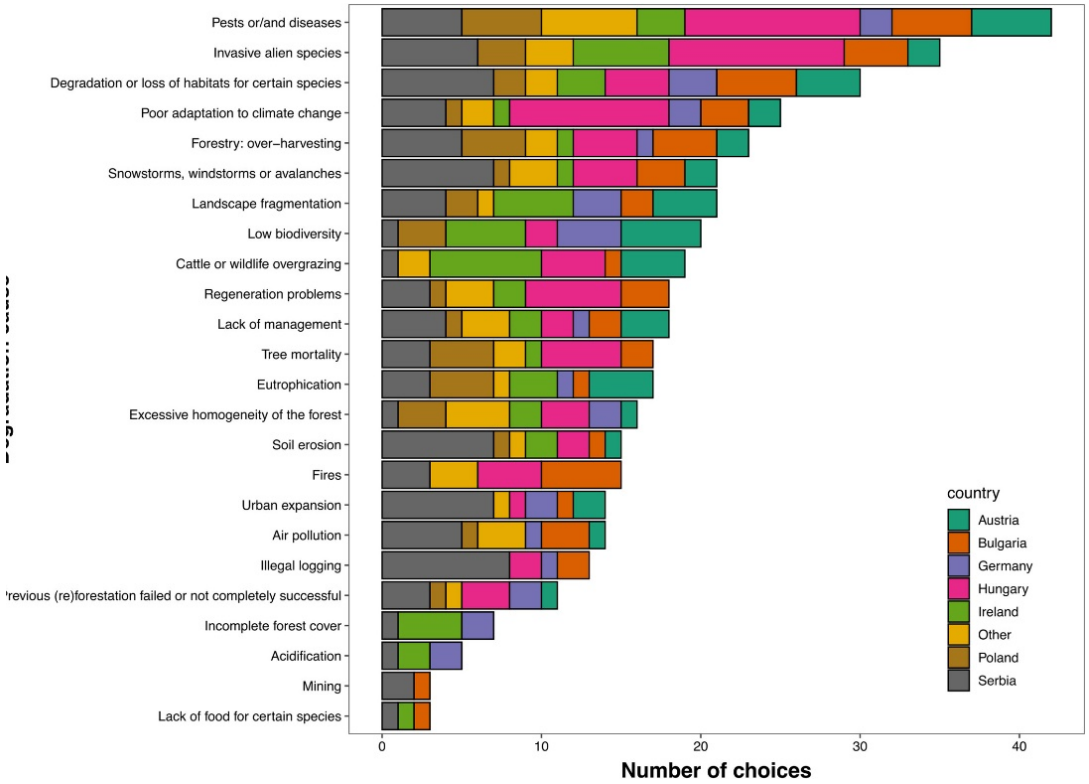





Outlook

Key for Invasive Alien Plant Management

Forest Restoration & Alien Plants





SUPERB
Upscaling Forest Restoration

BFW
BILDUNG
FORSCHUNG
WALD

Lapin, K., Hoffmann, J., et al. (2025): Motivation, Challenges, and Perspectives of Practitioners on Forest Restoration across Seven European Countries

Key for Invasive Alien Plant Management

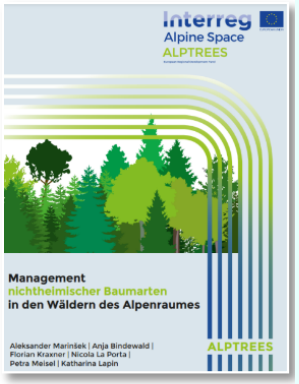
Pathway Identification & Public Communication

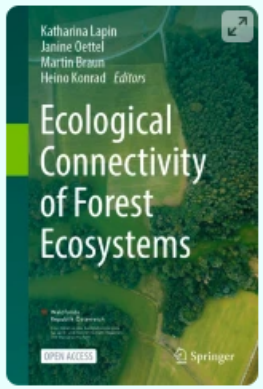


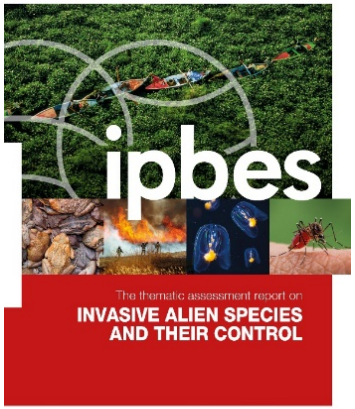




References







iNaturalist
https://www.inaturalist.org/



Lapin, K., Hoffmann, J. A., Braun, M., & Oettel, J. (2024). Identification and prioritization of stepping stones for biodiversity conservation in forest ecosystems. Conservation Science and Practice, 6(7), e13161.

Pötzelsberger, E., Bauhus, J., Muys, B., Wunder, S., Bozzano, M., Farsakoglou, A-M., Schuck, A., Lindner, M. and Lapin, K. 2021 Forest biodiversity in the spotlight – what drives change? European Forest Institute.

Lapin, Katharina, and Marcin K. Dyderski. "Expanding range of the invasive shrub Amorpha fruticosa under changing climate." Regional Environmental Change 24, no. 4 (2024): 152.

de Groot, M., Schueler, S., Sallmannshofer, M., Virgillito, C., Kovacs, G., Cech, T., ... & Lapin, K. (2022). Forest management, site characteristics and climate change affect multiple biotic threats in riparian forests. Forest Ecology and Management, 508, 120041.

Roy, Helen Elizabeth, Aníbal Pauchard, Peter Stoett, Tanara Renard Truong, Sven Bacher, Bella S. Galil, Philip E. Hulme et al. "The thematic assessment report on Invasive Alien Species and their control: Summary for policymakers." (2023).

Pautasso, M. (2012). Observed impacts of climate change on terrestrial birds in Europe: an overview.

Langmaier, Magdalena, and Katharina Lapin. "A systematic review of the impact of invasive alien plants on forest regeneration in European temperate forests." Frontiers in Plant Science 11 (2020): 524969.



BFW
BILDUNG
FORSCHUNG
WALD



BFW BUNDES FORSCHUNGS ZENTRUM FÜR WALD

Katharina Lapin & Cornelia Amon
Department Forest Biodiversity & Nature Conservation
Austrian Research Centre for Forests
Seckendorff-Gudent-Weg 8, 1131 Vienna, Austria

katharina.lapin@bfw.gv.at
Phone 0043 1 878 38-1350
Mobile 0043 66488636466

Kontakt

Bundesforschungszentrum für Wald

Austria, 1131 Wien
Seckendorff-Gudent-Weg 8
Tel.: +43 1 878 38-0
direktion@bfw.gv.at
www.bfw.gv.at

Folgen Sie uns

www.facebook.com/BundesforschungszentrumWald

www.instagram.com/bundesforschungszentrum_wald

www.youtube.com/waldforschung

www.linkedin.com/company/bundesforschungszentrum-wald-bfw

BFW –
BILDUNG
FORSCHUNG
WALD