GEFÖRDERT VOM

Bundesministerium
für Bildung
und Forschung

FEdA

Session proposal for the Alternet 2022 conference

Session title:

Invasive species and their impact on human and ecosystem health

Name and institutions of chairs and co-chairs:

Prof. Dr. Dr. h.c. Volker Mosbrugger, Spokesman of the BMBF Research Initiative for the Conservation of Biodiversity (FEdA), Senckenberg Research Institute, Frankfurt am Main, Germany

Dr. Julian Taffner, Head of the Central Coordination Office of the BMBF Research Initiative for the Conservation of Biodiversity (FEdA), Senckenberg Research Institute, Frankfurt am Main, Germany

Dr. Vladimir Gross, Research Assistant at the Central Coordination Office of the BMBF Research Initiative for the Conservation of Biodiversity (FEdA), Senckenberg Research Institute, Frankfurt am Main, Germany

Session abstract:

Invasive alien species (IAS) are animals and plants that have been deliberately or accidentally introduced into a natural environment where they are not normally found and cause negative impacts on biodiversity, socio-economic welfare, and human health. IAS may impact human health directly through the spread of diseases and disease vectors, exacerbation of allergies, and physical conflicts between humans and animals. Native biodiversity and ecosystem services are threatened by IAS, for example, through the introduction of competition, predation or diseases, alteration of existing interaction networks between species, influencing of the nutrient cycling and primary production, and physical damage or destruction of infrastructure, the landscape, and agriculture. As a result, IAS are considered to be one of the five major causes of biodiversity loss in Europe, and their impacts are projected to intensify with increasing movement of goods and people together with strengthening effects of climate change.

Despite the diversity of IAS already established in Europe – approximately 180 documented species – research is often focused on specific animal or plant species. In addition, scientists from different fields of research often approach only those specific aspects that are relevant to their area of interest. Though in reality, each IAS often affects multiple aspects of nature and society, whereas the mechanisms by which the damage is caused can be common to several IAS. Therefore, the prevention and management of IAS could benefit from collaborations of scientists and partners from different fields of research and multiple levels of government and society, all working on combined strategies that are both specific to individual species, but flexible enough to be adjusted when necessary. Such an integrative approach should be able to counteract some of the factors that complicate the management of IAS, such as insufficient knowledge of species origin and biology, lack of appropriate management strategies, societal barriers, and lack of financial and human resources. Citizen science projects have proven to be effective for early detection and documentation, for

example, while mitigation and eradication programs require action at the national and international level, as IAS are problematic irrespective of national borders.

For the proposed session, we invite participants whose work involves IAS at all levels. Presentations illustrating examples of invasive alien species and their impacts on human and ecosystem health are welcome, as are those outlining new or existing strategies for prevention, eradication, and mitigation. The presentation part of this session should lay the foundation for a discussion on concepts for modeling and monitoring the dispersal of invasive alien species and mitigate the aforementioned negative effects by combining what we know about IAS species themselves with strategies that have been demonstrated to be effective in the field. The session is planned to be a combination of oral presentations followed by a moderated discussion on possible prevention and mitigation measures.

Type of session:

Oral Presentations followed by a moderated discussion

Intended outputs:

- Collection of concepts/methods for monitoring and modeling of invasive species' dispersal
- Recommendations how to reduce dispersal risks and mitigate negative impacts of invasive species on human and ecosystem health

Duration:

2 hours