

## **Briefing note: Impacts of invasive non-native species are already widespread and likely to worsen with climate change on Saint Helena**

Like many islands across the world, Saint Helena harbours a large number of invasive non-native species – estimated to be at least 1901 species. Concerns about the impact of invasive non-native species have already been raised for food security, tourism, land management and human health.

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Thematic Assessment Report on Invasive Alien Species and their Control<sup>1</sup> provides a critical evaluation of knowledge on biological invasions from across the world. Many of the key messages are relevant for islands, such as Saint Helen, particularly the predicted interacting effects of climate change and biological invasions:

- People and nature are threatened by invasive alien species in all regions of Earth {KM-A1}<sup>2</sup>. **On islands, invasive alien species are a major cause of biodiversity loss {A3}**. Some areas protected for nature conservation or remote areas are also vulnerable to the negative impacts of invasive alien species {A3}. For example, on more than a quarter of islands, the number of alien plants exceeds the total number of native plants {A3}. In addition, the majority of documented global extinctions attributed mainly to invasive alien species are reported from islands {A3}.
- **Islands are also disproportionately vulnerable to climate change**, which can increase the rate of establishment and spread of many invasive alien species{A3}.

In January 2024, a workshop held for a Darwin Plus project (DPLUS175) used structured expert-elicitation approaches to consider the potential future impacts of invasive non-native species on Saint Helena in the context of climate change.

### **Observed effects of climate change on Saint Helena**

The effects of global climate change are already evident on Saint Helena with people acknowledging changes in rainfall patterns and unpredictable droughts, along with changes in seasonal temperatures, especially hotter summers. Changes in the seasons have led to noticeable changes in the growing cycles of plants and crops, as well as fish catches.

### **Interactions between climate change and invasive non-native species may affect water security and promote more intense fires**

Climate change can increase the magnitude of impacts of invasive alien species. Invasive alien plants, especially trees and grasses, can sometimes be highly flammable and therefore promote more intense and frequent fire regimes, causing increased risks to nature and people and increased carbon

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<sup>1</sup> IPBES (2023). Summary for Policymakers of the Thematic Assessment of Invasive Alien Species and their Control of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Roy, H.E., Pauchard, A., Stoett, P., Renard Truong, T., Bacher, S., Galil, B.S., Hulme, P.E., Ikeda, T., Kavileveettil, S., McGeoch, M.A., Meyerson, L.A., Nuñez, M.A., Ordonez, A., Rahlao, S.J., Schwindt, E., Seebens, H., Sheppard, A.W., Vandvik, V. (eds.). IPBES secretariat, Bonn, Germany. <https://doi.org/10.5281/zenodo.7430692>

<sup>2</sup> Key messages extracted from the Summary for Policymakers of the Thematic Assessment of Invasive Alien Species and their Control are given in grey text. The references enclosed in curly brackets (e.g., {KM-C1, B11}) are traceable accounts and refer to sections of the Summary for Policymakers of the IPBES Assessment of Invasive Alien Species and their Control. A traceable account is a guide to the section in the summary for policymakers and the chapters that contains the evidence supporting a given message and reflecting the evaluation of the type, amount, quality, and consistency of evidence and the degree of agreement for that statement or key finding.

release into the atmosphere {B13}. Certain invasive alien plants, such as shrubs and trees, can reduce water availability, especially in scenarios of increasing drought caused by climate change {Box SPM.4}.

On Saint Helena there are some invasive non-native plants that can sometimes be highly flammable including the African fountain grass. The wild mango is another spreading species, especially along water ways, which has potential to affect water security.

### **Climate change may lead to increases in the establishment and spread of invasive non-native species**

Climate change, along with the continued intensification and expansion of land-use change may lead to future increases in the establishment and spread of invasive alien species in disturbed habitats and in nearby natural habitats {B12}.

A previous collaborative study on Saint Helena highlighted the invasive non-native species that are considered highly likely to spread and impact biodiversity and ecosystems include:

On Saint Helena the spread of some invasive non-native plants such as whiteweed are being observed to rapidly colonise habitats disturbed by extreme weather events, such as high winds coupled with high rainfall.

Species	Climate change impact	Relevance for Saint Helena
<b>Whiteweed</b> ( <i>Austro eupatorium inulifolium</i> )	Likely expansion with climate change	Quickly colonizes bare ground and outcompetes native species. Especially problematic on pastures.
<b>Common wasp</b> ( <i>Vespula vulgaris</i> )	Likely expansion with climate change	Species will be active for a longer period of the year, with warmer weather, increasing risk of stings to people.

### **Governance options relevant to management of invasive non-native species on islands**

Access to adequate and sustained financial and other resources underpins and improves the effectiveness of actions for long-term management of biological invasions, including eradication, control and ongoing monitoring, by, for example, providing access to modern tools and enhancing capacity to deploy them {C23}.

Public awareness, commitment and engagement, and capacity-building, are crucial for the prevention and control of invasive alien species {KM-D6}.

Engagement by all stakeholders, governments and the private sector helps to optimize management of biological invasions in terms of economic, environmental and social outcomes, particularly when resources are limited {C23}.

Enhancing research capacity in some regions and collaboration between biological invasion experts and across knowledge systems could improve data and information availability as well as understanding of the context-specific features of invasive alien species and their impacts {D32}.

## **Summary**

Invasive non-native species are already a threat to the people and biodiversity of Saint Helena.

Climate change is expected to foster the spread of invasive species and intensify their negative impacts.

Invasive non-native species that are particularly likely to spread and impact biodiversity and ecosystems under future climate change scenarios could be prioritised for ongoing management.

Raising awareness and capacity-building are critical for the prevention and control of invasive non-native species.

On Saint Helena, there are already dedicated and skilled staff, and exemplary examples of management successes of invasive non-native species.

Sustained and adequate resourcing and engagement by all stakeholders is needed to improve the effectiveness of actions for long-term management of biological invasions.

There are still many gaps in context-specific evidence and understanding of the ways in which non-native species will respond to climate change in the unique context of Saint Helena. Supporting ongoing research and monitoring could provide the key knowledge for managing invasive non-native species; restoring ecosystems and limiting the impacts on people and society.