

Integration of Plant Health planning into the new Scottish Biodiversity Strategy

Policy Summary



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1 Policy Summary

1.1 Background

The introduction and spread of novel plant pests and diseases into the wider environment has increased significantly in recent years. For example, ash dieback (caused by the fungus *Hymenoscyphus fraxineus*) has caused the decline of millions of ash trees across the UK, and *Phytophthora austrocedri* (a fungal-like pathogen) is having a profound impact on native juniper (*Juniperus communis*) populations in Scotland and Northern England. This impact not only affects the hosts involved, but also the myriad of species which rely on the host to survive.

According to the Global Assessment Report on Biodiversity and Ecosystem Services carried out by The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the global impact of introduced species, which includes plant pests and pathogens, is one of the five main causes of biodiversity loss. In addition, plant health impacts on biodiversity are expected to grow further in the years ahead.

It is therefore important that biodiversity strategies systematically consider the nature of plant health threats to the natural environment, allowing mitigating actions to take place. This report provides an overview of the nature of plant health threats to Scottish plant biodiversity. In addition, the factors that expert stakeholders consider of greatest importance are explored, and an examination of the relevant headline areas of the recently published Scottish Biodiversity Strategy takes place.

1.2 Research Undertaken

- Use the UK Plant Health Risk Register to identify known pest threats to plant species and habitats important to Scottish biodiversity.
- Seek expert opinion to identify key characteristics signifying future plant health risks beyond known threats and produce a framework for assessing plant health vulnerabilities.
- Produce guidance for the inclusion of plant threats and vulnerabilities into the new Scottish Biodiversity Strategy. This will include best-practice examples of plant health integration into national biodiversity planning, and those identified from international examples.

1.3 Main Findings

Quantification of known pest threats:

- 241 plant genera important to Scottish biodiversity are likely hosts for known potential pests. Insects comprise the greatest proportion of these known threats.
- 42 priority species in 29 genera that are outlined in the Biodiversity Action Plans (BAP) are potential hosts to pests from the UK Plant Health Risk Register (UKPHRR). These species are across Scotland, with small regions identified where there is a coincidence of a high density of priority species and a high density of high-risk potential pests.
- The greatest known threats are to plant genera that are also used commercially. This is probably due to increased scrutiny, as well as greater opportunity for pest evolution and introduction associated with production systems and/or shipping.

Expert stakeholder consultation:

- Stakeholders were equally concerned about a) plant health impacts on species which support multiple specialised interactions, because the loss of these species would have

cascading impacts through an ecosystem, and b) low intraspecific host genetic diversity (genetic diversity within a host species) or habitat species diversity (diversity of species within a habitat).

- Concern was raised regarding the biosecurity threats associated with pest movement from plant trade into the wider environment.
- Constraints on governmental and scientific resource allocation to the natural environment were also raised as concerns. This included a lack of pre-existing research on pest and host interactions, which makes plant health risk assessment for conservation challenging.
- Pre-existing disease pressure was the highest plant health risk factor to individual plants species and populations, followed closely by other stresses including climate stress and low intraspecific genetic diversity.
- Proximity to plant traders was ranked most highly as a plant health risk factor at the environmental level, followed by proximity to large scale plantings.
- The information provided by experts and the data on current plant health threats in the UKPHRR, were brought together to create a new, simple framework for articulating the vulnerability of species and habitats to plant health threats for those carrying out conservation activities such as plant relocations, translocations, habitat creation and habitat restoration.

1.4 Recommendations

- In recognition of the profound impacts caused by introduced pests and pathogens, biosecurity has successfully been incorporated into national biodiversity strategies in some countries, with New Zealand and Australia giving the clearest examples. This shows that it is possible to incorporate biosecurity into biodiversity strategies.
- The Scottish Biodiversity Strategy recognises the importance of National Parks and protected areas, making them exemplars for restoration. It is therefore critical that National Parks and protected areas also become exemplars for biosecurity, creating and demonstrating safe processes for plant production, movement and planting during species and habitat restoration and recovery programmes.
- As large-scale tree plantings are increasingly used to promote biodiversity recovery and habitat connectivity, as well as sustaining timber production and carbon sequestration, it is crucial that plant health and biosecurity are embedded across the multiple actors and participants in tree-planting schemes.
- A key component of establishing resilience to plant health threats is to allow continued evolution of hosts to respond to emerging pressures; management practices which promote natural regeneration and adaptation are important components of building resilience to current and future pest pressures.
- SBS and its delivery partners need to maintain active collaboration with plant health structures and staff in England for mutual learning, early warning and collaborative action.
- Overall, the results of this study reinforce the importance of more active consideration of plant health threats in biodiversity strategies and related conservation activities.

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