

## A Plant Biosecurity Strategy for Great Britain

### Wildlife and Countryside Link Invasive Species Working Group Response – January 2022

*Wildlife and Countryside Link is a coalition of 64 organisations working for the protection of nature. Together we have the support of over eight million people in the UK and directly protect over 750,000 hectares of land and 800 miles of coastline.*

*This response is supported by the following Link members:*

- A Rocha UK
- Amphibian and Reptile Conservation
- Buglife
- The Wildlife Trusts
- Woodland Trust

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## Introduction

Wildlife and Countryside Link is a coalition of 64 organisations working for the protection of nature. Together we have the support of over eight million people in the UK and directly protect over 750,000 hectares of land and 800 miles of coastline. We welcomed the consultation from the Department of the Environment, Food and Rural Affairs and the opportunity to highlight our key concerns and priorities for plant biosecurity in Great Britain.

There remains a major gap to effective plant biosecurity within Great Britain. With the latest UK Biodiversity Indicators report showing that the number of invasive non-native species established in Great Britain has consistently grown since 1960, across freshwater, marine and terrestrial environments, it is evident that existing biosecurity measures and policy are insufficient.<sup>1</sup> Given commitments by Government and others to plant increasing numbers of trees to achieve net zero and tackle climate change, addressing this is a matter of urgency to ensure we can meet this target in a biosecure manner.

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<sup>1</sup> <https://jncc.gov.uk/our-work/uk-biodiversity-indicators-2021/>

For the new GB Plant Biosecurity Strategy to be effective in tackling the significant and growing threats posed by invasive non-native species, we offer the following recommendations.

- Plant biosecurity must consider **not only plants themselves, but also hitchhiker species on plants and within the growing medium**. Existing biosecurity measures do not give adequate consideration to hitchhikers, despite this being a significant pathway for the introduction and dispersal of invasive species, pests and pathogens.
- We need to **reduce our reliance on imports of plant and tree material, and build capacity and support for a domestic industry**, thereby significantly reducing the risk from this critical pathway.
- A domestic industry should be complemented by **increased use of natural regeneration of native trees and diverse, locally sourced, native planting stock**, to provide resilience to threats and avoid importing pests and diseases. Native trees, shrubs and succession habitats can help deliver nature-based solutions to climate change and are needed to support biodiversity recovery and resilience.
- Government should commit to the recommendation made by the Environmental Audit Committee in October 2019, to **triple the invasive species biosecurity budget to £3 million**. A further **£3 million should also be provided to form a dedicated invasive species inspectorate**. Preventing invasive species from arriving and establishing in the first place is both more effective and efficient than attempting to manage or eradicate them once they have arrived. **This investment would reduce the number of new establishments by 50-67% and provide a return of investment of £23 for every £1 spent.**<sup>2</sup>

### Current GB plant biosecurity is inadequate

Invasive non-native species (INNS) are animals, plants or other organisms, including pathogens, that have been introduced to places where they do not occur naturally, through deliberate or accidental human actions, causing negative environmental, social and/or economic impacts in those areas. INNS are one of the top five drivers of biodiversity loss and species extinction worldwide, implicated in 58% of the 247 global animal extinctions where the cause of extinction is known.<sup>3 4</sup>

The horticultural trade is a significant pathway for the introduction of INNS to Great Britain. International trade in plants is known to be a significant pathway for the transportation of tree disease, and is believed to be the largest factor behind recent dramatic growth in pest and disease invasions globally.<sup>5</sup> The horticultural pathway not only refers to the plants themselves, but also ‘hitchhiker’ species on plants and within the growing media. For example, the trade of pot plants and growing

<sup>2</sup> [https://www.wcl.org.uk/docs/Prevention\\_is\\_Better\\_than\\_Cure\\_Report\\_2020.pdf](https://www.wcl.org.uk/docs/Prevention_is_Better_than_Cure_Report_2020.pdf)

<sup>3</sup> IPBES Global Assessment, 2019 - <https://ipbes.net/global-assessment-report-biodiversity-ecosystem-services>

<sup>4</sup> Bellard C, et al. (2016). Alien species as a driver of recent extinctions. *Biology Letters*, 12: 20150623.

<sup>5</sup> [https://www.cell.com/current-biology/fulltext/S0960-9822\(19\)30331-8cell.com](https://www.cell.com/current-biology/fulltext/S0960-9822(19)30331-8cell.com)

medium has facilitated the accidental introduction of invasive flatworms.<sup>6</sup> Once introduced, flatworms can reproduce rapidly, cannot be eradicated, and pose a risk to native soil invertebrates such as earthworms by feeding on them.<sup>7</sup> <sup>8</sup> There are 5 native species of flatworm in the UK, but between 14 and 16 non-native species. In some areas, non-native flatworms can reduce local earthworm populations by 20%, with potentially huge impact on soil health and agriculture, as well as our native soil wildlife.

Despite the significance of this pathway, and the threat posed to native biodiversity, ecosystem services and food security, this has been neglected in GB invasive species policy and management. The only checks made on imported plants are for pests and pathogens that might harm the plant. Live plants, worth over £1 billion, are imported into the UK every year; for the vast majority there are no biosecurity measures to exclude or check for eggs or hibernating animals in the soil. It is practically impossible to sterilise the soil in a pot plant, no matter how toxic the chemicals that it is fumigated with. It only takes one or two eggs in a pocket of air deep in the soil to survive and allow potentially devastating invasive species to enter the country.

To reduce the risk of invasive non-native species being introduced, **quarantine periods for tree and plant materials must be regulatory, not voluntary**, and based on sound scientific evidence rather than economic imperatives. For example, research shows that plants infected with the disease *Xylella* can remain symptomless for over 12 months - hosts should therefore be subject to at least 12 months of quarantine. Regulation must be enforced and well understood by nurseries to ensure compliance. Furthermore, we strongly urge the government to encourage and support the development of a domestic industry (see below); bringing economic benefits and new job opportunities whilst simultaneously reducing and removing the pathway for new pest and pathogen introduction.

### **Delivery of net zero tree planting targets must be biosecure**

Robust biosecurity measures will be fundamental to safeguarding the existing and future treescapes and woodlands in Great Britain. It is indisputable that increasing tree cover is essential for tackling the climate and nature emergencies simultaneously. Government ambitions reflect this; tree planting targets are unprecedented at present, driven by strong public support primarily as a means of delivering action to address both the climate and biodiversity crises. The establishment and increasing sophistication of private markets (such as for Carbon) will only drive tree planting rates further in the years ahead.

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[https://www.researchgate.net/publication/230216782\\_A\\_review\\_of\\_the\\_status\\_of\\_the\\_New\\_Zealand\\_flatworm\\_in\\_the\\_UK](https://www.researchgate.net/publication/230216782_A_review_of_the_status_of_the_New_Zealand_flatworm_in_the_UK)

<sup>7</sup> <https://peerj.com/articles/297/>

<sup>8</sup> <https://link.springer.com/article/10.1007/s10530-012-0309-7>

With Government committed to planting trees to achieve net zero and tackle climate change, there is significant risk that this high demand will result in ever increasing imports of plant material, and therefore invasive species. There is a significant risk climate efforts could be in vain, if trees planted to sequester carbon are not responsibly sourced from nurseries that grow trees for their entire lifecycle in the UK.

It is paramount that Government acts now to ensure these environmental efforts are not in vain - we must together ensure our existing and future trees are protected against the devastating impacts of pests and diseases. Without action, entire tree populations could be decimated. There are at least 127 high risk pests and diseases that present a significant threat to UK trees if imported, changing our beloved landscapes and jeopardising the ecosystem services they provide.<sup>9</sup> This is exemplified by the case of the Oak processionary moth. This was first believed to be present in London in 2005, yet no action was taken. It has since been imported hundreds of times, including at least 70 different occasions in 2019 alone. Oak consignments are still legally allowed to be imported, despite the threat to native oaks - supporting over 2,300 species, of which 326 depend on the oak entirely for survival - and to human health.

A strong plant biosecurity strategy is vital to implement meaningful change and offer the protections desperately needed to secure tree and plant health, and ensure that tree planting efforts are not undermined. The Woodland Trust have provided a more comprehensive response in their consultation response that outlines the issue of requirements for tree health.<sup>10</sup>

## **We need to build a domestic industry**

Over 1 billion pounds of live plants are imported into the UK every year. In 2020, imports accounted for 89.8% of all trade value and 82.6% of net mass of trade in plants and plant commodities in the UK. Despite the total net mass of plant and plant commodity trade decreasing slightly from 2019-2020, total net mass in 2020 was at its highest since 2016, standing at 22,669 tonnes. Within this, the net mass of non-EU trade in plants and plant communities between 2016 and 2020 increased by 7.9% to 8,891 thousand tonnes<sup>11</sup>. Similar growth in imports has been seen in tree trade, with a 1450% increase (from £6 million to £93 million) in tree imports observed between 1992 and 2019<sup>12</sup>.

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<sup>9</sup> <https://www.woodlandtrust.org.uk/press-centre/2020/12/cheap-imports-risk-millions-of-trees/>

<sup>10</sup> The Woodland Trust has responded more extensively on this issue of requirements for tree health in their consultation submission.

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[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1026652/plant-health-trade-statsnotice-21oct21.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1026652/plant-health-trade-statsnotice-21oct21.pdf)

<sup>12</sup> <https://www.woodlandtrust.org.uk/press-centre/2020/12/cheap-imports-risk-millions-of-trees/>

This international model of plant trade (which has developed over the past three decades) and reliance on imports is already responsible for the introduction of at least 20 serious tree pests and diseases into the UK, ultimately causing the loss of tens of millions of trees.<sup>13</sup> The total cost of ash dieback disease to the UK is estimated at £15 billion.<sup>14</sup> Of the aforementioned 127 tree pests and diseases which present high risk to the UK if imported, 47 could cost over £1 billion each to tackle, and would result in the loss of millions of trees.<sup>15</sup> It is far more cost effective and successful, for the public purse and land managers, for the government to focus efforts on prevention of pest and disease entrance into the UK, rather than responding once identified.

Furthermore, for the vast majority of these plant imports, there are no biosecurity measures to exclude unwanted hitchhiking species. These novel, or 'unknown' threats are considered particularly insidious and difficult to control, and are just as severe and damaging as known tree and plant diseases.<sup>16</sup> As a crucial first step, **Government must acknowledge that imported trees are a significant part of the problem.** The existing 'Plant Healthy' scheme is a step in the right direction, but being voluntary, does not alone carry enough weight or go far enough to ensure imports are actively reduced. Legislative footing for biosecurity is a vital component that will spearhead meaningful change. To ensure net zero is met in a manner that prevents the introduction of new pest and diseases, **government must stipulate all grant funded trees should meet the plant health management standard and are grown for their entire lifespan in the UK**, in accredited nurseries.

**The reduction of live plant and tree imports is the single most effective biosecurity measure that can be implemented for the benefit of existing and future trees and other wildlife.** We need to reduce our reliance on imports of plants and trees to tackle this threat posed by invasive non-native species. **UK horticultural, arboricultural and silvicultural industries should receive increased support and investment to enable domestic production to satisfy demand**, growing in the UK rather than importing plant products and their hitchhikers from elsewhere in the world. Trees planted in the UK to tackle climate change should be grown in, and be native to, the UK, to reduce the risk of importing invasive pests and diseases. Indeed, further loss of trees due to the devastation caused by INNS will only undermine tree planting efforts in the long-term. Tree planting to meet net zero should be complemented by **increased use of natural regeneration of native trees and diverse, locally sourced, native planting stock**, to support biodiversity recovery and resilience.

In order to build domestic capacity, the government will need to support UK tree nurseries by offering grant support (covering capital items and ongoing maintenance) to incentivise existing growers to increase capacity and remove the risk associated with investment. There is also a role to play in encouraging diversification from other agricultural/horticultural sectors (and possibly wider industry) to enter the plant trade industry. This will need to be incentivised accordingly through government

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<sup>13</sup> <https://www.woodlandtrust.org.uk/press-centre/2020/12/cheap-imports-risk-millions-of-trees/>

<sup>14</sup> [https://www.cell.com/current-biology/fulltext/S0960-9822\(19\)30331-8cell.com](https://www.cell.com/current-biology/fulltext/S0960-9822(19)30331-8cell.com)

<sup>15</sup> <https://www.woodlandtrust.org.uk/press-centre/2020/12/cheap-imports-risk-millions-of-trees/>

<sup>16</sup> [https://www.cell.com/current-biology/fulltext/S0960-9822\(19\)30331-8cell.com](https://www.cell.com/current-biology/fulltext/S0960-9822(19)30331-8cell.com)

support. Growers need confidence in the market to make a business decision to invest. For example, government support could help overcome this by committing to purchase any unsold saplings in any given year from nurseries that have increased capacity in an attempt to resolve the domestic shortage of saplings. Additionally, government must provide solutions to the labour shortages currently being experienced.

The transition to a domestic industry must be **supported by a comprehensive public facing campaign to raise awareness of the threats posed by pests and diseases, and the need for biosecurity** (including at individual level) to build demand for domestically grown goods. This must be **accompanied by measures to improve the transparency of the origins of products**, such as in garden centres with clear **labeling of plant products**, to educate consumers and enable them to make informed purchasing choices. Labeling should be clear and remove confusion around 'UK sourced' - where seeds may be sourced from the UK, but grown elsewhere before then being imported - versus 'UK grown'. In tree planting efforts to tackle climate change, Government should specify the use of native trees grown in the UK. An example of this could be through The Woodland Trust UK & Ireland Sourced and Grown (UKSIG) assurance scheme.<sup>17</sup>

### **This will have wider environmental benefits**

Stockists importing plants for the domestic market note that they are given little or no information about the media that those imported plants are grown in. Many will be grown in peat, extracted as a cheap growing medium but causing severe damage to peatlands around the world. This causes peatlands to become net emitters of carbon, devastating peatland biodiversity, and contributing to poor water quality and flood risk by destroying hydrological function. With the increasingly-pressing need to end the use of peat in horticulture for these reasons, a domestic market offers an opportunity to ensure full knowledge of growing media, and support for an emerging industry of peat-free compost production, whilst also avoiding the risk of imported INNS that currently exists with the international shipment of plants.

Pesticides, including extremely toxic neonicotinoids, are used routinely and prophylactically in tree planting, largely due to the threat of pests and diseases from imports, as well as a focus on monoculture and replanting clear felled areas before the pest burden has reduced. A domestic industry with native species, a focus on regeneration, continuous cover and increased use of integrated pest management techniques would reduce the reliance on these chemicals - currently used both as a prevention and cure - and protect biodiversity, especially terrestrial and aquatic invertebrates. The transition to a domestic industry should be complemented by further research into non-chemical alternatives for managing established INNS.

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<sup>17</sup> <https://www.woodlandtrust.org.uk/press-centre/2020/12/cheap-imports-risk-millions-of-trees/>

## We need a dedicated INNS inspectorate

It is clear there remains a major gap to effective plant biosecurity within Great Britain. The accidental introduction of invasive plant species as contaminants within the medium of imports, or plant mislabelling continues to present a route for new invasive plants and pests into, and within, GB.

As stated in the consultation document between 1970-2013, at least 267 non-native plant pests were believed to have established in Great Britain, with a further 127 pests and pathogens that are not currently present in the UK but pose a significant risk. Although plant passports are required in some cases, for the vast number of plant imports, there are limited, if any, checks within the soil for insects, eggs or other pests. Introduction of invasive species include the Brazilian flatworm *Obama nungara* which preys on earthworms and presents a major threat to soil health, and consequently plant health. Another INNS, the Asian longhorn beetle was first reported in Paddock Wood, Kent in 2012. A rapid eradication programme was undertaken which resulted in the successful eradication from this single site but cost £2 million. This species remains a major threat to GB with horizon scanning work undertaken in 2019 identifying the Asian longhorn beetle as well as the Emerald Ash Borer as two of the top ten invasive species most likely to establish in the UK in the next 10 years.<sup>18</sup>

In order for there to be an effective strategy for plant biosecurity in Great Britain, there is an urgent need for a dedicated, adequately funded invasive species inspectorate. This can focus on the implementation of a stronger, more strategic approach to invasive non-native species which will prevent the introduction of invasive species at the border, and coordinate rapid response and effective management to minimise the impact on plant biodiversity.

We know that prevention is even more critical than eradication in managing the threats posed by invasive non-native species. This is not only more cost and resource efficient - INNS currently cost the UK economy at least £2 billion each year - but also more effective at reducing negative impacts on native biodiversity. Yet INNS biosecurity is severely under-funded and under-resourced. INNS receive just 0.4% (£922k) of the UK biosecurity budget, and is the only UK biosecurity department without a dedicated inspectorate. Expenditure on control of established invasive species is estimated at £9.85 million per annum, roughly ten times the expenditure on INNS biosecurity.<sup>19</sup> For INNS management and biosecurity to be effective, resources and funding must be increased. Government should **commit to the recommendation made by the Environmental Audit Committee in October 2019, to triple the invasive species biosecurity budget to £3 million. A further £3 million should also be provided to form a dedicated invasive species inspectorate.**<sup>20</sup>

This investment would also fund approximately 20 inspectors for a dedicated INNS inspectorate, achieving INNS prevention through activities such as educating target stakeholder groups, initiating

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<sup>18</sup> <http://www.nonnativespecies.org/index.cfm?pageid=611> Roy et al. 2019 Horizon scanning exercise

<sup>19</sup> [https://www.wcl.org.uk/docs/Prevention\\_is\\_Better\\_than\\_Cure\\_Report\\_2020.pdf](https://www.wcl.org.uk/docs/Prevention_is_Better_than_Cure_Report_2020.pdf)

<sup>20</sup> [https://www.wcl.org.uk/docs/Prevention\\_is\\_Better\\_than\\_Cure\\_Report\\_2020.pdf](https://www.wcl.org.uk/docs/Prevention_is_Better_than_Cure_Report_2020.pdf)

rapid response functions and specialist capacities within Defra agencies, and assisting the police with investigations. This compares to 100 new posts which were recruited for the Plant Health and Seed Inspectorate in July 2020 to assist with increase in activity at the end of the EU transition period. The recruitment of these 20 INNS inspectors would ultimately prevent the establishment of 24 new invasive species, and eradicate 10 established invasive species, by 2040<sup>21</sup>. This is a 50-67% reduction in new introductions, and a 5% reduction in established species, restricting the spread of a further 10%. Crucially, this investment would also save the UK economy a total of £2.7 billion over 20 years - a return on investment of £23 for every £1 spent.<sup>22</sup>

Greater emphasis on and capacity for INNS prevention will also significantly alleviate the environmental costs of managing invasive non-native species. This includes a reduction in the use of non-targeted insecticides and pathogens to tackle INNS, the disruption caused through removal of native vegetation to prevent the spread of pests or pathogens, and the multitude of long-term legacy effects of INNS felt at ecosystem level.

An example of this is the established non-native invasive species *Rhododendron ponticum*.<sup>23</sup> First introduced to the UK via Gibraltar in 1763, by 1893 this highly invasive species was being sold on London markets as a flowering pot plant. Though not known at the time, rhododendron poses significant threats to a variety of natural and semi-natural habitats, and a unique challenge to land managers in areas colonised. If untreated, rhododendron can rapidly occupy the entire understorey of a range of woodland types and heathland habitats. Additionally, rhododendron - now widespread across the UK - hosts two devastating fungus pathogens, *Phytophthora ramorum* and *P. kernoviae*. This widespread network of Rhododendron, commonly within woodland, therefore poses significant risk to entire ecosystems. Even after interventions to remove this invasive species, ongoing management interventions may be required long-term in order to recover and restore lost biodiversity. Research presents examples of sites cleared of rhododendron showing no evidence of returning to the target community, even after 30 years of recovery.<sup>24</sup>

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<sup>21</sup> Environmental Audit Committee Supplementary evidence submitted by Defra, 2019  
<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/invasive-species/written/104755.pdf>

<sup>22</sup> For further details and discussion see:

[https://www.wcl.org.uk/docs/Prevention\\_is\\_Better\\_than\\_Cure\\_Report\\_2020.pdf](https://www.wcl.org.uk/docs/Prevention_is_Better_than_Cure_Report_2020.pdf)

<sup>23</sup> <http://www.nonnativespecies.org/factsheet/factsheet.cfm?speciesId=3004>

<sup>24</sup> For example: Maclean, J. E. et al. 2017. 'Understorey plant community composition reflects invasion history decades after invasive Rhododendron has been removed'.

<https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2664.12973>