



House of Commons
Environmental Audit
Committee

**Invasive non-native
species**

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*Report, together with formal minutes relating
to the report*

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Environmental Audit Committee

The Environmental Audit Committee is appointed by the House of Commons to consider to what extent the policies and programmes of government departments and non-departmental public bodies contribute to environmental protection and sustainable development; to audit their performance against such targets as may be set for them by Her Majesty's Ministers; and to report thereon to the House.

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Summary

Invasive non-native species can have detrimental effects on the native species they supplant, as well as on human health and business. Their presence has accelerated with the expansion of international trade and travel. In this inquiry we examined the measures covered in a proposed EU regulation on the management on invasive species, as well as proposals from the Law Commission to change the law on invasive species.

The tools available for tackling invasive species include prevention, surveillance and monitoring, eradication and long-term control. On prevention, identifying potentially invasive species prior to their arrival is critical. In order for such species to be incorporated into the national list of invasive species, there needs to be close links between horizon-scanning and risk assessment processes. Given the lack of prosecutions under existing laws, it seems doubtful that the existing listing system will on its own provide the controls now needed. The Government should take the opportunity of the Law Commission Review of Wildlife Legislation and the proposed EU regulation to revamp the listing process.

The risks posed to biosecurity in Britain make it imperative that an integrated approach is taken to managing the risks of invasive species alongside those of plant and animal health. Defra needs to develop an approach to monitoring and surveillance that is more closely integrated with voluntary groups. The Government should immediately move to ratify the Ballast Water Convention.

For eradication campaigns to be successful and cost-effective, they need to be timely, informed by good evidence and with sufficient funds to sustain them until complete eradication is achieved. Rapid response plans should be developed by the Non-native Species Secretariat, with other agencies, for all the species on the national and EU 'lists of concern' that are not yet established in Great Britain. The Government should commission research on the lessons from previous eradication campaigns.

And for those species on the lists that are already established in Britain, the Government should have invasive species action plans in place to ensure long-term control funds are being effectively spent. Those invasive species for which clear biodiversity or habitat restoration outcomes cannot be established should be removed from the national list, and any control measures critically re-evaluated.

To meet the objectives of the proposed EU Regulation, a significant step up in public awareness and public acceptance of control measures will be needed.

There is a clear need for the Scottish system of species control agreements and species control orders to be replicated in England and Wales, to ensure effective rapid response plans to eradicate invasive species before they can become established. They could also help avoid wasted effort and expenditure on large-scale control or eradication programmes, which might otherwise fail if access to all affected land could not be secured. The Government should implement the Law Commission's recommendations to tighten the invasive species legislation for England and Wales, which should be a priority for the Government's legislative agenda.

The measures discussed above will however need to be adapted to a still evolving context. Environmental changes caused by humans, including through climate change, are affecting the global distribution of species. We will have to increasingly focus on conservation, where changes in species distributions have to be managed rather than simply resisted. While we welcome the proposed EU regulation, as the Government also does, such factors will determine over the years ahead the need for, and realism of, the measures it proposes. The Government should use the opportunity of its ongoing revision of the Non-native Species Strategy to begin a public debate on the implications of this evolving challenge.

1 Invasive species threats

Background

1. Invasive non-native (or alien) species exhibit greater abundance, density, or competitive dominance than species that are native to an area, and so adversely affect an existing ecology or habitat. They can also have detrimental effects on human health and well-being and on economically important activities. The rate of introduction of such species has accelerated with the expansion of international trade and travel. A study in 2012 counted 1,875 non-native species established in Great Britain—a figure increasing by 10 species a year—of which 282 had become invasive.¹ At the global level, invasive species were ranked as one of most important drivers of biodiversity loss by the *Millennium Ecosystem Assessment* in 2005.²

2. The UK has existing international obligations to address the effects of invasive species. The UN Convention on Biological Diversity requires member states: “as far as possible and as appropriate, [to] prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species”.³ One of the Convention’s Strategic Plan targets, adopted in 2010 at Nagoya, is that “by 2020, invasive alien species and pathways are identified and prioritised, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment”. In addition, the Convention on the Conservation of European Wildlife and Natural Habitats commits contracting parties to control invasive species.⁴

3. The Nagoya target is also reflected in the EU biodiversity strategy: “By 2020, invasive alien species and their pathways are identified and prioritised, priority species are controlled or eradicated, and pathways are managed to prevent the introduction and establishment of new [invasive species]”.⁵ To help achieve this target, the EU is in the process of negotiating and agreeing a *Regulation on the Prevention and Management of the Introduction and Spread of Invasive Alien Species*.⁶ This would apply to all invasive species other than where they alter their natural range without human intervention or where controls on them already exist in other European regulatory regimes.⁷ The Government told us that the proposed regulation “addresses all of our objectives”, and that the

1 Helen Roy et al, [Non-native Species in Great Britain: Establishment, detection and reporting to inform effective decision making](#) (2012)

2 World Resources Institute, [Millennium Ecosystem Assessment: Ecosystems and Human Well-being: Biodiversity Synthesis](#) (2005)

3 UN, [Convention on Biological Diversity](#), Article 8(h)

4 UN, [Convention on Biological Diversity](#), Article 11

5 European Union, [EU Biodiversity Strategy to 2020](#) (2011), target 5

6 European Commission, [Draft Regulation on the prevention and management of the introduction and spread of invasive alien species](#) (2013)

7 *ibid*

“consistent approach across the EU” it will produce “represents a considerable improvement on the current disjointed situation across Europe”.⁸

4. In Great Britain, policy is coordinated by the Non-native Species Secretariat which brings together the environment departments and agencies of England, Scotland and Wales. The Secretariat is responsible for overseeing the 2008 *Great Britain Invasive Non-native Species Framework Strategy*.⁹ Work to revise and update the *Strategy* has been underway since September 2013. The Secretariat would also have to coordinate any further requirements from the implementation of the proposed EU regulation.

Our inquiry

5. We made a commitment to examine the issue of invasive species in our 2013 report on Wildlife Crime.¹⁰ We did so at this time because negotiations were underway in the European Commission on the proposed invasive species regulation and because the *Great Britain Invasive Non-native Species Framework Strategy* was being revised. We took oral evidence from 19 witnesses over four sessions, including academics, research bodies, NGOs, industry groups, regulatory bodies and Lord de Mauley, the Defra Parliamentary Under-Secretary of State for natural environment and science.

Defining invasive non-native species

6. A species is defined as native in Great Britain if it re-colonised after the end of the last period of glaciation.¹¹ Professor Chris Thomas of the University of York pointed out that not all of the animals and plants now seen in Britain were here 11,000 years ago, and since then species “have flowed back and forth across Europe”.¹² Some supposedly non-native species, such as rabbits, were in fact present here in previous interglacial warm periods.¹³ The proposed EU regulation defines a non-native species in terms of being “introduced outside their natural range”.¹⁴ It deals with species introduced by human intervention and excludes “species changing their natural range without human intervention, in response to changing ecological conditions and climate change”. It requires that species which, based on available scientific evidence, are likely to have significant adverse impacts on biodiversity or related ecosystem services, should be placed on an EU ‘List of Species of Concern’ (paragraph 24).

8 Lord de Mauley ([IVS 021](#))

9 Defra, [Great Britain Invasive Non-native Species Framework Strategy](#) (2008)

10 Environmental Audit Committee, Third Report of Session 2012-13, [Wildlife Crime](#), HC 140

11 POST, [Invasive Alien Plant Species \(POSTNote 439\)](#) (July 2013)

12 Q170

13 Q189

14 European Commission, [Draft Regulation on the prevention and management of the introduction and spread of invasive alien species](#) (2013), Article 3

Effects on biodiversity

7. Dr Richard Shaw of the research group CABI suggested to us that invasive *non-native* species have biodiversity impacts distinct from invasive *native* species.¹⁵ Dr Mark Spencer from the Natural History Museum noted that native invasive species are constrained by pathogens and predators, whereas non-native species are not. The Tree of Heaven from south-east Asian, for example, faces native British biodiversity with no “taste for that plant”, allowing it “to spread like wildfire once the environmental conditions [here] are the same”.¹⁶ Professor Chris Thomas believed that some non-native species can cause widespread change to native species, citing the example of the replacement of the Red Squirrel by the Grey over most of Britain, which was assisted by the spread of a shared disease (squirrel pox) to which Grey Squirrel is more resistant. He noted, nevertheless, that despite the influx of 1,875 non-native species, “we have not had any species-level extinctions from Britain” and that the empirical evidence suggested that if 1,000 more non-native species were added it would be only likely to result in the extinction of “a few” native species.¹⁷

8. Dr Helen Roy from the Centre of Ecology and Hydrology, on the other hand, told us that the 15% of invasive non-native species that do cause problems cause “extreme difficulties”.¹⁸ Dr Niall Moore from the Non-Native Species Secretariat also raised concerns from NGO Plantlife that Starfruit¹⁹ was “probably going to become extinct” in Britain because of the invasive New Zealand Pygmyweed plant. The Tansy Beetle, which feeds on the Tansy plant that is being excluded from river banks by invasive Himalayan Balsam, could also become extinct in England.²⁰

9. Biosecurity—the exclusion, eradication, and effective management of pests and unwanted organisms—is at risk from the importation of commodities and live plants and animals, and from international travel. Invasive species are often vectors for plant and animal disease.²¹ Professor Chris Thomas noted that although some are significant—Ash Dieback and Bluetongue in sheep—there is a large number of other less severe non-native diseases which arrive but go unnoticed.²² Defra is currently reviewing its approach to biosecurity,²³ for which the Food and Environment Research Agency has been commissioned to examine biosecurity policies in New Zealand and Australia for comparison.²⁴ New Zealand’s Biosecurity Act 1993 and Biosecurity Law Reform Act 2012 emphasise the management of biosecurity threats offshore, in their country of origin.²⁵ Dr

15 Q19

16 Q20

17 Qq178, 183

18 Q23

19 *Damasonium alisma*, a pond plant in Britain restricted to two sites on Berkshire heaths and one Surrey heath site.

20 Q196

21 Q11

22 Q191

23 Defra ([IVS0011](#))

24 Fera, [Australia and New Zealand Biosecurity Review](#) (2013)

25 Biosecurity New Zealand, [Review of Key Parts of the Biosecurity Act 1993](#) (2009)

Richard Shaw from CABI told us that the New Zealand and Australian biosecurity model was significantly in advance of the rest of the world, but biosecurity in Great Britain was in advance of that in the rest of Europe.²⁶

10. A difficulty for policy-making in this field is that any regulations to reduce biosecurity risks would need to comply with World Trade Organisation agreements and EU legislation. It also needs to integrate policies on invasive species and biosecurity. However, in the European Commission the Directorate General for Health and Consumers is responsible for the animal, plant and human health regulatory framework, while invasive species policy falls under the Directorate General for the Environment. The proposed EU regulation on invasive species is intended to be aligned with, but not overlap, existing EU legislation: It will not apply to the organisms targeted by over 40 existing pieces of European legislation on animal health and plant diseases.

11. Coherence between the proposed EU regulations on invasive species and on Animal and Plant Health regimes would help improve understanding of the risks and increase compliance with the regulatory frameworks. The risks posed to biosecurity in Britain, as exemplified the Ash Dieback epidemic, make it imperative that an integrated approach is taken to managing the routes of biological invasion into the EU. *The Government must engage with the EU's work in revising the Plant and Animal Health regulatory frameworks to ensure the result is a unified approach to biosecurity threats between these regulatory frameworks and the invasive species framework.*

Protecting biodiversity in the Overseas Territories

12. The proposed EU Regulation would require member states with 'outermost regions' (which are fully part of the EU) to draw up lists of species of concern for those regions. It would not apply to UK Overseas Territories despite, as we noted in our recent report on the Overseas Territories, the Territories containing 90% of the biodiversity found within the UK and Territories combined,²⁷ and more globally threatened species than in the UK.²⁸ Invasive species are one of the primary drivers of biodiversity loss in the Overseas Territories. In many cases, we noted, there was a lack of surveillance and monitoring in the Territories, as well as weaknesses in environmental legislation, implementation and technical expertise. However, Lord de Mauley told us that the Overseas Territories' biosecurity issues had to be considered in the context of their distinct constitutional relationship with the UK and that Territory Governments were responsible for the

26 Q7

27 Foreign and Commonwealth Office, Overseas Territories: Security, Success and Sustainability, Cm8374, June 2012, p8

28 International Union for Conservation of Nature Red List of Threatened Species, <http://www.iucnredlist.org/>, accessed 8 April 2014; POSTNote 427, [Biodiversity in UK Overseas Territories](#), (January 2013); Jérôme Petit and Guillaume Prudent (eds), [Climate Change and Biodiversity in the European Union Overseas Entities](#), International Union for Conservation of Nature 2010, p17

protection and conservation of their natural environments.²⁹ That mirrored the thrust of the Government Response we subsequently received to our Overseas Territories report.³⁰

13. Given the vulnerability of biodiversity in the UK Overseas Territories to invasive species and its unique value, it is imperative that the Government assist the Territories to assess and address the pathways for newly arriving species. It should provide them with further support to address the most pressing gaps in their biosecurity frameworks and to draw up ‘lists of concern’ for the Territories in line with those that will be required for the EU ‘Outermost Regions’ by the proposed EU directive.

Adverse effects on ecosystem services

14. The lack of a framework for quantifying the effects of invasive species on ecosystem services (the beneficial goods and services we derive from habitats and biodiversity)³¹ limits the Government’s ability to predict when and where those effects will arise. Professor Chris Thomas argued that adding new species to ecosystems in Britain could increase their resilience to environmental change.³² Others, however, identified risks to ecosystems. The Angling Trust told us how Himalayan Balsam affects fish in rivers: it excludes all the other flora from river banks, and when it dies back in the autumn there is heavy erosion and silting of the river.³³ Anglian Water found that the silting affected water quality and so increased the cost of water treatment.³⁴ Richard Shaw believed “the true costs to the country [of invasive species] are very high indeed”.³⁵ Dr Helen Roy highlighted that some had an adverse “ecosystem engineer” effect, which was difficult to quantify.³⁶ The lack of a database on ecosystem effects means that habitats need to be monitored, as we discuss below.

Effects on human health and economic costs

15. Richard Shaw argued that every sector of society was affected by invasive species, at a large and increasing cost.³⁷ The European Environment Agency has estimated that the cost to the EU of a range of invasive species was at least €12 billion a year.³⁸ The Country Land and Business Association (CLA) highlighted three high-cost examples: £10million a year in

29 Q269

30 Environmental Audit Committee, Eighth Special Report, [Sustainability in the UK Overseas Territories. Government Response to the Committee’s Tenth Report of Session 2013-2014](#), HC 1167

31 Montserrat Vilá, Corina Basnou, Petr Pyšek, Melanie Josefsson, Piero Genovesi et al, [How well do we understand the impacts of alien species on ecosystem services?](#), *Frontiers in Ecology and the Environment*, vol 8 (2010), pp135–144

32 Q186

33 Q79 (see also Robert A. Tanner, Sonal Varia, René Eschen, Suzy Wood, Sean T. Murphy and Alan C. Grange, [Impacts of an Invasive Non-Native Annual Weed, *Impatiens glandulifera*, on Above- and Below-Ground Invertebrate Communities in the United Kingdom](#), *PLoS ONE*, vol 8 issue 6 (2013), e67271)

34 Q80

35 Q4

36 Q4

37 Q3

38 European Environment Agency, [The impacts of invasive alien species in Europe](#), Technical Report No 16/2012, p6

damage to trees by grey squirrels, £1.5billion to eradicate Japanese Knotweed and £11million to eradicate Rhododendron from one national park in Wales alone.³⁹ The City of London Law Society calculated that the annual cost of dealing with Japanese Knotweed in Britain was £165 million, and that the cost of removing it from the Olympic site was £70 million.⁴⁰ The Angling Trust cited the North American Signal Crayfish and ‘Killer Shrimp’ which predate fish stocks, and plants such as Floating Pennywort which deprives fish of oxygen. The cost of water treatment increases when Zebra Mussels clog intake pipes.⁴¹

16. Some invasive species have direct human health effects. Anglers coming into contact with Giant Hogweed received skin inflammations.⁴² The pollen of Common Ragweed causes asthma.⁴³ The Asian Hornet, which might soon arrive here, has killed six people in France.⁴⁴ The Oak Processionary Moth can cause respiratory and skin problems.⁴⁵ Dr Niall Moore told us that although human health was included in invasive species risk assessments, there was a case for including Public Health England on the Board of the Non-native Species Secretariat.⁴⁶ With a different perspective, Mark Spencer suggested to us that there was an over-emphasis on the impact of invasive species on wildlife habitats, when in fact new invasive species often have significant consequences for human well-being.⁴⁷

17. There are potential human health effects from invasive species, not just biodiversity impacts. Public Health England should be integrated into the work of the Non-native Species Secretariat, to help it address human health and well-being considerations.

A changing environmental baseline

18. The approach taken to invasive species needs to be considered in the context of wider environmental change.⁴⁸ Dr Mark Spencer highlighted that habitats which were “heavily impacted by humans in adverse ways are often much more vulnerable to biological invasions”.⁴⁹ With environmental changes increasingly being caused by human activities, it would be ever more difficult to identify a change in a species’ range that was caused by only natural factors. He suggested, therefore, that responses to non-native species might need to become more nuanced in the future.⁵⁰ Professor Chris Thomas argued that with three-

39 Q78

40 City of London Law Society ([IVS002](#))

41 Q80

42 Q79

43 Jordina Belmonte and Montserrat Vilà, [Atmospheric invasion of non-native pollen in the Mediterranean region](#), *American Journal of Botany*, Vol 91 (2004), pp1243-1250

44 Q219 [Niall Moore]

45 Q217 [Adrian Jowett]

46 Qq220, 221

47 Q3

48 Andrew S. MacDougall and Roy Turkington, [Are invasive species the drivers or passengers of change in degraded ecosystems?](#) *Ecology*, Vol. 86, Issue 1 (2005), pp42–55

49 Q14

50 Q27

quarters of species having already shifted their distributions because of climate change, conservation had to be increasingly about managing major changes which were already happening.⁵¹ Many insects were arriving and plants were already being grown in our gardens, he said, which were “likely to be a major source of new species effectively becoming wild in Britain”.⁵² He told us:

we are going to have new biological communities from separate species we have not had before. I would encourage people not to take an “any change is bad” attitude, but to say, “let us try to identify the fights that we wish to engage in”, defined by whether they cause major changes that we are not happy about, and whether the fight is winnable.⁵³

Chris Thomas believed that any strategy or legislative framework should not result in controls which impaired conservation for species threatened by climate change.⁵⁴ He told us:

... we are risking, by our actions on repelling foreign species, inadvertently increasing the global extinction rate over what we could achieve. If there is a certain number of species, let us say restricted to local areas in Southern or Central Europe that are truly endangered by climate change, if we bring them here and potentially save some of them, it would not work for all of them, and it will have some impacts on native things.⁵⁵

Lord de Mauley told us, however, that the Government was not yet at the point at which it was:

wholeheartedly welcoming new species because our existing species are dying out because of climate change. We are focused at the moment still on preventing new invasions and on tackling, to the extent that we can, and controlling those that we have here.⁵⁶

19. Environmental changes caused by humans, including through climate change, are affecting the global distribution of species. One aspect of climate change adaptation will be a need to increasingly focus on conservation, where changes in species distributions have to be managed rather than simply resisted. That will determine over the years ahead the need for, and realism of, the measures put forward by the proposed EU directive, which we discuss below in Part 2.

20. The Government should use the opportunity of the ongoing revision of its Non-native Species Strategy to begin a public debate on the implications of changes in our biodiversity and ecosystems driven by still increasing climate change and international trade, including our approach to nature conservation.

51 Q184

52 Q186

53 Q189

54 Q192

55 Q185

56 Q256

2 Tackling invasive species

21. The Guiding Principles in the UN Convention on Biological Diversity state that the priority should be preventing the introduction of species between and within states. If any invasive species are introduced, it says, early detection and rapid action should be pursued to prevent its establishment. In the event that rapid eradication is not feasible, containment and longer-term control or eradication measures should be implemented.⁵⁷ **The proposed EU regulation, which we welcome**, would involve measures and requirements under each of these areas, as we discuss below.

Prevention

22. The proposed EU Regulation recognises that prevention is generally more environmentally desirable and the most cost-effective approach, and should be prioritised.⁵⁸ It states that after the introduction of an invasive species, early detection and rapid eradication measures are crucial to prevent their establishment and spread, while the number of specimens is still limited. However, if eradication is not feasible or the costs of eradication would outweigh the long term environmental, economic and social benefits, long term containment and control measures should be applied. Containment and control measures should be proportional to the impact on the environment of the invasive species and take due consideration of bio-geographic or climatic conditions of the member state concerned.⁵⁹

23. Dr Richard Shaw saw early eradication as the most cost-effective approach, but worried that there was a “temptation for all governments to ignore established invasive species that are difficult to control” and that lack of action on such species could undermine the credibility of any regulatory system.⁶⁰ CABI argued, however, that prevention “was almost impossible”, given that it only “takes one rogue trader, an internet order or contaminant to start a new invasion”.⁶¹ Dr Niall Moore told us that the revised *Non-native Species Strategy* was likely to have a similar approach to the existing *Strategy*, with a stress on prevention, early warning, rapid response and long-term management and control.⁶²

Listing ‘species of Union concern’

24. Given the large number of potential invasive species, the proposed EU regulation requires prioritisation of action through the development of a list of ‘species of [European] Union concern’, with a focus on species whose inclusion would effectively prevent,

57 UN, [Convention on Biological Diversity](#) (1992)

58 European Commission, [Draft Regulation on the prevention and management of the introduction and spread of invasive alien species](#) (2013)

59 ibid

60 Q52

61 CABI ([IVS0010](#))

62 Q200

minimise or mitigate their adverse impacts in a cost-efficient manner. In cases where invasive species which are not yet listed appear at the EU borders or are detected in EU territory, member states would be able to take ‘emergency measures’ against their introduction, establishment or spread. The EU will set up a dedicated Scientific Forum to provide advice on the EU list of invasive species, risk assessments, emergency measures and rapid eradication measures. The EU regulation would also allow states to establish their own national lists of invasive species.⁶³

25. Some of our witnesses raised concerns about how species native to one EU state and invasive in others, such as Rhododendron or Oak Processionary Moth, would be addressed. All of our witnesses welcomed the change in the draft EU regulation, made during its earlier negotiation stages, to enable the regulation to cover invasive species which were still native in other parts on the EU. Under the revised proposed EU regulation, states identifying ‘national list’ species that are native to other EU states would be required to undertake “enhanced regional co-operation” to stop their spread. Chris Gerrard on Anglian water cited the Killer Shrimp and Zebra Mussel from the Black Sea and Caspian Sea as examples for Britain.⁶⁴ Trevor Salmon from Defra told us:

The view has been taken that for things like the Ponto-Caspian shrimps and suchlike there should be a high degree of co-operation between the countries where they are native, Bulgaria and Romania particularly, and other countries where they are not native.

We would see that regional co-operation working through surveillance, through pathway action plans, through management plans, sharing of experience, not just in the countries where the species are native but countries along the pathway that have suffered before us.⁶⁵

26. The EU list would be a ‘blacklist’ that prohibited trade in, or the introduction of, a species shown to be harmful. An alternative ‘whitelist’ approach, as adopted by New Zealand, would list those species that are approved by risk assessors as safe (and would not list them until assessed), but such an approach could contravene WTO agreements. Dr Mark Spencer highlighted the need for any form of listing to be iterative and able to be expanded rapidly when required.⁶⁶ Dr Helen Roy suggested it was important for Britain to pursue best practice without being limited by the EU regulation,⁶⁷ and Carrie Hume from Wildlife and Countryside Link believed that it would be possible to maintain ‘white’ and ‘black’ lists together.⁶⁸

63 European Commission, [Draft Regulation on the prevention and management of the introduction and spread of invasive alien species](#) (2013)

64 Q118

65 Q262 [Trevor Salmon]

66 Q33 [Mark Spencer]

67 Q32 [Helen Roy]

68 Q57 [Carrie Hume]

27. Richard Shaw was concerned, however, that whitelisting would be inherently slow, as governments would have to go through the whole Pest Risk Analysis process.⁶⁹ It takes a long time to get species on the existing (Schedule 9) British list,⁷⁰ and if the species is not on the list there is no obligation to take action.⁷¹ Henry Robinson of the CLA suggested that whitelists might be too bureaucratic,⁷² and Defra concluded that a whitelist approach would be disproportionately resource-intensive because it would necessitate too many risk assessments. Professor Max Wade, from the Chartered Institute of Ecology and Environmental Management, believed that a whitelist approach was likely to be flawed, given the difficulties in predicting whether a species was going to become problematic.⁷³ Martin Emmett from the Horticultural Trade Association told us that a whitelist would have a major adverse impact on innovation in the horticultural industry.⁷⁴ Dr John David from the Royal Horticultural Society also thought that whitelisting would be inappropriate.⁷⁵

28. The most precautionary approach to invasive species would be to use a whitelist approach. However, given that any listing approach is likely to be imperfect, and the scale of the task at an EU level, a blacklist is likely to be the most pragmatic approach.

Risk Assessment

29. Any system of listing requires a risk assessment system to examine the safety of particular species. Risk assessment approaches adopted by different countries vary, but all attempt to identify the level of threat to biosecurity posed by a species and the likelihood of it becoming established. The Non-native Species Secretariat manages invasive species risk assessments in Great Britain. The risk assessments are drafted and peer-reviewed by experts approved by the Non-native Species Risk Analysis Panel, with stakeholders also given the opportunity to comment. Dr Niall Moore told us that the average time required to undertake risk assessments was about two years, with the minimum time for a comprehensive assessment being 16 months.⁷⁶ Professor Max Wade suggested that reliance on specialists and experts was one of the reasons for the slowness of the process and believed that it could be speeded up if it was better funded.⁷⁷

30. The proposed EU regulation requires the establishment of common criteria for performing risk assessments, to be based on existing national and international standards. The assessments should examine the mode of introduction into the EU; any economic, social and biodiversity impacts; and the costs of both the impacts and the proposed

69 Pest Risk Analysis is prescribed in international standards, with the European and Mediterranean Plant Protection Organisation (EPPO) providing information on quarantine organisms and pest risk analyses on which the Great Britain Non-native Species Secretariat have based their risk assessment protocols.

70 Q56 [Richard Shaw]

71 Q32 [Richard Shaw]

72 Q113 [Henry Robinson]

73 Q113 [Max Wade]

74 Q155

75 Q154

76 Q210 [Niall Moore]

77 Q98

mitigation measures. The Centre for Ecology and Hydrology was leading a project for the European Commission to evaluate risk assessment processes.⁷⁸ Helen Roy from the CEH told us that Britain had a “great risk assessment method”, but noted that there were knowledge gaps for some species.⁷⁹ Dr Mark Spencer believed that an absence of peer-reviewed literature sometimes made it necessary to rely on expert practitioner opinion.⁸⁰

31. Trevor Salmon from Defra told us that the Department uses horizon scanning “to forecast things that are going to come here as well as things that are here that may have been dormant but are likely to spread because of climate change”.⁸¹ CEH have carried out a horizon-scanning exercise for Defra, and Helen Roy told us that “it is an activity that we need to repeat; ... We have to keep reviewing it and repeating that exercise”.⁸² Dr David Bullock from the National Trust cited the example of the “highly predatory” Red Lionfish identified through a one-off horizon-scanning exercise as a potential arrival in European waters as climate change continues.⁸³

32. In any regulatory system there is likely to be a tension between having a system which can produce a comprehensive risk assessment, to justify the listing of a species that will be sufficiently robust to meet internationally required standards, and being able to respond promptly to emerging problems. Identifying problematic invasive species prior to their arrival is critical to effective prevention. In order for such species to be incorporated into the Government list of invasive species, there needs to be close links between horizon-scanning and risk assessment processes.

33. It is critical that the Government invests in the regulatory science underpinning risk assessment to streamline listing processes. The revised Non-native Species Strategy should set out how regular horizon-scanning exercises will be used to prioritise species for risk assessments, and to inform the EU list of species of concern.

Pathways

34. ‘Pathways’ are the routes and mechanisms of introduction and spread of invasive species—mainly trade, transport, travel and tourism. Identifying these is therefore key to prevention. Dr Spencer told us that the spread of problematic non-native species has been closely correlated with the development of international trade over the last 150 years.⁸⁴ The proposed EU Regulation would require member states to carry out comprehensive pathways analysis within three years and to draw up an action plan to address priority pathways for species of EU concern.

78 Q31 [Helen Roy]

79 Q39 [Helen Roy]

80 Q40 [Mark Spencer]

81 Q242

82 Q37

83 Q144

84 Q11

35. Professor Chris Thomas found that in nearly all of the cases of non-native species with serious impacts in Britain, their origin was North America or Eastern Asia or, for some of the aquatic species, the Black Sea and Caspian.⁸⁵ New trade routes could facilitate further arrivals.⁸⁶ Niall Moore said that 75% of non-native species now becoming established in Britain were non-European.⁸⁷ Helen Roy told us that many invasive species “come in as stowaways and that is really quite a tricky pathway to deal with”.⁸⁸

36. After having “lagged behind a bit in our strategic research and pathway analysis”,⁸⁹ Defra is now funding a project to assess the pressure coming from individual pathways, which has identified 37 main pathways.⁹⁰ One pathway for marine species is ballast water from ships, but the Government has yet to ratify the International Convention on Ballast Water⁹¹ whose procedures would ensure that ballast water did not transfer organisms. The proposed EU regulation on invasive species envisages the Commission encouraging member states to ratify that Convention. However, Lord de Mauley told us that the Government:

do not feel we are yet in a position, as I understand it, to ratify the ballast convention as work still continues at the IMO to clarify how the sampling and analysis can be undertaken. Without final processes and procedures in place, we feel that the convention cannot be effectively enforced.⁹²

We were frustrated by the slow pace of change at the IMO in our 2012 report on Protecting the Arctic, where we noted the long delays in making progress on a ‘Polar Code’ for Arctic shipping.⁹³

37. As acknowledged in the proposed EU regulation, there are significant knowledge gaps in relation to the pathways for the arrival and establishment of particular invasive species. Defra’s ongoing research on pathways will help fill that gap, including on the significance of ballast water as a possible pathway. *The Government should follow a precautionary principle approach, however, by not waiting for either that pathways research or the IMO work on ballast water sampling and analysis before immediately moving to ratify the Ballast Water Convention.*

85 Q168

86 Q173

87 Q196 [Niall Moore]

88 Q38 [Helen Roy]

89 Q199

90 Q209 [Niall Moore]

91 Q87 [Mark Owen]; International Maritime Organization, [International Convention for the Control and Management of Ships Ballast Water and Sediments](#) (2004)

92 Q248 (See also Lord de Mauley ([IVS021](#)))

93 Environmental Audit Committee, Second Report of Session 2012-2013, [Protecting The Arctic](#), HC 171, paras 113-120

Surveillance and Monitoring

38. Pathways, once identified, do need to be monitored in order to spot arrivals. Surveillance—mapping species round container ports or airports, for example—informs a rapid eradication programme in New Zealand. The proposed EU Regulation would require states to establish a surveillance system for species on the EU ‘list of concern’.

39. We heard details about the surveillance arrangements of Natural England, mostly focussed on SSSIs, and of Scottish Natural Heritage.⁹⁴ We also heard about the key role already played by voluntary wildlife bodies, and stakeholders such as anglers and beekeepers, in monitoring for invasive species.⁹⁵ Geoff Bateman from the Environment Agency told us that its monitoring was minimal, and that it relied on the ‘third sector’ for information.⁹⁶ Max Wade saw a need also for ‘negative reporting’ of where species were *not* present,⁹⁷ and monitoring data also needed to be effectively shared among all those that need to act.⁹⁸

40. Another challenge for surveillance was that some established non-native species might take decades to become invasive as environmental conditions changed (a possibility sometimes called ‘invasion debt’). Examples included the Tree of Heaven and Zebra Mussel. Professor Max Wade believed that a proportion of species already here would become “tomorrow’s Japanese Knotweeds and Grey Squirrels”. David Bullock called such species “sleepers”.⁹⁹ Richard Shaw contended that the weakness in a current system was that it could only identify species that had already “misbehaved” in the same eco-climatic range. Japanese knotweed would still not have passed a risk assessment a hundred years after its arrival because it does not set seed and would therefore not have been identified as a potential problem.¹⁰⁰

41. As yet there is no formal surveillance system in place in Great Britain that could effectively trigger action to ensure early eradication of invasive species before they become established. There also appears to be no systematic process in place to ensure the effective sharing of data between parties that may need to take action, such as local authorities, landowners and NGOs.

42. Defra needs to develop an approach to surveillance that integrated voluntary wildlife recording with professional surveillance and identification. There should be reporting systems that facilitate communication across a range of affected parties; with Natural England, the Environment Agency, local authorities and others ensuring that there are databases of invasive species distribution at the local level.

94 Qq34, 35 [Helen Roy], 203 [Adrian Jowitt], 209 [Stan Whitaker]

95 Qq94, 206 [Geoff Bateman], 208 [Niall Moore], 212 [Geoff Bateman]

96 Q206 [Geoff Bateman]

97 Q96 [Max Wade]

98 Q35 [Helen Roy]

99 Qq153, 89 [Max Wade], 153 [David Bullock]

100 Q38 [Richard Shaw]

Eradication

43. The proposed EU regulation would require early eradication of species of EU concern, once they are detected. Eradication programmes have to be undertaken early to be cost-effective. Quick action eradicated the one established colony of Johnson Grass in Britain after it had caused costly damage in other countries.¹⁰¹ The campaign against the Ruddy Duck, on the other hand, had not started until the population had reached 6,000 and eradication work had so far cost £5 million.¹⁰² Lessons had to be learnt from previous eradication projects.¹⁰³

44. Niall Moore emphasised that eradication campaigns had to be sustained to avoid wasted effort. He told us that the Non-native Species Secretariat was helping the Environment Agency and Natural England to develop Rapid Response Plans for species, as well as contingency plans for the arrival of the Asian Hornet.¹⁰⁴ Stan Whitaker told us that, in Scotland, bodies had agreed a framework to allocate clear roles and responsibilities, with Scottish Natural Heritage taking the lead on open-ground and wetland habitats and others leading on freshwater, woodland and marine habitats.¹⁰⁵ Carrie Hume noted that the long time-spans of some eradication programmes meant that funds had to be secure to see those programmes to completion.¹⁰⁶

45. For eradication campaigns to be successful and cost-effective, they need to be timely, informed by good evidence and funded for long enough to ensure complete eradication is achieved. *Rapid Response Plans for early eradication should be developed by the Non-native Species Secretariat, with other agencies, for all the species on the national and EU lists of concern that are not yet established in Great Britain. The relevant bodies in England—Natural England, the Environment Agency, the Forestry Commission and the Marine Management Organisation—should agree an oversight framework on invasive species to ensure clear allocations of responsibilities. The Government should commission research on the lessons from previous eradication campaigns in the UK and internationally to inform future programmes and rapid response plans.*

Long term control

46. Where eradication of invasive species is not feasible, or the costs outweigh the long-term environmental, economic or social benefits, the proposed EU regulation requires that containment and control measures should be applied. It also requires that states take appropriate restoration measures to assist the recovery of an ecosystem that has been

101 Q45 [Mark Spencer]

102 Q45 [Carrie Hume]

103 Q50 [Helen Bayliss]

104 Qq208 [Niall Moore], 232[Niall Moore]

105 Q195

106 Q44

degraded, damaged, or destroyed by invasive species, “unless the costs outweigh the environmental benefits of doing so”.¹⁰⁷

47. A number of our witnesses pressed for a more strategic approach to long-term control and containment. Examples of success were the Forestry Commission’s control of the Oak Processionary Moth¹⁰⁸ and Anglian Water’s work on containing the Killer Shrimp.¹⁰⁹ Professor Max Wade suggested that local authorities could be used more effectively, as had been the case in Swansea on Japanese Knotweed.¹¹⁰ Professor Chris Thomas believed, however, that the reasons why some species were controlled were not always clear:

....some of those control costs—for example, water weeds in waterways we wish to keep open for boat traffic—we might consider essential. There may be other controls that we are doing because we are exhibiting a preference for an ecosystem without that species.¹¹¹

48. Cost-effectiveness was a key determinant of which control programmes would be worthwhile. Chris Thomas suggested for instance that the eradication of Grey Squirrel on Anglesey was likely to be cost-effective, because once eradicated it would only take a small amount of effort to keep them away from the island. Controlling a well-established invasive species would be worthwhile if “it is changing the state of other species or ecosystems in a way that we do not want to accept”.¹¹² Stan Whitaker of Scottish Natural Heritage also highlighted the need to address problems at the “appropriate scale in defensible areas”, but he also stressed the importance of applying research lessons. He cited programmes for Mink where research on migration routes and likely re-invasion routes had informed the control strategy.¹¹³

49. Adrian Jowitt told us that Natural England would carry out control work on SSSIs as it was required to do,¹¹⁴ but otherwise it was a case of “picking our fights” and, in accordance with their current remit, being clear about “where there is an economic benefit to tackling some of these things, because they will cost a huge amount of money”.¹¹⁵ He suggested that ‘biological control’ (controlling pests using other living organisms) could be the most cost-effective approach and that more research funds should be put into studying this. Richard Shaw highlighted that one of the advantages of biological control was that it “acts in a slower way, so you do not have this scorched earth approach to invasive species management, [but] a slower approach allowing natives to compete on a better footing”.¹¹⁶

107 European Commission, [Draft Regulation on the prevention and management of the introduction and spread of invasive alien species](#) (2013)

108 Q91 [Henry Robinson]

109 Q102 [Chris Gerard]

110 Q96 [Max Wade] (See also Q102)

111 Q171

112 Qq180, 183

113 Q212 [Stan Whitaker]

114 Q203

115 Q211

116 Q51

50. **There has been a lack of clarity for many years over why control action for certain species has been prioritised over others, and what outcome is sought for the species being controlled. *The Government, in conjunction with the Non-native Species Secretariat, should have invasive species action plans in place for all the species on the national and EU lists of species of concern that are established in Great Britain, to ensure long-term control funds are being effectively spent. Those invasive species for which clear desired outcomes cannot be established should be removed from the national list.***

51. While the proposed EU regulation requires the restoration of damaged ecosystems, this has generally not been a priority. Dr Mark Spencer told us:

eradication is often done with a complex network of voluntary bodies, wildlife trusts, landowners, the environment agency and usually often because of the funding parameters and the capacity issues for all of those bodies and the people involved, once a project has been completed, whether successfully or not, probably—to put it crudely—that is the end.¹¹⁷

Adrian Jowitt of Natural England believed that knowledge of habitat restoration was “pretty good in most cases”,¹¹⁸ but Richard Shaw thought that we could learn from other countries that implement control and restoration programmes in tandem.

52. **Until now no explicit link has been made between measures to control or eradicate invasive species and those to restore the habitats affected. *Invasive Species Action Plans should set out a clear view of the required restoration state of native habitats and species. If such clear outcome requirements cannot be determined, the use of control measures should be critically re-evaluated.***

Public involvement and awareness

53. The proposed EU regulation requires states to consult the public on both pathway action plans (paragraph 34) and control management measures (paragraph 46), and notes the benefits of involving local communities in surveillance programmes (paragraph 39). In Britain, publicity campaigns are being run to increase public awareness of the problems caused by invasive species and poor biosecurity, including ‘Be Plantwise’ and ‘Check, Clean, Dry’ campaigns by the Non-native Species Secretariat. The Secretariat also oversees voluntary control projects in England co-ordinated through Local Action Groups. Niall Moore from the Secretariat told us:

I think it is useful to harvest the keenness that members of the public have and get volunteer effort in. We have collated something like 130,000 hours of volunteer effort into controlling non-natives and also educating people on that as well. It is a very useful way of getting cheap labour out of people and getting people involved.¹¹⁹

117 Q 51 [Mark Spencer]

118 Q214

119 Q212 [Niall Moore]

He told us that Britain was unique in having an alerting system for the Asian Hornet, which involved beekeepers. Stan Whitaker told us, similarly, that SNH relies greatly on citizen science monitoring and had invested in an invasive species ‘app’ for mobile phones along with the Environment Agency.¹²⁰

54. The Angling Trust and Royal Horticultural Society acknowledged the success of the “Be Plantwise” campaign, but identified a need for more public awareness through education and campaigns. However, Martin Emmett of the Horticultural Trades Association suggested that public engagement could be limited by the fact that control of invasive species on people’s properties would be at their own expense and “they may find themselves liable for charges they may not want to face”.¹²¹

55. To meet the objectives of the proposed EU Regulation, a significant step up in public awareness and public acceptance of control measures will be needed. The creation of an EU list of species of concern, along with a revamped national listing system (paragraph 61) would provide an opportunity to increase public awareness and engagement in control projects.

120 Q208 [Stan Whitaker]

121 Q147

3 Legislation

56. The proposed EU regulation states that “in order to guarantee compliance with this Regulation, it is important that member states impose dissuasive, effective and proportionate sanctions for infringements; taking into account the nature and gravity of the infringement, the principle of recovery of the costs and the ‘polluter pays’ principle.”¹²²

Existing legislation

57. Section 14(1) of the 1981 Wildlife and Countryside Act makes it illegal in England and Wales to allow any animal which is *not ordinarily resident* in Great Britain, or listed in Schedule 9 of the Act, to escape or be released into the *wild*. That Schedule 9 prohibition also applies to plants. The Act also creates an offence of selling, offering or exposing for sale, or possessing or transporting for the purposes of sale, non-native species that are listed in Schedule 9.¹²³ The Wildlife and Natural Environment (Scotland) Act 2011 and the *Code of Practice on Invasive Non-native Species* has similar provisions for Scotland, but rather for species *outwith its native range* rather than *not ordinarily resident* or in *the wild*.¹²⁴

Schedule 9

58. Carrie Hume told us that Schedule 9 was effectively a blacklist (paragraph 26) on release of species into the wild “which has never been used to prosecute”. There was low public awareness of what species were listed.¹²⁵ Trevor Salmon from Defra told us that a statutory instrument to ban the sale of five plant species was coming into force shortly. Carrie Hume told us that the consultation on that had taken a number of years, and that the process had been “rather closed” and “not clear”.¹²⁶ The process was taking a long time, Trevor Salmon told us, because it was the first time it had been done.¹²⁷ Mark Spencer told us that:

experience of the last few years of any form of listing has been that it has been quite foggy at times in terms of process, and species have remained or come on and off the list often for very interesting reasons. Other species have never been on the list because of cultural biases.¹²⁸

122 European Commission, [Draft Regulation on the prevention and management of the introduction and spread of invasive alien species](#) (2013)

123 Section 14Za of the Wildlife and Countryside Act, as inserted by Section 50 of the 2006 Natural Environment and Rural Communities Act.

124 Invasive species are also subject to a range of sector-specific legislation including the Import of Live Fish Act 1980, Plant health Act 1967, Destructive Imported Animals Act 1932, The Dangerous Wild Animals Act 1976, Environment Protection Act 1980, Bees Act 1980 and the Salmon and Fisheries Act 1975.

125 Q71

126 Q63

127 Q265

128 Q67

He gave the example of the Buddleja (Butterfly Bush), which has been established in the wild since the 1920s and is now one of the most abundant shrubs in urban and suburban areas. There were increasing concerns about its impacts on biodiversity, but it had never been listed.¹²⁹

59. Trevor Salmon from Defra told us that the Environment Agency issues guidance on how to tackle particular invasive species or pests.¹³⁰ Max Wade complained, however, that some listed species did not have risk assessments, so there was no information to back up the Schedule 9 listing. He told us that “there is very little or no guidance on how to implement Schedule 9, so if you are faced with a plant on your land that you may be at risk of spreading—Cotoneaster would be an example—and what do you do about it?”. He told us that Schedule 9 was “largely responsible for the Japanese Knotweed chimera that has developed over the decades”:

The people who put Japanese Knotweed on Schedule 9 of the Wildlife and Countryside Act in the first place did not intend to happen what has subsequently happened. They did not see the demonisation of a plant and a multimillion pound industry.¹³¹

There was, he said, the potential for another control industry to emerge for Cotoneaster.¹³²

60. Given the lack of prosecutions under Schedule 9 it seems doubtful that on its own it can provide a mechanism to “impose dissuasive, effective and proportionate sanctions for infringements” as required by the proposed EU regulation. Due to a lack of transparency and clear guidance, it appears to have done little to raise awareness of the environmental impacts of releasing non-native species.

61. The Government should take the opportunity of the Law Commission Review of Wildlife Legislation (paragraph 62) and the introduction of the proposed EU regulation to revamp the Schedule 9 process, including providing a transparent listing mechanism overseen by the Non-native Species Secretariat. There should be clearly stated and agreed criteria for listing, similar to those for the UK Plant Health Register, and that list should be publicly available and continuously updated on the basis of risk assessment (paragraph 29).

Species Control Agreements and Species Control Orders

62. As part of its Defra-commissioned *Review of Wildlife Legislation*, the Law Commission has considered reforms to non-native species legislation, including whether additional powers are needed to allow control of invasive species on land without the consent of owners.¹³³ The Wildlife and Natural Environment (Scotland) Act 2011 already gives

129 *ibid*

130 Q266

131 Q114

132 Qq111, 114

133 Law Commission, [Wildlife law: Control of invasive species](#), HC 1039 (February 2014)

powers to Scottish ministers to issue ‘species control orders’ to undertake eradications without the landowner’s permission and for the costs to be recovered from landowners that allow non-native species to get “out of control”. Based on the Scottish model, the Law Commission recommended a four stage process—investigation, ‘species control agreements’, ‘species control orders’ when an agreement cannot be reached or is not carried out, and enforcement to ensure compliance with an order. The Law Commission raised concerns that the *not ordinarily resident* definition of non-native species in the existing England and Wales legislation (paragraph 57) would need to be clarified.

63. In England, order-making bodies would include Natural England and the Environment Agency. In response to concerns raised in the consultation on the legislation, the Law Commission recommended that order-making bodies should be obliged to consider the proportionality of proposed measures. With regard to powers of entry, the Law Commission considered that a warrant was only necessary if forced entrance was required to land or property. Most of our witnesses were supportive of the introduction of control orders, particularly for rapid response plans (paragraph 44). Stan Whitaker told us that, although powers came into force in 2012 in Scotland, there had not been any prosecutions or species control agreements issued so far, although “one was under negotiation”.¹³⁴ Nevertheless, Scottish Natural Heritage saw the powers they had as a useful tool to formalise action where it needed to be taken and they were likely to use them in rapid response cases in the future.¹³⁵

64. Adrian Jowitt told us that Natural England believed the proposed powers would be a useful tool for them. Helen Bayliss and Niall Moore thought they would be useful for rapid response plans.¹³⁶ Niall Moore believed that the Ruddy Duck eradication programme had been delayed by two years because of a lack of powers of entry.¹³⁷ Geoff Bateman told us that the Environment Agency already had powers of entry under other existing legislation,¹³⁸ but it was better to use voluntarily approaches, “keeping the powers as a back-stop”.¹³⁹

65. There is a clear need for species control agreements and species control orders to ensure effectiveness of rapid response plans to eradicate invasive species before they can become established. They could help avoid wasted effort and expenditure on large-scale control or eradication programmes, which might otherwise fail if access to all affected land could not be secured. *The Government should implement the Law Commission’s recommendations to tighten the invasive species legislation for England and Wales, which should be a priority for the Government’s legislative agenda.*

134 Q223

135 Q225

136 Qq33 [Helen Bayliss], 69, 232 [Niall Moore]

137 Qq212, 229

138 Water Resources Act, the Salmon and Freshwater Fisheries Act and the Import of Live Fish Act.

139 Q229

Conclusions

1. Coherence between the proposed EU regulations on invasive species and on Animal and Plant Health regimes would help improve understanding of the risks and increase compliance with the regulatory frameworks. The risks posed to biosecurity in Britain, as exemplified the Ash Dieback epidemic, make it imperative that an integrated approach is taken to managing the routes of biological invasion into the EU. (Paragraph 11)
2. There are potential human health effects from invasive species, not just biodiversity impacts. (Paragraph 17)
3. Environmental changes caused by humans, including through climate change, are affecting the global distribution of species. One aspect of climate change adaptation will be a need to increasingly focus on conservation, where changes in species distributions have to be managed rather than simply resisted. That will determine over the years ahead the need for, and realism of, the measures put forward by the proposed EU directive. (Paragraph 19)
4. We welcome the proposed EU regulation. (Paragraph 21)
5. The most precautionary approach to invasive species would be to use a whitelist approach. However, given that any listing approach is likely to be imperfect, and the scale of the task at an EU level, a blacklist is likely to be the most pragmatic approach. (Paragraph 28)
6. In any regulatory system there is likely to be a tension between having a system which can produce a comprehensive risk assessment, to justify the listing of a species that will be sufficiently robust to meet internationally required standards, and being able to respond promptly to emerging problems. Identifying problematic invasive species prior to their arrival is critical to effective prevention. In order for such species to be incorporated into the Government list of invasive species, there needs to be close links between horizon-scanning and risk assessment processes. (Paragraph 32)
7. As acknowledged in the proposed EU regulation, there are significant knowledge gaps in relation to the pathways for the arrival and establishment of particular invasive species. Defra's ongoing research on pathways will help fill that gap, including on the significance of ballast water as a possible pathway. (Paragraph 37)
8. As yet there is no formal surveillance system in place in Great Britain that could effectively trigger action to ensure early eradication of invasive species before they become established. There also appears to be no systematic process in place to ensure the effective sharing of data between parties that may need to take action, such as local authorities, landowners and NGOs. (Paragraph 41)
9. For eradication campaigns to be successful and cost-effective, they need to be timely, informed by good evidence and funded for long enough to ensure complete eradication is achieved. (Paragraph 45)

10. There has been a lack of clarity for many years over why control action for certain species has been prioritised over others, and what outcome is sought for the species being controlled. (Paragraph 50)
11. Until now no explicit link has been made between measures to control or eradicate invasive species and those to restore the habitats affected. (Paragraph 52)
12. To meet the objectives of the proposed EU Regulation, a significant step up in public awareness and public acceptance of control measures will be needed. The creation of an EU list of species of concern, along with a revamped national listing system would provide an opportunity to increase public awareness and engagement in control projects. (Paragraph 55)
13. Given the lack of prosecutions under Schedule 9 it seems doubtful that on its own it can provide a mechanism to “impose dissuasive, effective and proportionate sanctions for infringements” as required by the proposed EU regulation. Due to a lack of transparency and clear guidance, it appears to have done little to raise awareness of the environmental impacts of releasing non-native species. (Paragraph 60)
14. There is a clear need for species control agreements and species control orders to ensure effectiveness of rapid response plans to eradicate invasive species before they can become established. They could help avoid wasted effort and expenditure on large-scale control or eradication programmes, which might otherwise fail if access to all affected land could not be secured. (Paragraph 65)

Recommendations

15. The Government must engage with the EU's work in revising the Plant and Animal Health regulatory frameworks to ensure the result is a unified approach to biosecurity threats between these regulatory frameworks and the invasive species framework. (Paragraph 11)
16. Given the vulnerability of biodiversity in the UK Overseas Territories to invasive species and its unique value, it is imperative that the Government assist the Territories to assess and address the pathways for newly arriving species. It should provide them with further support to address the most pressing gaps in their biosecurity frameworks and to draw up 'lists of concern' for the Territories in line with those that will be required for the EU 'Outermost Regions' by the proposed EU directive. (Paragraph 13)
17. Public Health England should be integrated into the work of the Non-native Species Secretariat, to help it address human health and well-being considerations. (Paragraph 17)
18. The Government should use the opportunity of the ongoing revision of its Non-native Species Strategy to begin a public debate on the implications of changes in our biodiversity and ecosystems driven by still increasing climate change and international trade, including our approach to nature conservation. (Paragraph 20)
19. It is critical that the Government invests in the regulatory science underpinning risk assessment to streamline listing processes. The revised Non-native Species Strategy should set out how regular horizon-scanning exercises will be used to prioritise species for risk assessments, and to inform the EU list of species of concern. (Paragraph 33)
20. The Government should follow a precautionary principle approach by not waiting for either [Defra's] pathways research or the IMO work on ballast water sampling and analysis before immediately moving to ratify the Ballast Water Convention. (Paragraph 37)
21. Defra needs to develop an approach to surveillance that integrated voluntary wildlife recording with professional surveillance and identification. There should be reporting systems that facilitate communication across a range of affected parties; with Natural England, the Environment Agency, local authorities and others ensuring that there are databases of invasive species distribution at the local level. (Paragraph 42)
22. Rapid Response Plans for early eradication should be developed by the Non-native Species Secretariat, with other agencies, for all the species on the national and EU lists of concern that are not yet established in Great Britain. The relevant bodies in England—Natural England, the Environment Agency, the Forestry Commission and the Marine Management Organisation—should agree an oversight framework on invasive species to ensure clear allocations of responsibilities. The Government

should commission research on the lessons from previous eradication campaigns in the UK and internationally to inform future programmes and rapid response plans. (Paragraph 45)

23. The Government, in conjunction with the Non-native Species Secretariat, should have invasive species action plans in place for all the species on the national and EU lists of species of concern that are established in Great Britain, to ensure long-term control funds are being effectively spent. Those invasive species for which clear desired outcomes cannot be established should be removed from the national list. (Paragraph 50)
24. Invasive Species Action Plans should set out a clear view of the required restoration state of native habitats and species. If such clear outcome requirements cannot be determined, the use of control measures should be critically re-evaluated. (Paragraph 52)
25. The Government should take the opportunity of the Law Commission Review of Wildlife Legislation and the introduction of the proposed EU regulation to revamp the Schedule 9 process, including providing a transparent listing mechanism overseen by the Non-native Species Secretariat. There should be clearly stated and agreed criteria for listing, similar to those for the UK Plant Health Register, and that list should be publicly available and continuously updated on the basis of risk assessment. (Paragraph 61)
26. The Government should implement the Law Commission's recommendations to tighten the invasive species legislation for England and Wales, which should be a priority for the Government's legislative agenda. (Paragraph 65)

Formal Minutes

Wednesday 9 April 2014

Members present:

Joan Walley, in the Chair

Peter Aldous

Zac Goldsmith

Mike Kane

Mark Lazarowicz

Caroline Lucas

Caroline Nokes

Dr Matthew Offord

Mrs Caroline Spelman

Dr Alan Whitehead

Draft Report (*Invasive non-native species*), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 65 read and agreed to.

Summary agreed to.

Resolved, That the Report be the Fourteenth Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

Written evidence was ordered to be reported to the House.

[Adjourned till Wednesday 30 April at 2.00 pm]

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the Committee's inquiry page at www.parliament.uk/eacom

Wednesday 22 January 2014

Question number

Carrie Hume, Wildlife and Countryside Link, **Dr Helen Bayliss**, British Ecological Society and Centre for Environmental Policy, Imperial College, **Dr Helen Roy**, Centre for Ecology and Hydrology, **Dr Richard Shaw**, CABI, and **Dr Mark Spencer**, Natural History Museum.

[Q1-77](#)

Wednesday 29 January 2014

Professor Max Wade, Chartered Institute of Ecology and Environmental Management, **Henry Robinson**, President, CLA, **Mark Owen**, Angling Trust, and **Chris Gerrard**, Climate Change and Biodiversity Manager, Anglian Water.

[Q78-124](#)

Dr John David, Royal Horticultural Society, **Martin Emmett**, Horticultural Trade Association, and **Dr David Bullock**, National Trust.

[Q125-166](#)

Wednesday 26 February 2014

Professor Chris Thomas FRS, University of York.

[Q167-192](#)

Dr Niall Moore, Non-Native Species Secretariat, **Adrian Jowitt**, Natural England, **Geoff Bateman**, Environment Agency, and **Stan Whitaker**, Scottish Natural Heritage.

[Q193-234](#)

Wednesday 12 March 2014

Lord de Mauley, Parliamentary Under-Secretary of State for Natural Environment and Science, Department for Environment, Food and Rural Affairs, and **Trevor Salmon**, Head of Invasive Non-Native Policy and Domestic Species Conservation team, Department for Environment, Food and Rural Affairs

[Q235-280](#)

Published written evidence

The following written evidence was received and can be viewed on the Committee's inquiry web page at www.parliament.uk/eacom. IVS inquiry numbers are generated by the evidence processing system and so may not be complete.

- 1 Hampshire and Isle of Wight Wildlife Trust ([IVS 001](#))
- 2 City of London Law Society ([IVS 002](#))
- 3 Ornamental Aquatic Trade Association ([IVS 003](#))
- 4 Plantlife ([IVS 004](#))
- 5 RSPB ([IVS 005/IVS 0020](#))
- 6 Repta ([IVS 006](#))
- 7 Katharina Dehnen-Schmutz ([IVS 007](#))
- 8 Property Care Association ([IVS 009](#))
- 9 CABI ([IVS 010](#))
- 10 Defra ([IVS 011](#))
- 11 National Farmers Union ([IVS 012](#))
- 12 Wildlife and Countryside Link ([IVS 013](#))
- 13 Country Land and Business Association ([IVS 014](#))
- 14 The National Trust ([IVS 015](#))
- 15 Professor Chris Thomas ([IVS 016](#))
- 16 Carrie Hume, Dr Helen Bayliss, Dr Richard Shaw and Dr Mark Spencer ([IVS 017](#))
- 17 Royal Horticultural Society ([IVS 018](#))
- 18 Horticultural Trades Association ([IVS 019](#))
- 19 Lord de Mauley ([IVS 021](#))