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**JOINT NATURE CONSERVATION COMMITTEE**

**NON-NATIVE SPECIES: JNCC'S FUTURE PRIORITIES**

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**1. Introduction**

- 1.1 In the UK, the term **non-native species** is applied to any species or race that does not occur naturally in an area. The term **alien species** is used in many other countries with the same meaning as non-native species, while the term **invasive alien species** is applied to those species that become abundant after their arrival and hence damage biodiversity, as well as often causing substantial economic or health problems.
- 1.2 The Millennium Ecosystem Assessment<sup>1</sup> identified invasive alien species as one of the main direct drivers of biodiversity loss. The impact of invasive alien species was assessed as being very high in island ecosystems, and high in coastal, inland water and Mediterranean dryland ecosystems. Increasing impacts were predicted in several other ecosystems over the next few decades.
- 1.3 Furthermore, it has been stated<sup>2</sup> that globally the threat from invasive alien species to biodiversity is second only to habitat loss, and although this has been disputed the current consensus is that the pressure from invasive alien species is responsible for the decline in many threatened species and damages many biotopes by reducing native characteristic biodiversity.
- 1.4 Non-native species also respond to, and interact with, other pressures. For example, their dispersal and spread is facilitated by climate change and by increased transport of people and goods. Habitat degradation, resulting from greater economic activity, also creates conditions for many non-native species to become established and thrive.
- 1.5 In the UK some species and ecological situations are gravely threatened by the rapid spread of non-native plants, animals and micro-organisms. Well-known examples include the decline in Red Squirrel caused by the spread of the Grey Squirrel, loss of habitats caused by the spread of Rhododendron and aquatic plants such as Australian Swamp Stonecrop, and the invasion of inshore marine habitats by non-native algae such as Japanese Seaweed.
- 1.6 In the UK's Overseas Territories, non-native species are a major nature conservation problem, and have contributed to population declines for a

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<sup>1</sup> Millennium Ecosystem Assessment (2005). *Ecosystems and human well-being: biodiversity synthesis*. <http://www.maweb.org/documents/document.354.aspx.pdf>

<sup>2</sup> Convention on Biological Diversity website: [www.biodiv.org/programmes/cross-cutting/alien/default.aspx](http://www.biodiv.org/programmes/cross-cutting/alien/default.aspx)

number of globally threatened and endemic species. A recent audit<sup>3</sup> found that over 2,200 non-native species have been recorded from the Overseas Territories and Crown Dependencies, including 1,139 from Bermuda alone.

- 1.7 It is generally accepted that preventing the arrival and establishment of non-native species is far cheaper and better for biodiversity and human interests than waiting until non-natives are well-established and causing damage before action is taken. Effective prevention depends upon risk assessment of non-native species proposed for deliberate introduction, coupled with detection systems to discover accidental introductions quickly. In fact, it is not usually possible to eradicate non-native species once they have become at all widely established, so excellent surveillance coupled with a rapid response on detecting a newly arrived problem species are essential to maximise the chances of successful eradication. Better prevention and rapid responses to the arrival of non-natives demand well-organised procedures with good co-operation between the multiple organisations involved within the UK and globally.
- 1.8 While nature conservationists and others have given most attention to larger organisms, there are particular problems associated with invasive plant and animal pathogens. Although distinct skills are needed to deal with pathogens, with different organisations involved compared with larger organisms, it is important that the necessary preventive and other actions link together with those dealing with their hosts and other species responsible for pathogen transport.

## **2. Policy and governance context**

- 2.1 Most of the major multilateral environmental agreements have programmes of work concerned with non-native species. For example, invasive alien species are a cross-cutting issue within the Convention on Biological Diversity, and fifteen guiding principles for the prevention, introduction and mitigation of the impacts of invasive aliens were agreed at the 6<sup>th</sup> Conference of Parties in 2002.
- 2.2 Other international conventions that deal with non-native species include the Ramsar Convention, the International Plant Protection Convention and the International Convention for the Control and Management of Ships' Ballast Water and Sediments.
- 2.3 The Global Invasive Species Programme is an international partnership whose mission is to 'conserve biodiversity and sustain human livelihoods by minimising the spread and impact of invasive alien species'. It has responsibility for co-ordinating the implementation of the Global Strategy on Invasive Alien Species.

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<sup>3</sup> Varnham K (2006). *Non-native species in UK Overseas Territories: a review*. JNCC report no 372. [http://www.jncc.gov.uk/pdf/jncc372\\_web.pdf](http://www.jncc.gov.uk/pdf/jncc372_web.pdf)

- 2.4 The Bern Convention has produced a European strategy for non-native species. Within the EU, non-native species were identified as a priority for action in the 6<sup>th</sup> Environmental Action Programme. One of the principal objectives in the Biodiversity Communication published in 2006 is to ‘substantially reduce the impact on EU biodiversity of invasive alien species’, and specific associated actions are identified, including the development of an EU-wide strategy. Under the Streamlining European Biodiversity Indicators for 2010 initiative (SEBI 2010), an expert group is preparing a suite of indicators to assess the impacts of invasive alien species on biodiversity.
- 2.5 The Defra Review of Non-native Species Policy<sup>4</sup> was prepared by a working group with broad representation from the sectors concerned with non-native species in GB. The review summarises a response to non-native species issues under the three-stage hierarchical approach advocated by the Convention on Biological Diversity, namely:
- the first stage is to give priority to measures to prevent introductions of invasive non-native species;
  - the second stage concerns detection of newly-introduced invasive non-native species and, where appropriate, rapid action to prevent their establishment;
  - the third stage concerns longer-term mitigation measures, such as containment or control, for established invasive non-native species.
- 2.6 The current arrangements for dealing with non-native species in GB are largely based upon the recommendations of the working group, with an emphasis upon using codes of conduct to set out guidance for sectors such as horticulture and pet-keeping to prevent problems from occurring in the first place from the release of damaging species.
- 2.7 Defra chair a Programme Board for Non-native Species, which comprises key Government stakeholders and has led the preparation of a GB Non-native Species Strategy to tackle the problems more effectively in future. The draft GB Strategy will be finalised in 2007 after a consultation in the spring. The Programme Board is supported by a small secretariat (based at the Central Science Laboratory) and currently has Defra funding for developing risk assessments and initiating improved surveillance.
- 2.8 The Strategy is for GB at present because separate arrangements are in place for dealing with non-native species on the island of Ireland, with JNCC keeping in contact with EHS on major issues. It is important to put in place consistent arrangements for dealing with non-native species for these two island systems respectively, because they are different biogeographical areas with their own suites of native and non-native species.

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<sup>4</sup> Defra (2003). *Review of non-native species policy: Report of the working group.*  
[www.defra.gov.uk/wildlife-countryside/resprog/findings/non-native/index.htm](http://www.defra.gov.uk/wildlife-countryside/resprog/findings/non-native/index.htm)

### **3. Future priorities for JNCC**

- 3.1 JNCC could potentially become involved in many different aspects of work on non-native species, both within the UK and internationally. However, it takes significant time and resources to remain engaged across the breadth of such a fast-changing topic, with numerous novel science and policy aspects, as well as to engage effectively with the numerous actors on the stage. It is therefore essential that resources are concentrated on a few significant and achievable goals.
- 3.2 To maximise the benefits for nature conservation, the following principles have been used to inform the identification of priorities for JNCC's future work on non-native species:
- i. JNCC's input should be focused on the ecosystems and species most affected by non-native species, as identified by the Millennium Ecosystem Assessment, IUCN red-listing and local review;
  - ii. we should aim to utilise our resources effectively by working closely with partner organisations and building on existing initiatives;
  - iii. our efforts should be directed to areas where we can add significant value to what other bodies are doing;
  - iv. our work should acknowledge the links between the environmental, social and economic issues associated with non-native species, coupled with an understanding of how non-natives interact with other major pressures on biodiversity, such as climate change;
  - v. we should aim to help UK Government to meet its domestic and international commitments in relation to non-native species;
  - vi. JNCC should take a broad view of non-native species, including invasive plant and animal pathogens.
- 3.3 Based on these principles, the following five priority actions are proposed. These are described in more detail below.
- i. ensuring effective implementation of the GB Non-native Species Strategy;
  - ii. reducing the impact of non-native species on biodiversity in the Overseas Territories;
  - iii. contributing to the development of robust European and global policies and initiatives for non-native species;
  - iv. developing economic tools to quantify the costs of non-native species;

- v. ensuring that policies on non-native species are underpinned by sound evidence.

*Ensuring effective implementation of the GB Non-native Species Strategy*

- 3.4 Domestically, the top JNCC priority is to facilitate the effective implementation of the GB Non-native Species Strategy. The Programme Board for Non-native Species needs to ensure that GB is more effective in preventing future problems from non-native species, as well as tackling the damage being caused to biodiversity and other interests more quickly and effectively. There is currently a shortfall in rapid decision-taking and resourcing to deal with newly arrived non-native species, as well as insufficient co-ordination to tackle existing priorities for eradication and control.
- 3.5 Priority actions for JNCC include:
  - i. working with Defra, devolved administrations, country agencies and others to build up the co-ordination and leadership role of the Programme Board;
  - ii. linking into initiatives for Ireland where appropriate, and seeking a consistent UK approach to deploying prevention measures in particular.

*Reducing the impact of non-native species on biodiversity in the Overseas Territories*

- 3.6 Internationally, the top JNCC priority is to contribute to the development of a strategic approach to reduce the rate of introduction and establishment of non-natives in the Overseas Territories and Crown Dependencies, and to advise on the need for eradication programmes for those species causing the greatest damage to biodiversity. JNCC will need to work with a range of partners, the first and foremost of these being the relevant governments of the various Territories, along with various agencies and non-governmental organisations.
- 3.7 Priority actions for JNCC include (see also 3.11):
  - i. filling gaps in the audit of non-native species for the Overseas Territories, keeping up to date the associated database and improving its accessibility through the JNCC website;
  - ii. identifying priorities for the control or eradication of non-native species in the Overseas Territories, e.g. by co-ordinating risk assessments for non-native species at an appropriate geographical scale and characterising pathways and vectors for their introduction.

*Contributing to the development of robust European and global policies and initiatives for non-native species*

- 3.8 JNCC will participate proactively in selected European and global initiatives dealing with non-native species, providing coherent advice in a range of

different fora. Effective input in this area will require JNCC to identify the key messages that it wishes to promote.

3.9 Priority actions for JNCC include:

- i. contributing to the development of an EU strategy for non-native species;
- ii. participating in discussions within the Convention on Biological Diversity (culminating in an in-depth consideration of the issue at the 9<sup>th</sup> Conference of Parties in 2008).

*Developing economic tools to quantify the costs of non-native species*

3.10 The development of tools to quantify the costs of non-native species (both on biodiversity and on human interests and activities) is a priority for JNCC. Currently, some preliminary work on costing is being carried out under the auspices of the SEBI 2010 programme (see 2.4). This will give a better understanding of the current costs of non-native species in the UK and elsewhere (both in terms of the damage caused and the action already taken) and hence demonstrate the economic benefits of taking appropriate action. There is the potential to save money from expensive remedial projects if the problems can be prevented in the first place, as well as ensuring that scarce resources are deployed most effectively against the problems where there are effective solutions. It should be noted that this is a challenging area to work in because hitherto no generally agreed methods have been developed for identifying the economic costs of non-native species (including assigning economic values to the biodiversity that they damage).

3.11 Priority actions for JNCC include:

- i. continuing to support the costings work being undertaken under SEBI 2010;
- ii. assessing the economic costs of non-native species in the Overseas Territories.

*Ensuring that policies on non-native species are underpinned by sound evidence*

3.12 A consortium of organisations is working to improve the surveillance of non-native species (led by the Biological Records Centre, in conjunction with the British Trust for Ornithology and the Marine Biological Association). This will enable better information to be collated from existing recording schemes to assess the changing distributions and impacts of non-native species, and thereby improve the targeting of future management and control. The use of the National Biodiversity Network and internet-led recording schemes will give an up-to-date picture of both newly-arrived species and the long-established problem species.

3.13 Various initiatives are underway, both within the UK and internationally, to undertake research on non-native species. Outputs from this research will be used to develop policy responses and management measures.

3.14 Priority actions for JNCC include:

- i. supporting the consortium working on the surveillance of non-native species in GB;
- ii. working through the multi-partner UK Biodiversity Research Advisory Group and the Global Biodiversity Sub-Committee of the Global Environmental Change Committee to identify and promote priorities for research on non-native species.