



Department of the
Environment

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An Invasive Alien Species Strategy for Northern Ireland

Draft Strategy

A Consultation Document



Front cover photograph of Zebra Mussels (*Dreissena polymorpha*) was provided by Northern Ireland Environment Agency.

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How To Respond

Responding to this consultation

If you wish to respond to this consultation, please complete the consultation response document. Otherwise, be sure to clearly indicate in your response which questions or parts of the consultation paper you are responding to as this will aid our analysis of the responses received.

There is no requirement to respond to all of the questions in this consultation.

Response method

Responses to this consultation can be sent either by post or e-mail to:

Post:

Alan Hamilton
Department of the Environment
Environmental Policy Division
8th Floor
Goodwood House
44 – 58 May Street
Belfast, BT1 4NN

E-mail: **Invasive.Alienspecies@doeni.gov.uk**

You are invited to respond to this consultation no later than **30th September 2011**.

Should you have any enquiries please send them to **Invasive.Alienspecies@doeni.gov.uk** or

call on **02890 254736**

An electronic copy of the consultation document and an electronic copy of the response form can be obtained if required by using the contact details above, or are also available on the Department's website at;

www.doeni.gov.uk/ (**click on Consultations**)

This document may be made available in alternative formats. Please contact us to discuss your requirements. Information and additional copies of the document can be requested by **Text phone 028 9054 0642**.

Freedom of Information Act 2000 – confidentiality of consultation responses

The Department of the Environment (DOE) may wish to publish responses to the consultation document. It will certainly publish a summary of responses following completion of the consultation exercise.

In addition, your response may be disclosed on request.

DOE is only able to refuse disclosure in very particular circumstances. Therefore, you are advised to read the information at Annex C before sending a response to this consultation document. It provides guidance on the legal position of any information given by you.

Should you require further information about the confidentiality of responses, please contact:

Information Commissioner's Office – Northern Ireland
51 Adelaide Street
Belfast
BT2 8FE

Telephone number: 028 9026 9380

Fax: 028 9026 9388

Alternatively, your request can be sent electronically to ni@ico.gsi.gov.uk

Information can also be accessed at:

www.ico.gov.uk/about_us/regional_offices/northern_ireland.aspx

What happens next?

Following the closing date of the consultation on **30th September 2011**, all responses will be analysed and considered along with any other available evidence to help us reach decisions on the development of a framework for an Invasive Alien Species Strategy for Northern Ireland.



Foreword

I am delighted to publish this consultation exercise on the draft Invasive Alien Species Strategy for Northern Ireland.

Invasive alien species are now widely recognised as the second biggest threat to biodiversity loss worldwide, second only to that of habitat destruction. These impacts can be far reaching – disrupting ecosystems, threatening economic interests such as agriculture, forestry, fisheries, and land use development as well as impacting on our general quality of life.

The need to address the issue of invasive alien species has been recognised by the Convention on Biological Diversity 1992 to which the UK Government is a signatory. Northern Ireland is committed to the Convention on Biological Diversity and EU targets to halt the loss of biodiversity and the degradation of ecosystem services by 2020.

The vision for the Strategy is that it will establish a coordinated policy and management framework that minimises the risk of invasive alien species to the economy, environment and society. The Strategy is structured into components which reflect the main challenges for Northern Ireland and are in line with the guiding principles set out by the Convention on Biological Diversity and the Global Invasive Species Programme.

Increasing awareness and understanding of the risks and the issues involved in tackling invasive alien species is a central overarching issue.

I am seeking to engage the widest possible spectrum of Northern Ireland stakeholders with an interest in/responsibility for how we can address problems caused by invasive alien species.

Edwin Poots MLA

Minister of the Environment



Photograph:
Floating Pennywort (*Hydrocotyle ranunculoides*) provided by John Early, Northern Ireland
Environment Agency

1. Introduction

Many non-native (exotic/alien) species have been intentionally or unintentionally introduced into Northern Ireland from around the world. Many of these non-native species are important to our economy and society, in particular agricultural and garden plants. They are valued both commercially and aesthetically and have not become established outside human influenced habitats. However some non-native species become 'invasive'. Invasive alien species are defined by the Convention on Biological Diversity as an alien species whose introduction and/or spread threatens biodiversity (CBD Decision V1/23). Invasive alien species can have a wide range of economic and social impacts.

The challenge of dealing with the spread and impact of invasive alien species is receiving increasing attention globally and in Northern Ireland. The European Union (EU) has recently committed to a target to halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, restore them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss. In addition to the practical need to respond to the impacts of invasive alien species directly, there is a range of policy drivers which require us to take action.

1.1 The need for a Strategy

There are five key pressures directly driving biodiversity loss namely, habitat change, overexploitation, pollution, climate change and invasive alien species. In Europe as a whole, the rate of new introductions has risen steadily in recent decades and is still increasing for all taxonomic groups except mammals. The cumulative number of high impact invasive alien species recorded on the island of Ireland has continued to grow and many species are expanding their distributions posing a threat to biodiversity and contributing to the degradation of ecosystem services.

Tackling invasive alien species is complex due to the range of environmental, social, economic, political and technological factors involved and the interactions between them. The main challenges for Northern Ireland include:

- Halting impacts on biodiversity and the economy from invasive alien species
- Preventing new introductions
- Early detection of new species
- Controlling and containing existing species

- Mitigating impacts
- Building capacity and support amongst stakeholders
- Developing the evidence base for policy and decision making

An additional challenge is the wide range of stakeholders that need to be involved. There is a need for a policy framework that can address these factors and involve stakeholders to reduce risk, and enable and incentivise action on the ground.

The approach to date in the UK and Ireland has been to address invasive alien species on a biogeographical basis. A GB Programme that includes England, Scotland and Wales and a joint programme of work between Northern Ireland and the Republic of Ireland, known as the Invasive Species Ireland Project, are part of this approach. A co-ordinated strategy development process has been undertaken with the Republic of Ireland to ensure that both strategies are harmonised and opportunities for sharing resources are maximised. The Strategy has also been informed by the 'Invasive Non-Native Species Framework Strategy for Great Britain' and has many shared aims and objectives (www.nonnativespecies.org).

The impact of invasive alien species in Northern Ireland

Negative impacts of Invasive Alien Species (IAS) on biodiversity can occur through a range of mechanisms such as competition, herbivory, predation, alteration of habitats and food webs, introduction of parasites and pathogens and through the dilution of native gene pools. On the island of Ireland the most prominent of the negative impacts appears to be direct competition with native biota, whilst alteration to habitats and the influence of parasites and pathogens are also important (Stokes *et al.*, 2006).

Specific habitat types currently under threat include freshwater rivers and lakes; coastal floodplains, saltmarsh and sand dunes; tidal mudflats and sandflats; maritime cliff and slopes; upland raised bogs, woodland, lowland heath and semi-natural grassland. A variety of protected or native species are also threatened by IAS, including Red Squirrels (*Sciurus vulgaris*), White-Clawed Crayfish (*Austropotamobius pallipes*), Red Deer (*Cervus elaphus*), Earthworms (*Lumbricus terrestris*) and now the Freshwater Pearl Mussel (*Margaritifera margaritifera*) with the recent introduction of the Asian Clam (*Corbicula fluminea*).

Estimates of the number of IAS on the island of Ireland do not always distinguish between non-native species and invasive species and not all non-native species are invasive or have an impact on biodiversity. The total number of alien species has been estimated at 1,259 (DAISIE, 2009); estimates for particular biodiversity groups include 99 non-native animal species (Stokes *et al.*, 2006); 716 non-native terrestrial plants (Reynolds, 2002); 112 aquatic IAS and 63 cryptogenic aquatic IAS (Minchin, 2007). A pan-European analysis of presence of the 163 'worst' terrestrial and freshwater IAS threatening biodiversity in Europe showed that in 2006, the island of Ireland had 34 of these species (EEA, 2009) and since then a further 7 have been recorded (Maguire, pers.com., 2010).

1.2 Economic impacts of invasive alien species

In the current economic climate, the increasing costs associated with the management of invasive alien species and mitigation of their impacts is of concern to policy makers. Recent estimates of the cost of invasive alien species in the EU through lost outputs, health impacts and expenditure to repair invasive alien species damage were at least €12 billion per year over the past 20 years. Costs identified for key economic sectors have been estimated at over €6 billion per year (Kettunen *et al.*, 2009) which is a conservative estimate as many costs were unable to be included. This and other estimates of the economic cost of invasive alien species demonstrate the clear economic justification for investment in preventing species invasions. By putting in place a strong framework with an emphasis on prevention, the actions contained in the Strategy will bring more benefits through avoided costs than they will cost to implement.

The economic impacts of invasive alien species in Northern Ireland are currently being estimated by the Invasive Species Ireland Project with a report due in autumn 2011. A recent report for Great Britain estimated that invasive alien species cost the British economy at least £1.7 billion each year (Williams *et al.* 2010). Little information exists on the economic impact of many species so this is likely to be significantly less than the full economic cost since many indirect costs, such as the damage to ecosystem services and loss of biodiversity, cannot be easily quantified.

Williams *et al.* (2010) estimated annual costs to key economic sectors. The analysis revealed that two thirds of the costs are to the agriculture and horticulture sectors (approximately £1 billion) and the construction, development and infrastructure sector had the second highest cost at £227 million, mainly due to the impact of Japanese Knotweed (*Fallopia japonica*). The leisure and tourist industry, which is an important part of the Government's economic development plans, is vulnerable to invasive alien species impacts from freshwater plants in particular. In GB the cost to recreational boating has been estimated at £30.45 million, with an additional £21.86 million cost to waterway management and £4.89 million to angling. The overall cost to the biodiversity and conservation sector was £40.58 million although this does not include the full value of indirect costs due to the difficulties in estimating them.

Costs were calculated for individual species which highlight the benefits of prevention, surveillance and rapid response. Japanese Knotweed (*Fallopia japonica*), which is widely established in Northern Ireland, has an annual cost to the GB economy of £179 million. Floating Pennywort (*Hydrocotyle ranunculoides*) is a freshwater plant which has a relatively restricted distribution in Northern Ireland and control efforts are underway at affected sites. It is

more widely established in England and Wales where it costs the economy an estimated £25 million per year. Actions to prevent the introduction of the Water Primrose (*Ludwigia spp.*) have been taken in Northern Ireland and it has recently been found in the south-west of Ireland. The analysis from GB clearly highlight the economic justification for early eradication of this species which has been estimated to cost £73,000 compared to the £242 million it would cost if it became fully established in Britain as it has in France and Belgium.

1.3 Meeting our commitments

There is a wide range of International, European and National policy drivers for the Strategy. Northern Ireland, as part of the UK, is committed to a number of International Conventions and agreements, such as the Convention on Biological Diversity (CBD), the Ramsar Convention and the Bern Convention, which require them to take account of invasive alien species.

At a European level, the UK Government is committed to the target to halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020 and is obliged under the EU Birds and the Habitats Directives to have certain measures in place concerning the introduction of invasive alien species. The EU is currently developing a strategy to address invasive alien species which is due for publication in 2012. The preparatory work has been taken into account in the development of the Strategy and we will continue to engage in the development of the EU Strategy and proposed Directive. This will inform the implementation and updating of the Strategy in the coming years.

The Marine Strategy Framework Directive and Water Framework Directive require the implementation of measures to address invasive alien species that can impact on the ecological status of waterbodies. Locally, the Wildlife (Northern Ireland) Order 1985 (as amended) is particularly important in that it represents the Government's approach to implementing the provisions of the CBD and the current obligations concerning invasive alien species in the Habitats and Birds Directives. The Northern Ireland Biodiversity Strategy (NIBS) also identifies actions relating to invasive alien species.

Main legislative drivers on invasive alien species

European:

- Birds Directive
- Habitats Directive
- Water Framework Directive
- Plant Health Directive
- Animal Health Directive
- Marine Strategy Framework Directive
- The Environmental Impact Assessment Directive (EIA) 85/337/EEC (as amended)
- The Strategic Assessment Directive (SEA) 2001/42/EC
- Wildlife Trade Regulation 388/97/EC
- Aquaculture Directive 2006/88/EC

National:

- The Wildlife (Northern Ireland) Order 1985 (as amended)
- The Environment (NI) Order 2002
- The Conservation (Natural Habitats, etc) Regulations (NI) 1995
- The Waste Management Licensing Regulations (NI) 2003
- Fisheries (NI) Act 1966
- Prohibition of Introduction of Fish Order (NI) 1979
- Foyle Fisheries Act (NI) 1952 (as amended)
- Destructive Imported Animals Act (NI) 1933
- The Plant Health Order (NI) 2006
- The Plant Health (*Phytophthora ramorum*) Order (NI) 2003
- The Water Environment (WFD) Regulations (NI) 2003
- Aquatic Animal Health Regulations (Northern Ireland) 2009
- The Environmental Assessment of Plans and Programmes Regulations (Northern Ireland) 2004

1.4 Building on experience and working in partnership

In Northern Ireland, practical management of invasive alien species is challenging due to the cross-border implications of controlling introductions and spread. A pro-active stance is fundamental since prevention of introductions is demonstrably more cost-effective than reactive control or eradication measures.

A review of invasive alien species in Ireland was jointly commissioned by the Northern Ireland Environment Agency (NIEA) and the National Parks and Wildlife Service (NPWS) in the Republic of Ireland. In March 2004, the 'Invasive Species in Ireland Report' (Stokes *et al.* 2006) was presented to both Ministers and it was agreed that NIEA in Northern Ireland and NPWS in the Republic of Ireland would work together and with others to begin to tackle the issue of invasive alien species.

In 2006, NIEA and NPWS started the Invasive Species Ireland Project as a joint initiative to reduce the impact and threats of invasive alien species on the island of Ireland (www.invasivespeciesireland.com). Preventing new introductions and spread of invasive alien species is an issue of shared responsibility and requires the involvement of all relevant Government Departments and Agencies, Local Government, non-governmental organisations, academia, private and voluntary sectors. To date, much progress has been made and practical steps have been put in place which aim to minimise introductions; evaluate and implement control and management measures; and put in place a cross-jurisdictional framework to respond to species introductions. This provides a solid foundation for the actions in the Strategy to build on.

Invasive alien species are a cross-cutting issue which requires the participation of a wide range of stakeholders to be effective. An extensive stakeholder consultation was carried out in 2008 by NIEA and NPWS to determine the scope of activities relating to invasive alien species; the effectiveness of the Invasive Species Ireland Project; and to identify the way forward. The review conclusions and recommendations addressed a range of issues and identified stakeholder priorities. A summary of stakeholder recommendations can be downloaded from the Invasive Species Ireland website (Maguire, 2008) and has informed the development of the Strategy and priority actions.

Q1 - The Strategy actions have been developed on the basis that tackling these issues must involve a strong and broad partnership approach. Do you, or does your organisation support this principle?

1.5 Our vision and the role of the Strategy

Countries that are seen as leaders in addressing invasive alien species include New Zealand and Australia. New Zealand has taken a biosecurity approach and integrates invasive alien species with plant and animal health, placing a strong emphasis on border control and rapid response. We share the aims of countries such as New Zealand and their vision of keeping people, natural resources and biodiversity safe and secure from damaging pests and diseases; however, it is not possible to move to such a comprehensive biosecurity system without significant resources and change at an EU level as well as locally.

Putting in place an effective framework to prevent and manage invasive alien species is a long term process and the Strategy is the next step in developing an effective and integrated system to address economic, environmental and social impacts. The Strategy seeks to maximise the effectiveness of existing approaches while putting in place new actions to address gaps. The focus of the Strategy is on invasive alien species rather than wider plant and animal health issues although it aims to maximise any synergies with plant and animal health regimes. The plant health regime has recently been reviewed and the evaluation has recommended clarifying and possibly expanding the scope to include harmful organisms that effect environmental public goods such as invasive alien species. There may be scope to integrate further with plant health in the future (Shine *et al.* 2010).

Invasive alien species occur in all taxonomic groups and affect all types of ecosystems and many economic sectors. The scope of the Strategy is broad and includes all invasive alien species with the exception of genetically modified organisms (GMOs), bacteria and viruses. The Strategy does not aim to address issues related to human health although potential impacts of invasive alien species on human health are taken into account in the risk assessment process. Climate change will have a substantial impact on biodiversity in the coming years, both by affecting the distribution of our native species, and by enabling some invasive species to become more abundant and widely distributed. Increasingly we could see more non-native species, which are currently benign, become invasive as the climate changes. However non-native species arriving by their own means, driven by climate change and displaying invasive characteristics will be included in the scope of measures proposed in the Strategy such as detection, surveillance, mitigation and control where appropriate.

The vision of the Strategy is to establish a coordinated policy and management framework that minimises the risk of invasive alien species to the economy, environment and society. The Strategy is structured into components which

reflect the challenges outlined in Section 1.1 and are in line with the guiding principles set out by the CBD and the Global Invasive Species Programme (GISP). The CBD principles provide an international framework and emphasise the precautionary approach and prevention and together with the GISP national implementation phases, provide a guide to the development of national approaches.

See <http://www.biodiv.org/decisions/default.aspx?dec=VI/23>

Given the current economic climate and the fact that additional resources are unlikely to be available, the Strategy has prioritised a range of actions that will address invasive alien species and provide a firm foundation for future efforts. The limited number of actions reflects the short term priorities but are not the sum of our ambition to tackle invasive alien species and will be updated and expanded in coming years, not only to incorporate forthcoming direction from the EU but to contribute to halting the loss of biodiversity and degradation of ecosystem services by 2020.

Q2 – Do you support the scope of the Strategy? Are there any key action areas not being addressed and how might they be addressed within current resource constraints?

2. Strategic aims and objectives

2.1 Aims

The overarching aim of the Strategy will be to minimise the risk posed, and reduce the negative impacts caused, by invasive alien species in Northern Ireland.

The aims of the Strategy are to:

- Address gaps such as low levels of awareness; poor coverage of species, pathways and impacts; and provide clarification to stakeholders.
- Prevent invasive alien species introductions through a combination of legislation and voluntary measures.
- Increase awareness of invasive alien species affecting native biodiversity and the economy in all regions of Northern Ireland.
- Minimise the number of unintentional introductions and prevent unauthorised, intentional introductions of invasive alien species.
- Ensure that intentional introductions, including those for biological control purposes, are properly assessed in advance, with full regard to potential impacts on biodiversity and the economy.
- Encourage the development and implementation of eradication and control programmes for invasive alien species.
- Provide support to enable stakeholders to take action to tackle invasive alien species.
- Build capacity and skills for invasive alien species management.

Although the Strategy will relate to Northern Ireland, it recognises that issues will arise at national and more local levels. The Strategy will therefore guide action at government level and provide a high level context for regional or local initiatives.

2.2 Objectives

- The overall objectives of the Strategy are to:
- Minimise the risk of invasive alien species entering and becoming established in Northern Ireland and reduce the risks associated with the movement of species outside their natural range within Northern Ireland.
- Develop an effective mechanism for detection, surveillance and responding to threats posed by both new and established invasive alien species through the establishment of an early warning and rapid response system.
- Develop an effective mechanism for monitoring, reporting and recording invasive alien species to inform the response to threats posed by new and established invasive alien species.
- Put in place an integrated management framework that prevents further spread of invasive alien species and prioritises species for eradication in a timely manner.
- Minimise and mitigate the negative impacts of established invasive alien species in a cost effective manner.
- Maximise organisational effectiveness and collaboration on invasive alien species issues among Government Departments and Agencies, Local Government, non-governmental organisations, industry and individuals.
- Raise awareness of invasive alien species among the general public and capacity for action amongst key stakeholders to reduce the risks that invasive alien species can pose to our native wildlife, economy, environment and society.
- Ensure that the legislative framework in Northern Ireland for addressing invasive alien species issues is coherent, comprehensive, fit for purpose and 'proportionate'.
- Encourage a more strategic and coherent research stream to underpin Northern Ireland invasive alien species policy and to make the research available to inform management and the implementation of policy objectives.
- Contribute towards the target of halting the loss of biodiversity and degradation of ecosystem services by 2020 and beyond and in particular to tackle the adverse effects of invasive alien species in relation to native biodiversity.

The Strategy has placed an emphasis on preventing new invasions. Early detection and rapid response will enable us to make better use of existing resources in order to reduce future ecological, economic and financial pressures caused by invasive alien species.

There is a range of actions already underway as part of Invasive Species Ireland and other Government and stakeholder initiatives. These have been highlighted in each section as ongoing commitments and have not been included as actions. The Strategy is not a summary of what is already underway but sets out the additional actions that are needed to advance invasive alien species management.

3. Prevention and exclusion

3.1 Introduction

The Convention on Biological Diversity Guiding Principles place the greatest emphasis on prevention as this is generally more cost-effective and environmentally desirable than measures taken following the introduction and establishment of a species. There are a few pathways and species which are well regulated and covered such as animal disease, plant pests and the aquaculture regulations which cover the introductions of new organisms. However most pathways and species are not regulated and there is continued import and spread of known invasive alien species. Given the unpredictability of the pathways and impacts on biodiversity of invasive alien species, efforts to identify and prevent unintentional introductions as well as decisions concerning intentional introductions should be based on the precautionary approach.

3.2 Challenges

There is a wide range of potential preventative measures including risk assessment and developing standards for key sectors, all underpinned by education and awareness campaigns. However, with limited resources, a focus on preventative measures can lead to the perception that less is being done to manage already established species and overcoming this perception is an important action. Prevention efforts must be coupled with efforts to explain the rationale, encourage more involvement and make sufficient resources available for management of current problem species.

Risk assessment is a fundamental part of prevention as it provides an objective and transparent evidence base for policy and decision making. There will always be a subjective element to the process but this can be minimised and the outputs used to prioritise species and pathways for management and communicate relative risk to stakeholders and the public.

3.3 Commitments and achievements to date

A range of prevention and exclusion measures have been undertaken to date. These include development of a risk assessment framework, identification of high risk species and prioritisation of species for prevention actions. A number of exclusion and contingency plans have been drawn up along with Codes of Practice for the horticulture sector, recreational water users and marina operators. A Code of Practice for aquaculture is being developed.

The risk assessment framework has been reviewed and a new set of risk assessments are currently being developed and due for publication in 2011. Approximately 500 species will be assessed and the outputs made available as

a searchable database on the Invasive Species Ireland website. This analysis will identify the highest risk established and potential invasive alien species and will inform policy development such as new Codes of Practice, exclusion and contingency plans for species and management plans for high risk pathways. These new policy documents will be developed in partnership with stakeholders over the next two years.

However, significant challenges remain and the prevention measures outlined in the Strategy aim to minimise the risk of the entry and establishment of species that can have an unacceptable level of negative impact on biodiversity, the economy or human health. They address the risk of Northern Ireland acting as a donor region for invasive alien species to other countries.

3.4 Objective

To minimise the risk of invasive alien species entering and becoming established in Northern Ireland and reduce the risks associated with the movement of species outside their natural range within Northern Ireland.

3.5 Priority Actions

- 1 Continue development of the risk assessment framework to enable identification of the highest risk species and pathways; update the assessments regularly; and carry out a horizon scanning exercise in collaboration with the Republic of Ireland and GB Programme.
- 2 Develop and implement exclusion and action plans for high risk species and pathways to minimise the risk of entry and establishment of invasive alien species in partnership with key sectors.
- 3 Introduce subordinate legislation to prohibit the sale of species which present the highest risk.
- 4 Develop Codes of Practice in partnership with key sectors and integrate invasive alien species into relevant industry standards. These standards will be adopted by Government in procurement.
- 5 Provide information for the public on the threats from invasive alien species.
- 6 Consider mechanisms to control the import and possession of high risk invasive alien species at all points of entry.

Q3 – Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

4. Early detection, surveillance and rapid response

4.1 Introduction

As measures to prevent the introduction of invasive alien species will not always be successful, it is important that species are detected early before they can become widely established. Early detection requires a system for reporting and verifying records as well as effective and clear communication protocols. An effective programme of early detection leading to rapid response is totally dependent on information being collected, communicated and acted upon. A surveillance programme is crucial and should be a combination of a species and site approach focused on high risk species, high risk entry points and areas of high biodiversity value, informed by risk assessments. Surveillance programmes for early detection need to be carefully designed and targeted to answer specific questions as economically as possible. Some invasive alien species are easily detected and identified whilst others require greater effort particularly when at low densities.

Surveillance programmes need to include active and passive surveillance. Active surveillance should be risk-based with areas selected and sampled for invasive alien species through surveys. Passive surveillance relies on people reporting invasive alien species occurrences at their discretion and this is encouraged through education and awareness actions. This will enable early detection and triggering of a rapid response mechanism. Surveillance is not just for new species but also whether the status of known invasive alien species is changing by expanding their populations or distribution range. Rapid response will be defined as initiating eradication and containment measures before the species has had the opportunity to spread beyond a size amenable to complete removal. This will vary from species to species and is dependent on numerous factors.

4.2 Challenges

The CBD Guiding Principles recommend taking the precautionary approach when dealing with invasive alien species. It recommends that lack of scientific certainty about the various implications of an invasion should not be used as a reason for postponing or failing to take appropriate eradication, control or containment measures. There is the need for a rapid response mechanism that has the capacity and ability to act. The development of contingency and eradication plans for high risk species will aid a rapid response and provide the clarity needed by organisations on roles and responsibilities and where

support is available. The greatest challenge is securing resources and buy-in from multiple stakeholders and ensuring invasive alien species become part of stakeholder work programmes.

4.3 Commitments and achievements to date

There is no formal surveillance programme in place at present. However, in the last few years greater awareness of invasive alien species threats has led to more reporting of new species and new sightings. A system for reporting, verifying records and issuing species alerts is in place through Invasive Species Ireland and the National Invasive Species Database (NISD). This has worked well and the facility to trigger a rapid response has been in place through Invasive Species Ireland.

Northern Ireland is working in partnership with the Republic of Ireland to establish the basis of an early warning system. This is being led by the National Biodiversity Data Centre (NBDC) in collaboration with key stakeholders including the Centre for Environmental Data and Recording (CEDaR), the local records centre for Northern Ireland. It is intended to establish an expert registry, networks for key species and further develop the species alert system during 2011. Northern Ireland is a member of the North European and Baltic Network on Invasive Alien Species (NOBANIS), sometimes referred to as the European Network on Invasive Species.

Northern Ireland is participating in an early warning pilot scheme with other NOBANIS countries which will inform the development of an early warning and information exchange system for Europe.

4.4 Objective

To develop an effective mechanism for detection, surveillance and responding to threats posed by both new and established invasive alien species through the establishment of an early warning and rapid response system.

4.5 Priority Actions

7. Further develop an early warning system in partnership with the Republic of Ireland which is linked to the GB Programme and participate in the EU initiative to develop an early warning system.
8. Maximise the potential of ongoing surveillance programmes by identifying which species can be integrated into other programmes and support this with the development of materials and training for staff.
9. Develop and implement a rapid response mechanism including carrying out an audit of rapid response resources. Ensure that the information is easily accessible and that expectations are managed.

10. Develop and implement contingency and eradication plans for high risk species which clearly identify the lead agencies

Q4 – Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

Case Study – Rapid Response to Floating Pennywort, (*Hydrocotyle ranunculoides*), discovered in the Lagan

On the 22 September 2008 members of Dromore Angling Club were given a training session on invasive alien species identification and management by Northern Ireland Environment Agency (NIEA) staff. Within 2 weeks of receiving the training, club members spotted the highly invasive plant species Floating Pennywort (*Hydrocotyle ranunculoides*), in the Lagan river and immediately informed the authorities.

Floating Pennywort (*Hydrocotyle ranunculoides*) is native to North America. It was first brought into Ireland as a plant for tropical aquariums and ponds, but has since escaped into the wild. It is a floating or creeping, mat-forming perennial plant which thrives in shallow still flowing water bodies, rooting in water less than 1 metre in depth and growing at 20 cm a day. The thick mats form across the water body surface effectively blocking out any light to native vegetation below. It also increases the risk of flooding and can obstruct recreational activities such as fishing and canoeing.

Following this discovery NIEA, Agri-Food and Biosciences Institute (AFBI) and Dromore Angling Club instigated a rapid response clean up operation in a bid to prevent any fragments of this highly invasive plant from establishing. Over a 48 hour period an estimated 7 to 8 tonnes of Floating Pennywort (*Hydrocotyle ranunculoides*) was removed in this joint rapid response operation. Monitoring will be ongoing for several years to ensure this highly invasive aquatic plant does not establish in the River Lagan.



Photograph By Gavin Marshall - AFBI

5. Monitoring, recording and reporting

5.1 Introduction

The CBD Guiding Principles state that a monitoring programme should include targeted and general surveys for invasive alien species. Also, countries should assist in the development of databases and information systems and disseminate information for use in invasive alien species management. Accurately tracking the movement of invasive alien species is particularly important and this requires monitoring, recording and reporting systems.

5.2 Challenges

Monitoring of invasive alien species currently takes place in an ad-hoc way. There is no dedicated monitoring programme as invasive alien species have not yet been fully integrated into current monitoring programmes. Developing an effective programme of monitoring, recording and reporting is challenging as it requires the participation of a wide range of stakeholders and information to be submitted and verified in a timely way. As invasive alien species are managed on a biogeographical basis, this requires collaboration between the two biological records centres on the island of Ireland.

There needs to be a well structured approach to ensuring that the information from these programmes is verified and fed into the NISD and decision making on invasive alien species. The main challenges are to maximise the use of existing programmes and information sources to ensure available resources are targeted to achieve the greatest benefit; and to take an integrated and collaborative approach to development and delivery with leadership by Government and involvement of relevant stakeholders.

5.3 Commitments and achievements to date

Efforts to date have focused on putting in place an information technology infrastructure, collating old records and carrying out targeted surveys for high impact species to generate new records. The development of the NISD has been a major step in putting in place an effective recording system for invasive alien species. Efforts are currently focused on populating the NISD and current surveys include high risk aquatic and plant invasive alien species. The NISD is integrated with Invasive Species Ireland through the 'Alien Watch' facility on its website. Education and awareness activities have been undertaken to encourage reporting and recording by stakeholders and the general public. Data quality protocols and guidelines for invasive alien species

records have been developed and are available on the NBDC website along with an Excel recording template. This template has been integrated into the Invasive Species Ireland website which acts as a portal to submit records with validation being undertaken by either NBDC or CEDaR. A review of monitoring, surveillance and recording schemes was carried out by Invasive Species Ireland and recommendations were made on how these programmes could be further developed in Northern Ireland and have informed the actions in the Strategy.

Developing and implementing an effective surveillance, monitoring and recording programme should be viewed as a process as resources are unlikely to be available for a comprehensive programme in the coming years. Different components of the programme are at different stages of development and the recording programme is more developed than the monitoring. Actions currently underway and due for completion by 2013 include the further development of recording and reporting mechanisms; development of data sharing networks; development of specific recording information and information materials; and establishment of links with the Central Data Repository for non-native species in GB.

5.4 Objective

To develop an effective mechanism for monitoring, reporting and recording invasive alien species to inform the response to threats posed by new and established invasive alien species.

5.5 Priority Actions

11. Develop and establish protocols for invasive alien species monitoring for different species and habitat types which will enable the integration of data and national level analysis.
12. Identify which species can be integrated into ongoing monitoring programmes and incorporate them into these programmes.
13. Develop a tool kit which can be used by Local Authorities, local groups, individuals and at River Basin District level to ensure a consistent and co-ordinated approach to monitoring, recording and reporting and promote and support its uptake through education and awareness activities.
14. Further development of the NISD and CEDaR as Central Data Repositories (linked to the GB Non-Native Species Information Portal) through targeted data collection surveys for high risk species and encouraging submission of old datasets to enable analysis of spread.

15. Integrate a requirement to submit datasets into terms and conditions of all Government funding programmes, tenders and research grants with reference to the guidelines on submitting records to ensure standardisation of future datasets.

Q5 – Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

6. Eradication, control and containment

6.1 Introduction

If a species has been introduced, early detection and rapid action are crucial to prevent its establishment. If it does become established, the preferred response is to eradicate as soon as possible but in the majority of cases this is not feasible or cost effective so long term control and containment measures may need to be implemented. As stated previously when taking the precautionary approach with regard to invasive alien species the lack of scientific certainty about the impacts should not be used as a reason for postponing or failing to take appropriate eradication, control or containment measures. However risk assessment will inform this process and allocation of resources.

6.2 Challenges

It may not always be possible to control and contain species once they have become established as effective control methods may not be available. This is the case for many aquatic invasive alien species. It may be necessary to direct resources away from programmes that will not be successful towards those that will. The development of criteria on which these decisions are based will enable transparency and stakeholder support. Long term control and containment will involve appropriate management measures at the relevant geographic scale and this will require the involvement of individual land owners and managers. While priorities can be set through the actions in the Strategy, it will be vital to provide support and resources for local action, which can include technical advice and support.

6.3 Commitments and achievements to date

When prioritising species for management actions including the development of exclusion and contingency plans, efforts focused on those species that are high risk with relatively restricted distributions and for which effective control measures exist. Plans were developed and implemented for species such as Chub (*Leuciscus cephalus*), Floating Pennywort (*Hydrocotyle ranunculoides*), Curly Leaved Waterweed (*Lagarosiphon major*), Parrot's Feather (*Myriophyllum aquaticum*) and Fringed Waterlily (*Nymphoides peltata*). A range of new plans will be developed by 2013 for additional high risk species based on the updated risk assessment outputs.

6.4 Objective

To put in place an integrated management framework that prevents further spread of invasive alien species and prioritises species for eradication in a timely manner.

6.5 Priority Actions

16. Develop protocols for eradication, control and containment of high risk species based on the risk assessment outputs and in the form of Invasive Species Action Plans. These will include guidance on estimating costs for different sizes of programmes.
17. Develop and support all-island action programmes that are cost-effective, evidence-based and proportionate to the level of threat in partnership with the Republic of Ireland.
18. Identify and implement measures to integrate invasive alien species into the work plans of Government Departments/Agencies and wider stakeholders.

Q6 – Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

**Case Study – National programme to eradicate Floating Pennywort
(*Hydrocotyle ranunculoides*)**

Floating Pennywort (*Hydrocotyle ranunculoides*) was first recorded in Northern Ireland at Glastry Clay Pitts in 2002. At the Annual Invasive Species Ireland Forum, Belfast in 2007 Floating Pennywort (*Hydrocotyle ranunculoides*) was identified as occurring at a limited number of sites in the island of Ireland which could be potentially eradicated completely from the island.

With the view to achieving the aim of complete eradication from all known sites in the island of Ireland a control programme commenced at Glastry Clay Pitts on the Ards Peninsula in 2007. A joint project involving the National Trust, NIEA and Rivers Agency was initiated. A control programme also commenced at the other known site at Dunadry in a joint venture between NIEA, Antrim Borough Council, Lough Neagh Wetlands Local Biodiversity Officer and local residents.

With increased monitoring and improved awareness of the threat of invasive alien species four new sites for Floating Pennywort (*Hydrocotyle ranunculoides*) have been discovered since 2007 in Northern Ireland. Two sites have been successfully eradicated with one nearing complete eradication. Eradication projects are planned for the remaining sites in the near future or are ongoing as part of long term eradication projects. At all sites, where control has been undertaken, bio-security measures, such as cleaning boats and equipment, have been deployed on equipment used to prevent spread to other sites.



Photograph by Judith Bankhead – Rivers Agency

7. Management, mitigation and restoration

7.1 Introduction

Effective management and mitigation of impacts will involve appropriate management responses at the relevant geographical scale and measures to restore native biodiversity will need to be considered. Invasive alien species management planning must be built upon a framework which takes into account numerous and sometimes complex considerations. These include operating under Government policies and guidelines; adhering to best practice and legislation; working with landowners; selecting control methods that are effective in a particular environment; and where relevant, working in cross-border situations. Implementing management plans is an ongoing process that is adjusted or refined by assessing new information until invasive alien species management objectives are achieved. Any management programme should be underpinned by education, training and the development of an evidence base for policy and decision making.

7.2 Challenges

There are numerous invasive alien species and vectors which require management to reduce the threat to native biodiversity and the economy. However, it will not be possible to have national management programmes for all of these. The challenge is how to best use the limited resources to manage invasive alien species and vectors to achieve the most effective outcome.

7.3 Commitments and achievements to date

In cases where invasive alien species are widely established and national management programmes are unfeasible, efforts to date have focused on the development of best practice management guidelines and template management plans which can be used at a more local level. These have been prepared for Japanese Knotweed (*Fallopia japonica*), Himalayan Balsam (*Impatiens glandulifera*), Giant Hogweed (*Heracleum mantegazzianum*) and Rhododendron (*Rhododendron ponticum*). Invasive Species Action Plans have been prepared for high risk species in partnership with key stakeholders and some of these are currently being implemented. These will be updated and a range of new plans developed by 2013 for additional species based on the updated risk assessment outputs.

Under the EU Water Framework Directive, 27 Local Management Area Plans will be prepared. These Plans will ensure linkages between invasive

alien species management and River Basin District activities to deliver more effective management of aquatic invasive alien species. In 2012 Invasive Species Ireland will, as part of a wider review, identify ongoing research and control programmes across the island of Ireland and will make this information available to stakeholders.

7.4 Objective

To minimise and mitigate the negative impacts of established invasive alien species in a cost effective manner.

7.5 Priority Actions

19. Develop and encourage implementation of management plans for high risk species and vectors based on an integrated management approach involving key stakeholders.
20. Produce an online toolkit of methods that has been or could be used to tackle invasive alien species. This will be progressed in partnership with the Republic of Ireland and GB Programme, hosted on www.invasivespeciesireland.com and www.nonnativespecies.org and will include a range of case studies and relevant contact details.

Q7 – Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

8. Governance and co-ordination

8.1 Introduction

Regulatory and operational roles with relevance to invasive alien species are split across a number of Government Departments and Public Bodies. The need for effective co-ordination, governance and joint resourcing is particularly important if any programmes are to be integrated and effective. There is a need for initiatives to be inclusive of all stakeholder groups and facilitate effective communication between relevant Government Departments and Agencies, Local Government, non-governmental organisations, academia, private and voluntary sectors. Any national programmes will need to be supplemented with industry and voluntary programmes. There needs to be a well structured approach to ensuring that these are encouraged and supported and that information from the programmes informs decision making and progress on minimising invasive alien species threats.

8.2 Challenges

An important element of work undertaken to date has been the partnership approach and this underpins the approach taken in the Strategy. A vital relationship is that between the environment and agriculture (including plant and animal health protection) Government Departments and Agencies. Clarifying and agreeing roles and responsibilities is a key challenge along with mainstreaming invasive alien species into other policy areas and the work programmes of other stakeholders.

8.3 Commitments and achievements to date

Effective partnership working arrangements has been established between key agencies on the island of Ireland and between the relevant Northern Ireland Departments on invasive alien species. However further commitment is needed to develop these partnerships and maximise the participation of all relevant stakeholders. The Invasive Species Ireland Steering Group has operated as an informal co-ordinating mechanism and has representatives from key Departments and agencies in Northern Ireland, the Republic of Ireland and the GB Programme. The membership of the Steering Group was recently reviewed and expanded to improve co-ordination.

8.4 Objective

To maximise organisational effectiveness and collaboration on invasive alien species issues among Government Departments and Agencies, Local Government, non-governmental organisations, industry and individuals.

8.5 Priority Actions

21. Formalise a co-ordination mechanism for joined up working across Government which identifies lead agencies, contact points and clear roles and responsibilities of stakeholders.
22. Develop and deliver training for Local Authorities in conjunction with Local Biodiversity Officers.
23. Continue the commitment to provide a central co-ordinating and information resource on invasive alien species either within Government or as a contracted service.
24. Continue to collaborate with the GB Programme and NOBANIS to maximise the effective use of resources to address shared threats.

Q8 – Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

9. Communications, awareness raising and capacity building

9.1 Introduction

There is a limited understanding of the threats posed by invasive alien species. Improved awareness and understanding of the issues surrounding invasive alien species is vital to gain support for the relevant policies and programmes and to engage the public in decision-making. As well as raising general awareness, there is a need for initiatives targeted at key groups whose activities can contribute to the problem or be part of minimising the risk from invasive alien species. An effective stakeholder engagement programme which identifies these groups and the most effective means of engaging with them is vital for success.

9.2 Challenges

The aim of communications, awareness raising and capacity building activities is more than providing information. It encourages behaviour change and capacity building and provides practical skills. Given the limited resources available for tackling invasive alien species it is vital to build capacity of a wide range of individuals and organisations to lead, contribute to and support any national programme.

9.3 Commitments and achievements to date

Although there is always scope for improvement, efforts to date have been successful in getting stakeholder engagement and participation in education and awareness activities that have been co-ordinated through Invasive Species Ireland. Stakeholders have been involved in shaping many of the activities and identifying priorities. Communications, awareness raising and capacity building actions which will be delivered by 2013 include the continued running of the annual All-Ireland Invasive Species Forum; further development of the Invasive Species Ireland website as a central information resource; and continued provision of advice upon request on invasive alien species. Specific stakeholder groups such as Port Authorities, garden centres and the wider horticultural sector are being targeted with the development of dedicated materials and training. A training programme is being developed which includes sectoral specific courses, habitat specific courses and identification courses. This will be carried out in partnership with those who provide training, professional organisations and the Continued Professional Development programme.

In order to facilitate and support invasive alien species education and awareness activities undertaken by stakeholders, lesson plans are being developed for schools. To help increase the capacity of action on the ground, support and advice on preparing funding applications is being provided through Invasive Species Ireland as part of the current work programme.

9.4 Objective

To raise awareness of invasive alien species amongst the general public and raise awareness of capacity for action amongst key stakeholders to increase their understanding of the risks that invasive alien species can pose to our native wildlife, economy, environment, society and the actions that minimise these risks.

9.5 Priority Actions

25. Develop a communications plan to ensure consistent and targeted messages are used that underpins prevention and management actions.
26. Continued commitment to building effective partnerships through the Invasive Species Ireland stakeholder engagement programme including the annual Forum and website.
27. Increase awareness of the importance of the preventative approach in minimising threats from invasive alien species to underpin and build support for this approach amongst key stakeholders, sectors and the public. This will include closer engagement with plant and animal health, customs, police and industry involved in imports and exports and provision of training.
28. Further develop capacity to undertake management through a programme involving the voluntary sector, naturalists, field clubs, farmers and landowners more strategically.

Q9 – Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

Case Study – Raising awareness of Zebra Mussels, (*Dreissena polymorpha*).

Zebra Mussels (*Dreissena polymorpha*) were first recorded in Northern Ireland in Lough Erne in 1997. Following their discovery in the Erne system some of the negative impacts observed due to their prolific expansion rate included fouling of hard structures such as jetties and boat hulls; blocking intake pipes of boats and water abstraction works. In high numbers they improve water clarity as they filter the waters in which they are found. In time, this improved clarity leads to increased aquatic plant growth impeding recreational water activities, boat navigation and even the extinction of native mussels and changes in fish population structures. Unfortunately since their initial discovery in the Erne system subsequent populations have been discovered in other Loughs.

In response to this threat NIEA set up a Zebra Mussel Control Group which aims to slow down and where possible, prevent the further spread through education and awareness. The Control Group developed the Zebra Mussel Management Strategy for Northern Ireland, which co-ordinates the awareness actions that are undertaken across Northern Ireland. On an annual basis Zebra Mussel information leaflets and posters are sent to a wide range of stakeholders across Northern Ireland which outline best practice measures to prevent further spread. The production and placement of warning signage on slipways at both infested and high risk lakes has been a priority. These signs highlight the need for recreational water users to put in place bio-security measures before moving to another water body. In addition Codes of Good Practice have been developed for recreational water users and marina managers which outline good practice measures to prevent the introduction and further spread of Zebra Mussels (*Dreissena polymorpha*).



Zebra Mussel Awareness sign placed at slipways

10. Improving the legislative framework

10.1 Introduction

The initiation of regulatory and legal gap analysis is a first step in the development of an effective legislative framework. This has already been completed for Northern Ireland and the main gaps and needs have been identified, including inconsistent application of the polluter pays principle and the need to harmonise provisions with the Republic of Ireland (Turner, 2008).

10.2 Challenges

Some of the main challenges ahead include the enforcement of legislation and ensuring that any forthcoming legislative provisions on ban on sale of invasive alien species are in compliance with EU free trade rules. There is already an extensive range of legislative provisions relating to invasive alien species. However, awareness and enforcement of these remains a key challenge. The EU plan to produce an EU Invasive Alien Species Strategy during 2012. The EU Strategy may include proposals for specific European legislation concerning invasive alien species which will need to be transposed into domestic legislation. Different countries take different approaches to listing invasive alien species. Currently Northern Ireland produces a 'black list' of species which are known to be invasive, whereas other countries use a mix of white listing and grey listing approaches. There may be scope for the use of targeted white listing for specific taxa or groups of species. This approach has been taken in the Republic of Ireland for some aquatic species such as Freshwater Crayfish.

10.3 Commitments and achievements to date

Many of the recommendations from the legislation review have been incorporated into the Wildlife (Northern Ireland) Order 1985 (as amended). Legislative developments are underway in Scotland, England, Wales and the Republic of Ireland. All jurisdictions are in favour of introducing a ban on sale of high risk invasive alien species. Once the legislation is in place, a series of guidance notes will be produced for officials and others affected by current invasive alien species legislation.

10.4 Objective

To ensure that the legislative framework in Northern Ireland for addressing invasive alien species issues is coherent, comprehensive, fit for purpose and 'proportionate'.

10.5 Priority Actions

29. Continue to liaise with Republic of Ireland, Scotland, England and Wales on legislative developments to increase harmonisation of provisions including consideration of the listing approach.
30. Contribute to the development of any EU level initiatives to improve policy, legislation and controls relating to the threat posed by invasive alien species.

Q10 – Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

11. Research and development

11.1 Introduction

It is vital that we underpin policy with strong scientific evidence. Research outcomes are often a key component helping to inform risk assessment; surveillance; detection; monitoring; control; and eradication strategies. Applied research is particularly important to help inform and refine control methods as well as assessing the feasibility of proposed action (for example, eradication attempts). Feasibility studies, often involving modelling, are a key tool for assessing the likely costs and probability of success for larger-scale control or eradication efforts. Research could provide technological or biological control solutions to help address problems that have previously seemed intractable.

11.2 Challenges

There is a growing amount of research on invasive alien species underway in Universities, Institutes, Government and by other stakeholders. The research topics covered range from highly applied through to fundamental research on invasion biology. A key challenge is ensuring that this research informs management and that scientific research is accessible to all stakeholders.

11.3 Commitments and achievements to date

Work undertaken to date has been based on best practice and scientific rigour. The highest quality science has underpinned the risk assessment, prevention, detection, surveillance, monitoring and management activities. Developments in research nationally and internationally are monitored to identify technological or biological advances and to ensure any research undertaken is cutting edge and avoids any duplication.

11.4 Objective

To encourage a more strategic and coherent research programme to underpin Northern Ireland invasive alien species policy. This research will inform management and the implementation of the Strategy.

11.5 Priority Action

31. Identification of the research priorities and needs in partnership with the relevant research funders.

Q11 – Do you support the objective and priority action? Do you have any suggestions or ideas for maximising the benefits to be gained from this action? How can you or your organisation help through your specific functions, role or responsibilities?

12. Implementation, reporting and review

12.1 Implementation

The Strategy is a non-statutory document and its implementation will depend upon effective cooperation, co-ordination and communication between those involved in delivering its objectives. The partnership approach which has underpinned work to date will be key to implementing the Strategy. It is proposed to have a partnership approach to delivery so that the actions are not all by Government and for Government. It is intended to develop an Implementation Plan with key stakeholders during the consultation process. This Plan will guide the Strategy and will be part of the final document.

Q12 –What actions would you like to see in the Implementation Plan? How can you or your organisation help implement the Strategy through your specific functions, role or responsibilities?

12.2 Reporting

The Implementation Plan will be the basis on which progress is monitored and reported on. Progress will be reported by the Department of the Environment in liaison with the various lead organisations. It is anticipated that the reporting cycle for progress will be every three years in order to align with the Northern Ireland Biodiversity Group's Report to Government.

12.3 Review

It is proposed that the first review will be carried out 3 years after the introduction of the Strategy and thereafter, on a five-yearly basis. This will enable the Strategy to be amended to reflect the forthcoming EU Invasive Alien Species Strategy, the conclusions of the Invasive Species Ireland Project review in 2012 and any additional developments. However, the long term success will depend on the ability of the Strategy to respond to new or changing circumstances and it will therefore be a 'living' document.

Q13 – Do you support the proposed review cycle?

Any Additional Comments

Q14 – Are there any other comments which you would like to make on the proposals contained in this consultation document?

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Glossary

Alien species	A species, subspecies or lower taxon, introduced outside its natural past or present distribution; includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce.
Aquaculture	The cultivation of aquatic organisms by human effort for commercial purposes. For the cultivation of marine organisms, often molluscs and crustaceans, in seawater the term 'mariculture' is also used.
Bern Convention	Convention on the Conservation of European Wildlife and Natural Resources.
Biodiversity	The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems.
BIP	Biodiversity Implementation Plan
Birds Directive	Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version of Council Directive 79/409/EEC)
CBD	Convention on Biological Diversity (Rio de Janeiro 1992)
DAISIE	Delivering Alien Invasive Species Inventories for Europe
Establishment	The process of an alien species in a new habitat successfully producing viable offspring with the likelihood of continued survival.
EU	European Union
Guiding Principles	Guiding Principles for the prevention, introduction and mitigation of impacts of alien species that threaten ecosystems, habitats or

species (annexed to Decision VI/23 adopted at CBD COP6 in 2002 (The Hague, Netherlands)).

GISP	Global Invasive Species Programme
Habitats Directive	Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora
Introduced species	Any species introduced by human agency into a geographical region outside its natural range. The term includes non-established ('alien') species and established non-natives, but excludes hybrid taxa derived from introductions ('derivatives').
IAS	Invasive Alien Species
ICES	International Council for the Exploration of the Sea
Introduction	The movement by human agency, indirect or direct, of an alien species outside of its natural range (past or present). This movement can be either within a country or between countries or areas beyond national jurisdiction.
Intentional introduction	The deliberate movement and/or release by humans of an alien species outside its natural range.
Invasive alien species	A non-native species which becomes established in natural or semi-natural ecosystems or habitats, is an agent of changes, and threatens native biological diversity (or has the potential to do so). An alien species whose introduction and/or spread threaten biological diversity.
MSFD	Marine Strategy Framework Directive (2008/56/EC)
NBDC	National Biodiversity Data Centre
NIBS	Northern Ireland Biodiversity Strategy
NIEA	Northern Ireland Environment Agency

NISD	National Invasive Species Database
NOBANIS	European Network on Invasive Species (formerly North European and Baltic Network on Invasive Alien Species)
Non-native species	A species that has been introduced directly by human agency (deliberately or otherwise) to an area where it has not occurred in historical times and which is separate from, and lies outside, the area where natural range extension could be expected. The species has become established in the wild and has self-maintaining populations.
NPWS	National Parks and Wildlife Service.
Pathway	The routes by which invasive alien species enter new habitats.
Ramsar Convention	The Convention on Wetlands of International Importance, especially as Waterfowl Habitat. (Ramsar, Iran, 1971)
Strategy	An Invasive Alien Species Strategy for Northern Ireland
Unintentional introduction	An unintended introduction made as a result of a species utilising humans or human delivery systems as vectors for dispersal outside its natural range.
Vector	The means by which invasive alien species travel to new destinations.
WFD	Water Framework Directive. (Directive 2000/60/EC, October 2000)

Confidentiality of Consultations

The Freedom of Information Act gives the public a right of access to any information held by a public authority, namely, the Department in this case. This right of access to information includes information provided in response to a consultation. The Department cannot automatically consider as confidential information supplied to it in response to a consultation. However, it does have the responsibility to decide whether any information provided by you in response to this consultation, including information about your identity, should be made public or be treated as confidential. If you do not wish information about your identity to be made public please include an explanation in your response. This means that information provided by you in response to the consultation is unlikely to be treated as confidential, except in very particular circumstances. The Lord Chancellor's Code of Practice on the Freedom of Information Act provides that:

- the Department should only accept information from third parties in confidence if it is necessary to obtain that information in connection with the exercise of any of the Department's functions and it would not otherwise be provided;
- the Department should not agree to hold information received from third parties "in confidence" which is not confidential in nature;
- acceptance by the Department of confidentiality provisions must be for good reasons, capable of being justified to the Information Commissioner.

For further information about confidentiality of responses please contact the Information Commissioner's Office (or see web site at:

www.informationcommissioner.gov.uk

Screening For Equality Impact Assessment

DOE Section 75 Equality Of Opportunity Screening Analysis Form

Section 1

Background

The Legal Background

Under section 75 of the Northern Ireland Act 1998, the Department is required to have due regard to the need to promote equality of opportunity:

- between persons of different religious belief, political opinion, racial group, age, marital status or sexual orientation;
- between men and women generally;
- between persons with a disability and persons without; and
- between persons with dependants and persons without.

The main groups within each of the nine categories, highlighted above, are identified at Appendix 1.

In addition, without prejudice to its obligations above, the Department is also required, in carrying out its functions relating to Northern Ireland, to have regard to the desirability of promoting good relations between persons of different religious beliefs, political opinion or racial group.

Section 2

2.1 Please insert below a brief description of the policy/legislation, including the title and all the main aims and objectives

Title **An Invasive Alien Species Strategy for Northern Ireland**

Aims Invasive alien species are species that have been introduced, either intentionally or unintentionally, outside their natural range. Their introduction and/or spread threatens ecosystems, habitats or species with economic or environmental harm.

The aim of the Strategy is to minimise the risks posed and reduce the negative impacts caused by invasive alien species in Northern Ireland.

- **The Strategy places an emphasis on preventing new invasions.**
- **Early detection and rapid response will enable us to make better use of existing resources.**
- **The Strategy will guide action at government level and provide a high level context for regional or local initiatives.**

2.2 On whom will the policies/legislation impact? Please specify

Any policies/legislation emerging from the Strategy may have some impact on all sectors in Northern Ireland.

2.3 Who is responsible for (a) devising and (b) delivering the policy, e.g. is it DOE, a Whitehall Department or EU? What is the relationship and have they considered this issue and any equality issues?

(a) **DOE**

(b) **DOE**

2.4 What linkages are there to other NI Departments/Public Authorities/NDPBs in relation to this policy/legislation?

The Implementation Plan emerging from the Strategy may contain actions for other NI Departments/Agencies and Local Authorities. It is hoped that other stakeholders will sign up to the Strategy and develop their own specific actions. A pre – consultation meeting was held in November 2010 to gather stakeholder views on the focus and content of the Strategy.

2.5 What data are available to facilitate the screening of this policy/ legislation?

The policy is purely technical in nature and will have no bearing in terms of its likely impact on Section 75 groups.

2.6 Is additional data required to facilitate screening? If so, give details of how and when it will be obtained.

No

Section 3 – Screening Analysis

3.1 Is there any indication or evidence of higher or lower participation or uptake by the following Section 75 groups?

	Yes	No
Religious belief		No
Political opinion		No
Racial group		No
Age		No
Marital status		No
Sexual orientation		No
Gender		No
Disability		No
Dependants		No

Please give details

3.2 Is there any indication or evidence that any of the following Section 75 groups have different needs, experiences, issues and priorities in relation to this policy issue?

	Yes	No
Religious belief		No
Political opinion		No
Racial group		No
Age		No
Marital status		No
Sexual orientation		No
Gender		No
Disability		No
Dependants		No

Please give details

3.3 Have consultations with the relevant representative organisations or individuals within any of the Section 75 categories, indicated that policies of this type create problems specific to them?

	Yes	No
Religious belief		No
Political opinion		No
Racial group		No
Age		No
Marital status		No
Sexual orientation		No
Gender		No
Disability		No
Dependants		No

Please give details of any consultations carried out, and any problems identified.

A pre-consultation meeting was held in November 2010 to gather stakeholder views on the focus and content of the Strategy. No Section 75 issues were raised. The formal public consultation is due to commence on 23rd March 2011.

Responses will be analysed, considered and any amendments made in the Strategy.

3.4 Is there an opportunity to better promote equality of opportunity or community relations by altering the policy, or by working with others, in Government, or in the larger community in the context of this policy?

No

Please give details

3.5 It may be that a policy/legislation has a differential impact on a certain Section 75 group, as the policy has been developed to address an existing or historical inequality or disadvantage. If this is the case, please give details below:

N/A

3.6 Please consider if there is any way of adapting the policy to promote better equality of opportunity or good relations.

Please give details

N/A

3.7 In relation to Departmental obligations under Section 49A of the Disability Discrimination Act 1995 (DDA) (as amended by the Disability Discrimination (Northern Ireland) Order 2006), please consider if there is any way of adapting the policy to show due regard to the need to promote positive attitudes towards disabled people and/or encourage participation by disabled people in public life.

Please give details

N/A

Section 4

EQIA Recommendation

4.1 Full EQIA procedures should be carried out on policies considered to have significant implications for equality of opportunity. Please fill in the following grid in relation to the policy/legislation.

Prioritisation Factors	Significant Impact	Moderate Impact	Low Impact
Social Need.			Yes
Effect on people's daily lives.			Yes
Effect on economic, social and human rights.			Yes
Strategic significance			Yes
Financial significance			Yes

Please give details

4.2 In view of the considerations in Section 3 and 4 do you consider that this policy/legislation should be subject to a full EQIA? Please give reasons for your considerations. If you are unsure, please consult with affected groups and revisit the screening analysis accordingly.

No. I do not think the Strategy should be subject to a full EQIA. There is no evidence to suggest that any Section 75 group will be affected more than another. The policy will have a low impact on the prioritisation factors listed in Section 4.1.

4.3 If an EQIA is considered necessary please comment on the priority and timing in light of the factors in table 4.1.

N/A

4.4 If an EQIA is considered necessary is any data required to carry it out/ ensure effective monitoring?

Please give details

N/A

Section 5

Endorsement

I can confirm that the proposed policy has been screened for equality of opportunity and good relations implications and has been screened out for equality impact assessment/requires a full equality impact assessment.

Signed:



Agency/Division:

Environmental Policy Division DOE

Date:

1st March 2011

Main Groups Relevant to the Section 75 Categories

Category	Main Groups
Religious belief	Protestants; Catholics; people of non-Christian faiths; people of no religious belief
Political opinion	Unionists generally; Nationalists generally; members/supporters of any political party
Racial Group	White people; Chinese; Irish Travellers; Indians; Pakistanis; Bangladeshis; Black Africans; Black Caribbean people; people with mixed ethnic group
Gender	Men (including boys); women (including girls); trans-gendered people
Marital status	Married people; unmarried people; divorced or separated people; widowed people
Age	For most purposes, the main categories are: children under 18, people aged between 18-65, and people over 65. However, the definition of age groups will need to be sensitive to the policy under consideration
“Persons with a disability”	Disability is defined as: A physical or mental impairment, which has a substantial and long-term adverse effect on a person’s ability to carry out normal day-to-day activities as defined in Sections 1 and 2 and Schedules 1 and 2 of the Disability Discrimination Act 1995
“Persons with dependants”	Persons with personal responsibility for the care of a child; persons with personal responsibility for the care of a person with an incapacitating disability; persons with personal responsibility for the care of a dependant elderly person
Sexual orientation	Heterosexuals; bi-sexuals; gays; lesbians

Rural Proofing Statement

Rural proofing is a process to ensure that all relevant Government policies are carefully and objectively examined to assess whether or not they have a different impact in rural areas from that elsewhere, because of the particular circumstances of rural areas; and where necessary, what policy adjustments might be made to reflect rural needs and in particular to ensure that, as far as possible, public services are accessible on a fair basis to the rural community.

Approximately 35% of the population of Northern Ireland live in rural areas. The Northern Ireland Statistics and Research Agency have defined such areas as settlements with a population of less than 4,500 (according to the 2001 census).

Invasive alien species are species that have been introduced, either intentionally or unintentionally, outside their natural range. They are now widely recognised as the second biggest threat to biodiversity loss worldwide, second only to that of habitat destruction. These impacts can be far reaching – disrupting ecosystems, threatening economic interests such as agriculture, forestry, fisheries, and land use development as well as impacting on our general quality of life.

A recent report on the economic cost of invasive alien species on Great Britain estimated the annual cost to the British economy at approximately £1.7 billion (Williams *et al.* 2010). The economic impacts of invasive alien species in Northern Ireland are currently being estimated with a report due in autumn 2011.

The aim of the Strategy is to minimise the risks posed and reduce the negative impacts caused by invasive alien species to the economy, environment and society in Northern Ireland. The Strategy will aim to improve the quality of the environment across Northern Ireland.

A key objective of the Strategy is to minimise the risk of invasive alien species entering and becoming established in Northern Ireland and reduce the risks associated with the movement species. The Strategy contains actions which include the continued development of the risk assessment framework to enable identification of the highest risk species and pathways and the development of further Codes of Practice in partnership with key sectors.

The Strategy, which is cross-cutting and applies throughout Northern Ireland, places an emphasis on preventing new invasions. Early detection and rapid response will enable us to make better use of existing resources in order to reduce further ecological, economic and financial pressures caused by invasive

alien species. Through increased awareness and increased co operation between various sectors/organisations it is hoped to reduce the numbers of new invasive alien species arrivals and the rate of expansion/spread of long term established species such as Floating Pennywort (*Hydrocotyle ranunculoides*), Japanese Knotweed (*Fallopia japonica*), Rhododendron (*Rhododendron ponticum*) and Zebra Mussels (*Dreissena polymorpha*).

Although the Strategy relates to Northern Ireland, it recognises that issues will arise at national and more local levels. The Strategy will guide action at government level and provide a high level context for regional or local initiatives.

The Strategy draws on a wide range of research and evidence at International, European, National and local level. Preventing new introductions and spread of invasive alien species is an issue of shared responsibility and requires the involvement of all relevant Government Departments and Agencies, Local Government, non-governmental organisations, academia, industry, private and voluntary sectors. To date, much progress has been made and practical steps have been put in place that aim to minimise introductions, evaluate and implement control and management measures. It recognises that a range of prevention and exclusion measures are already underway with regard to invasive alien species. These include development of a risk assessment framework, identification of high risk species and prioritisation of species for prevention actions. A number of exclusion and contingency plans have also been drawn up along with Codes of Practice for the horticulture sector, recreational water users and marina operators. A Code of Practice for aquaculture is being developed.

With regard to any policies/procedures/actions emerging from the Strategy these will apply equally to all rural and urban areas in Northern Ireland. It is considered that there are no negative impacts on rural productivity or the provision of services to the rural community as a result of these proposals.

A pre-consultation meeting was held in November 2010 to gather stakeholder views on the focus and content of the Strategy. This formed a valuable input into the development of the draft Strategy. The Department is fully committed to continuing engagement with stakeholders and any responses received in relation to the formal public consultation will be analysed and any amendments made to the Strategy. Additionally, any actions identified during the consultation process as having a differential impact in rural areas will be further considered in the Strategy development.

List of Consultation Questions

Building On Experience And Working In Partnership

Q1 - The Strategy actions have been developed on the basis that tackling these issues must involve a strong and broad partnership approach. Do you, or does your organisation support this principle?

Our Vision And The Role Of The Strategy

Q2 - Do you support the scope of the Strategy? Are there any key action areas of not being addressed and how might they be addressed within current resource constraints?

Prevention And Exclusion

Q3 - Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

Early Detection, Surveillance And Rapid Response

Q4 - Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

Monitoring, Recording And Reporting

Q5 - Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

Eradication, Control And Containment

Q6 - Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

Management, Mitigation And Restoration

Q7 - Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

Governance And Co-Ordination

Q8 - Do you support the objective and priority actions? Do you have suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

Communications, Awareness Raising And Capacity Building

Q9 - Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

Improving The Legislative Framework

Q10 - Do you support the objective and priority actions? Do you have any suggestions or ideas for maximising the benefits to be gained from these actions? How can you or your organisation help through your specific functions, role or responsibilities?

Research And Development

Q11 - Do you support the objective and priority action? Do you have any suggestions or ideas for maximising the benefits to be gained from this action? How can you or your organisation help through your specific functions, role or responsibilities?

Implementation, Reporting And Review

Q12 - What actions would you like to see in the Implementation Plan? How can you or your organisation help implement the Strategy through your specific functions, role or responsibilities?

Q13 - Do you support the proposed review cycle?

Any Additional Comments

Q14 - Are there any other comments which you would like to make on the proposals contained in this consultation document?

List of Consultees

The following is not an exhaustive list, but is indicative of the types of organisations this document was sent to.

Executive Ministers and Junior Ministers

Northern Ireland Party Leaders

MPs and MEPs

The Speaker of the Assembly

The Clerk of the Environment Committee

MLAs

The Assembly Business Office

The Assembly Bill Office

NI Assembly Library

Office of the First and Deputy First Minister

North/South Ministerial Council

Northern Ireland Office

Section 75 Consultees

Legal Deposit Libraries

Departmental Library

Other External Agencies

District Councils

Government Departments

Other Statutory Agencies & Bodies

Education

Health and Social Services

Transport

Environment Groups

Universities

Farming Organisations

Fishing Industry/Groups

Trade and Industry Groups



Photograph: Giant Hogweed (*Heracleum mantegazzianum*)
provided by John Early, Northern Ireland Environment Agency

