INVASIVE PLANTS

Action Plan Scope:

This Topic Action Plan (TAP) covers the invasive non-native plants listed below – four of which are terrestrial and four of which are aquatic. A non-native species is a species that has been introduced directly or indirectly by man (deliberately or otherwise) to an area where it has not previously occurred. Within the UK BAP, non-native species are identified as threatening factors within 17 (23%) Habitat Action Plans (HAPs) and 46 (12%) Species Action Plans (SAPs)[1]. All the following plants are aggressive, non-native and have the tendency to rapidly overrun the native flora of a range of different habitats, including ponds, ditches, streams, woodlands, grasslands and road verges. Because invasive plants have few or no native herbivores that feed upon them, they can out-compete native flora but provide little or no food for native fauna.

Terrestrial plants:
Japanese knotweed (*Fallopia japonica*)
Rhododendron *(Rhododendron ponticum*)
Himalayan balsam *(Impatiens glandulifera)*
Giant hogweed *(Heracleum mantegazzianum)*

Aquatic plants:
Floating pennywort (*Hydrocotyle* ranunculoides)
Australian swamp stonecrop (Crassula helmsii)
Parrot's feather *(Myriophyllum aquaticum)*
Water fern *(Azolla filiculoides)*

1. CURRENT STATUS

1.1 Legislation

International	Habitats Directive[a]
	CBD[b]
	CITES Regulations[c]
	IPPC[d]
	Water Framework Directive[e]
UK and Wales	Wildlife and Countryside Act (Schedule 9)[f]
	Countryside & Rights of Way Act 2000
	Environmental Protection Act 1990
Gwynedd	None

1.2 Status in Wales and beyond

The introduction of exotic alien species has been identified as the largest threat to biodiversity globally, larger than habitat loss, deforestation and pollution. Exotic invasion is the third biggest threat to biodiversity in Welsh NNRs and to SAC sites, though Wales is not suffering the same extent of ecological havoc as that caused by aliens in Hawaii and Australia, for instance. However, through the deliberate or unwitting actions of man, alien organisms are loose in the Welsh countryside, some of which are aggressive colonizers and have the potential to displace native flora, fauna or ecosystems.

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[a] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

[b] Convention on Biological Diversity, requires contracting parties as far as possible and as appropriate, to prevent the introduction of, and control or eradicate, alien (i.e. non-native) species which threaten ecosystems, habitats or species.

[c] Convention for the International Trade in Endangered Species of Wild Fauna and Flora: EC regulations 338/97.

[d] International Plant Protection Convention - requires contracted parties to control pests of plants and plant products and prevent their spread, and especially their introduction across national boundaries, and desire to ensure close coordination of measures directed to these ends.

[e] The Water Framework Directive requires all coastal and inland waters to reach '"good status" (both chemically and ecologically) by 2015.

[f] It is an offence under section 14(2) of the Act to "plant or otherwise cause to grow in the wild" any plant listed in Schedule 9, part II.

1.3 Status in Gwynedd

Rhododendron has invaded large tracts of the Snowdonia National Park and is also widespread in many areas of Gwynedd, particularly in woodlands such as at Coed Nursery at Tremadog, as well as heath and grassland areas. Japanese knotweed is also present throughout Gwynedd and is a particular problem on roadsides and riverbanks, such as along the banks of the Afon Llyfni. Both Himalayan balsam and giant hogweed are also of particular concern on many ditch, river and stream banks in Gwynedd.

Floating pennywort has been reported at Llangybi, while parrot's feather and the water fern have been found nearby on Anglesey. Australian swamp stonecrop has also been reported at Penrhyndeudraeth and represents a major threat to aquatic ecosystems and sand dune slacks in particular. It has the fearsome reputation of never having been successfully eradicated from any site at which it has become established. Their presence in nearby areas, along with the ease with which they spread, means that these plants are also a serious threat in Gwynedd.

2. FACTORS CAUSING THE SPREAD OF THE PLANTS IN GWYNEDD

- New introductions arriving as stowaways on boots (fragments and propagules), cars and traded goods. Organizations in these sectors, particularly botanic gardens and commercial plant nurseries, have a duty to prevent the escape and distribution of invasive plant species. However, failsafe biosecurity is almost impossible to achieve
- Sale as ornamental plants in garden centres and / or deliberate planting in gardens e.g. as hedging, attractive pond plants. Garden escapees may also colonise new areas, sometimes unintentionally spread by people e.g. cleaning out ponds and aquaria and disposing of surplus plants in the countryside. Well-intended actions (e.g. transferring frog spawn) may also aid the spread of invasive plants.
- Lack of specific natural enemies such as herbivorous animals and pathogens.
- Dispersal by watercourses. Most of the invasive plants listed are either aquatic or are dispersed by watercourses – through propagated seeds and / or vegetative parts of the parent plant which are carried downstream.
- Movement of contaminated soil and / or material from affected sites. Machines transporting even small fragments of an invasive plant may be sufficient to contaminate new sites - Japanese knotweed is capable of regeneration from tiny fragments of the parent plant.
- Movement of contaminated machinery and equipment between aquatic systems e.g. boats, fishing apparatus.
- Inappropriate and / or illegal disposal of cut material, particularly of Japanese knotweed e.g. fly tipping.
- Activities that disturb vegetation and the underlying soil. Japanese knotweed and rhododendron both favour disturbed areas where the native vegetation has been in some way disrupted, providing an opening in the plant cover for colonisation.
- Possible effects of climate change. Increased temperatures, increased carbon dioxide concentrations and stormier weather provide conditions potentially more favourable to non-native species e.g. warmer winters allow the water fern to persist.

3. ASSOCIATED GWYNEDD SAPS / HAPS

Upland oakwoods, Wet woodland, Lowland wetlands, Lowland meadows and pasture, River corridors, Lakes, ponds and ditches

4. CURRENT ACTION IN GWYNEDD

4.1 Current legislation and preventative measures

- For proposed development sites (e.g. for road building schemes), guidance is issued to contractors in order to prevent introducing and / or spreading invasive plants.
- It is an offence "to deliberately plant or cause to grow in the wild" certain species listed on schedule 9 of the Wildlife & Countryside Act, including Japanese knotweed and giant hogweed. It is an offence "*to plant or otherwise encourage*" the growth of Japanese knotweed and giant hogweed plants. A licence is also required to discard cuttings of these plants that are classed as 'controlled waste'.
- Environment Agency Wales (2003) have published a document on the control of invasive weeds in or near fresh water for use by land managers and the public.

4.2 Management and programmes of action

- Gwynedd Council wardens have controlled invasive plants occurring on LNRs. A joint 3-year project between CCW and Gwynedd Council has funded the spraying of Japanese knotweed on a number of LNRs and along the Lon Las routes, covering a total area of 0.4 ha. This project comes to an end in 2006.
- An extensive area of rhododendron exists along Lon Las Ogwen that Gwynedd Council wardens hope to control as part of a new Woodland Grant Scheme.
- Himalayan balsam has been uprooted and cleared by volunteer wardens at Coed Doctor Woodland.
- CCW wardens have controlled Japanese knotweed occurring on Rhosgyll fawr and Cors Gyfelog SSSIs, and Corsydd Eifionydd SAC.
- Environment Agency Wales have also carried out the spraying of Japanese knotweed along Afon Ogwen.
- Forestry Commission provides grants for management of woodlands, including the control of Japanese knotweed, Himalayan balsam and rhododendron.
- The National Trust are focusing efforts on rhododendron eradication in Nant Gwynant within SNP.
- Grants are available under Tir Gofal (Rhododendron eradication outside woodlands £1500/ha flat rate, Japanese Knotweed & Himalayan Balsam eradication £750/ha flat rate. Estimated to be 70% of actual cost) and ESA schemes (50% capital grants towards the cost of eradicating Japanese Knotweed and Himalayan Balsam).
- A UK partnership consisting of the Welsh Development Agency, the South West of England Regional Development Agency, British Waterways, the Environment Agency, Network Rail and Defra have set up a £500,000 research project, to be carried out by CABI Bioscience, to investigate natural methods of controlling Japanese knotweed.

4.3 Survey, research and monitoring

- Gwynedd Council's Consultancy survey sites, pre- and post-development, for the presence of, or contamination by, invasive plants and develop eradication programmes as necessary.
- Forestry Commission monitor the management works undertaken in all woodlands that have received financial support and assess the success of work to control problem invasive plants.
- A planned 3-year project Interreg project (between the National Trust, University of Wales Bangor, Trinity, Duchas and Countryside Council for Wales) will focus on best practice on rhododendron control in northwest Wales and Ireland.

5. ACTION PLAN OBJECTIVES

1. To reduce and control the spread of ecologically damaging non-native invasive plants in Gwynedd.
2. To raise awareness of the damaging effects of these species on natural habitats amongst the public, and improve knowledge on the options for control.
3. To work strategically with others who share similar objectives.

6. PROPOSED ACTIONS

Code	Action	Partner(s)[9]
Policy and legislation		
1	Ensure the planning process assists in the control of invasive plants at development sites TARGET/TIMESCALE: Ongoing	**GC**
2	Enforce existing legislation to prevent mechanical spread of invasive plants TARGET/TIMESCALE: Ongoing	**EAW**, GC, FC
3	Consider developing a joint working group with SNPA to co-ordinate effective control of problem plants over Gwynedd and Snowdonia TARGET/TIMESCALE: By 2007	**GC**, SNPA, EAW, CCW, SGLAA, FC, NT
4	Ensure cross-compliance rules under the new Single Farm Payment are enforced with regard to the control of invasive and injurious plant species (element GAEC C) TARGET/TIMESCALE: Ongoing	**WAG**
Species / habitat management and protection		
5	Work strategically, with co-operation between EAW and GC, to continue to control and / or eradicate Japanese knotweed and other problem plants along the Afon Ogwen TARGET/TIMESCALE: Ongoing	**EAW**, GC
6	Work strategically, with co-operation between GC, EAW and SGLAA, to continue to control and / or eradicate problem plants along the Seiont, Gwyrfai and Llyfni river catchments TARGET/TIMESCALE: Ongoing	**GC**, EAW, SGLAA
7	Continue eradication on Gwynedd Council land, including LNRs, Lon Las, and on roadside verges within the Council's jurisdiction TARGET/TIMESCALE: Ongoing	**GC**, Relevant partners
8	Continue eradication of invasive plants on SSSIs, SACs and NNRs through negotiated management agreements and / or active management by CCW wardens TARGET/TIMESCALE: Ongoing	**CCW**, Relevant partners
9	Identify new introductions and carry out eradication if feasible TARGET/TIMESCALE: Ongoing	**EAW**, GC, CCW
Advisory		
10	Provide best practice advice on the control of invasive plants to land owners, managers and developers TARGET/TIMESCALE: Ongoing	**EAW**, GC, FC
Survey, research and monitoring		
11	Survey sites pre- and post-development to monitor for the introduction and / or spread of invasive plants TARGET/TIMESCALE: Ongoing	**GC**, EAW
12	Verify new cases of invasive plant introductions, and record on the database TARGET/TIMESCALE: Ongoing	**EAW**, GC, FC
13	Collate all existing records of known sites of alien invasive plants in Gwynedd	**GC**, CCW, SNPA,

[9] Lead partner for this action is indicated by bold typeface, see section 7.2 for explanation of abbreviations

	(information to be stored on a database) and continue to update with new records, including those passed on by the general public TARGET/TIMESCALE: By 2008	EAW
14	Compile a list of a list of all alien invasive plants in Gwynedd TARGET/TIMESCALE: By 2008	**GC**, Relevant partners
Communications and publicity		
15	Encourage the general public to record sites where alien invasive plants are present by producing recording cards and submitting occasional press releases to local newspapers. TARGET/TIMESCALE: By 2008	**GC**, EAW, SNPA
16	Raise awareness of the effects of invasive plants by distribution of EAW's guidance on their control to developers, contractors and land managers TARGET/TIMESCALE: Ongoing	**EAW**, GC, FC
17	Raise awareness of problem invasive species and encourage the use of native plants in garden centres by distributing guidance and providing advice. TARGET/TIMESCALE: By 2007	**GC**, EAW, CCW, NWWT

7. PARTNERS & OPPORTUNITIES

7.1 Overall lead partner for HAP

Environment Agency Wales (EAW)

7.2 Key partners

Countryside Council for Wales (CCW)

Gwynedd Council (GC)

Welsh Assembly Government (WAG)

Forestry Commission (FC)

University of Wales Bangor (UWB)

North Wales Wildlife Trust (NWWT)

National Trust (NT)

Seiont, Gwyrfai and Llyfni Angling Association (SGLAA)

Centre for Ecology and Hydrology (CEH)

Country Land and Business Association (CLA)

Farmers Union of Wales (FUW)

Farming and Wildlife Advisory Group Cymru (FWAG Cymru)

National Farmers Union Cymru (NFU Cymru)

Snowdonia National Park Authority (SNPA)

7.3 Opportunities

Landowners and managers, Garden centres, Volunteers

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9. Abbreviations

TAP: Topic Action Plan, BAP: Biodiversity Action Plan, HAP: Habitat Action Plan, SAP: Species Action Plan, CBD: Convention on Biological Diversity, CITES: Convention for the International Trade of Endangered Species, IPPC: International Plant Protection Convention, NNR: National Nature Reserve, SAC: Special Area of Conservation, LNR: Local Nature Reserve, WGS: Woodland Grant Scheme, SSSI: Site of Special Scientific Interest.

[1] Callaghan, D. 2003. Non-native species research requirements for delivery of the UK Biodiversity Action Plan. Report prepared by Just Ecology for the JNCC (www.ukbap.org.uk).