



COEDWIGOEDD GLAW CELTAIDD CYMRU
CELTIC RAINFORESTS WALES



RHODODENDRON PONTICUM

Toolkit for the management of the invasive
alien species *Rhododendron ponticum*





Glossary

Biosecurity: Measures aimed at preventing the introduction, spread, and / or transmission of harmful organisms or infectious diseases.

Cambium layer: A tissue layer directly beneath the bark of perennial, vascular plants, which is involved in secondary growth (that is, stem thickening). The undifferentiated cells of the cambium develop into the phloem and xylem tissues either side of the cambium, which are responsible for the transfer of nutrients and water within the plant. The cambium layer is therefore important where invasive species are controlled through stem treatment, as it is involved in the translocation of the active ingredient in the herbicide solution throughout the plant. When stem-treating a *Rhododendron ponticum* plant, the chemical must be applied onto the cambium layer, or onto the water-carrying xylem tissue directly beneath the cambium, in order to translocate the chemical and fully kill the plant.

Celtic Rainforest: Also referred to as Western acidic oakwood or Atlantic oakwood, it is a type of native woodland habitat that is found along western areas of the British Isles and Ireland. They form part of a biome type named 'coastal temperate rainforests', which can be found globally from the sea borders of western Canada and Chile, to areas around the Black Sea, parts of eastern Asia, and eastern areas of Australasia. Such habitats are located within the temperate zone, receive moderate to heavy annual rainfall, and have mild climatic conditions.

Chemical control: Methods of controlling invasive species such as *Rhododendron ponticum* involving the use of an approved herbicide. Examples of chemical control methods include stem treatment, where an herbicide solution is applied directly onto the cambium and xylem tissues beneath the bark, and foliar spraying, which involves applying an herbicide solution on to the foliage, with the active ingredient absorbed by the leaves and subsequently translocated throughout the plant.

Chipping: A method of disposing of cut biomass following *Rhododendron ponticum* control through manual cutting. Branches and stems up to a diameter of around 15 cm (or 6 inches) can be fed into a wood chipper which mechanically shreds the woody biomass and foliage into small fragments.

Ecosystem services: The benefits provided by an ecosystem for human populations. These include a broad range of services essential for human survival and quality of life, which can be classified into four categories; supporting services (for example, nutrient cycling, pollination, and habitat provision), provisioning services (for example, food, energy, raw materials, and medicines), regulatory services (for example, carbon sequestration and climate regulation, water and air purification, control of pests and diseases, and flood regulation), and cultural services (the use of nature in art, literature, science, education, and recreation).

European Protected Species (EPS): Species such as bats, great crested newts, otters, and dormice which receive full protection under 'The Conservation of Species and Habitats Regulations 2010'.

Evergreen: A plant that retains green leaves throughout the year.



Geographic Information system (GIS): Computer-based systems or programs which are used to store and process geographic data. GIS is commonly used in conservation and land management to map species distribution or the extent of an area under contract for management work.

Habitats Risk Assessment (HRA): An assessment which must be undertaken in accordance with the 'Conservation of Habitats and Species Regulations 2017 (as amended)' and the 'Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended)'. Its purpose is to determine if a plan or project may affect the protected features of Natura 2000 sites before deciding whether to undertake, permit, or authorise the proposed work.

Hand-weeding: A method of controlling invasive *Rhododendron ponticum* which involves uprooting seedlings or small plants typically up to 60 cm by hand.

Hybridisation: A process where an offspring is produced where two parents from different species or varieties reproduce.

Invasive Alien Species (IAS): A species which has been introduced to a new habitat, either intentionally or unintentionally, which causes harm to the ecology, the economy, or to human health in its introduced range.

Manual cutting: A method of controlling invasive *Rhododendron ponticum* which involves cutting the stems as close to ground level as possible, before disposing of the cut biomass accordingly.

Mechanical mulching/flailing: A mechanised method of controlling invasive *Rhododendron ponticum*, where bushes are mulched/flailed to ground level using machinery.

Method Statement: An essential step in preparing for any *Rhododendron ponticum* eradication, the method statement serves as a step-by-step guide of how the work will be completed safely, based on the mitigations identified in the risk assessment (see below). This is usually carried out by the contractor, but it can also include input from the contract manager commissioning the work.

Natura 2000: A network of core breeding and resting sites for rare and threatened species, and some rare natural habitat types which are protected in their own right, which stretches across all 27 EU countries, both on land and at sea. The aim of the network is to ensure the long-term survival of Europe's most valuable and threatened species and habitats, listed under both the Birds Directive and the Habitats Directive. They include Special Areas of Conservation (SACs), Special Protection Areas (SPAs), and RAMSAR sites.

Natural enemy: A species which controls or limits the population growth of another species. This term is often used in the context of Invasive Alien Species, as the absence of natural enemies in the introduced range may contribute to uncontrolled invasive species population growth.

Personal Protective Equipment (PPE): Clothing, helmets, goggles, or other garments or equipment designed to protect the wearer's body from injury or infection.



Photo-monitoring: A visual method of recording the progress or quality of conservation work, as well as the regeneration of native habitats over time upon completing the work. It involves taking a series of photos from pre-defined locations on a site over time, which provides a visual demonstration of the success of any conservation work conducted.

Risk Assessment: An essential step in preparing for any *Rhododendron ponticum* eradication work. Risk assessments must identify hazards which could cause injury or illness to the workers or the general public, assess how likely they are to occur, and provide mitigation measures to remove the hazard, or control the risk if this is not possible. Risk assessments should be job-specific, accounting for any hazards posed by the use of specific tools or techniques, and site-specific, accounting for hazards posed by site location or terrain. The risk assessment is usually carried out by the contractor, with the findings informing the Method Statement (above).

Rope access: Where *Rhododendron ponticum* is growing on steep ground or exposed crags, the use of ropes or harnesses may be needed to safeguard the workers. Any technician involved in rope access work must be able to demonstrate relevant experience and qualifications.

Scoring Matrix: A scoring matrix can be used to assess tender applications according to pre-defined criteria, such as cost, the contractor's ability to demonstrate relevant experience, the quality of risk assessment and method statement, and the quality of the references provided. The weighting appointed to each criterion can vary depending on the requirements of the proposed work. Tender applications are scored against the criteria, therefore it is imperative that those tendering for the work are made aware of the criteria and their weightings beforehand.

Site of Special Scientific Interest (SSSI): A formal conservation designation under the 'Wildlife and Countryside Act 1981 (as amended)'. Usually, it describes an area that is of particular interest to science due to the biological (for example, rare species of fauna or flora) or geological features that may lie within its boundaries.

Tender(ing): A formal procedure where potential contractors are invited to submit quotes for the proposed work. In addition to cost, other criteria may also be taken into account, for example, an ability to demonstrate relevant experience and provide references, with a scoring matrix used to assess tenders against each other (see above). Tendering is often an essential requirement within public bodies or authorities, with specific procedures required when expected costs exceed certain procurement thresholds.

Understorey: The vegetation community growing beneath a woodland's main tree canopy. The understorey community of a healthy woodland includes a broad range of species, including lichens, bryophytes, ferns, herbaceous plants, shrubs, and young tree saplings which will eventually grow into the main canopy if gaps appear when older trees die.

Vascular plants: A large group of plants that are defined as land plants with lignified tissues for conducting water and minerals throughout the plant.



1. Instructions

The purpose of this toolkit is to outline the steps required to manage the invasive alien species (IAS) *Rhododendron ponticum* (*R. ponticum*), with the aim of achieving full eradication. It is aimed at anyone involved in the management of *R. ponticum*, including:

- Private landowners
- Professional contractors
- Land managers
- Project managers/officers
- Conservationists
- Horticulturists

Firstly, the toolkit will give users a basic introduction to the history of *R. ponticum* in the British Isles, the ecology of the plant, and the issues it poses to landowners and native wildlife. Following this, users will be led through a step-by-step process outlining the various stages and considerations when establishing a programme of works for managing an area of *R. ponticum* infestation, based on a three-phase method of control developed by the Snowdonia National Park Authority (SNPA) and partners. The toolkit will cover the various licenses and consents* that may be required to manage *R. ponticum* under specific circumstances, the process of appointing a contractor, and the site-specific advantages and disadvantages of the various control methods. Finally, the post-works management of sites is discussed, which is essential in ensuring a valued legacy to the work.

** Please note that issues relating to licensing and consenting are subject to change over time and may vary between countries. The advice provided in this toolkit is given in a Welsh context, and is correct as of March 2021.*