



# Japanese Knotweed & Property

SCSI Information Paper 2nd Edition



#### SCSI / RICS Information Paper

This is an Information Paper (IP). IPs are intended to provide information and explanation to SCSI members on specific topics of relevance to the profession.

Although this IP does not advise on professional procedure to be adopted by members, it is relevant to professional competence to the extent that members should be up to date and have knowledge of IPs within a reasonable time of their coming into effect.

Members should note that when an allegation of professional negligence is made against a surveyor, a court or tribunal may take account of any relevant IPs published by SCSI when deciding whether or not the member has acted with reasonable competence.

This Information Paper aims to help surveyors consider the implications of a Japanese knotweed infestation on or near a residential or commercial property when undertaking building surveys in Ireland. It includes an identification guide (Appendix B); explains why Japanese knotweed is a problem; outlines methods of control and eradication; highlights biosecurity and aspects of Japanese knotweed growth that must be considered to ensure that it is not dispersed, and discusses the relevance of current legislation.

Appendix B is an illustrated 'on-site' identification chart designed to help surveyors recognise Japanese knotweed during the different seasons of the year.

SCSI and RICS produce a range of standards products. These have been defined in the Document Status table.

# Acknowledgments

This guidance note was adapted from a Royal Institution of Chartered Surveyors' Information Paper, 'Japanese Knotweed' (IP27/2012) by the Society of Chartered Surveyors Ireland. The SCSI would like to acknowledge the Botanical Society of Britain & Ireland for all imagery outlined within.

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# Document status defined

The SCSI/RICS produce a range of professional standards, guidance and information documents. These have been defined in the table below. This document is a Information Paper (IP).

Document status defined
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Type of document	Definition	Status
Standard International standard	An international high level principle based standard developed in collaboration with other relevant bodies	Mandatory
Professional statement SCSI/RICS professional statement (PS)	A document that provides members with mandatory requirements or a rule that a member or firm is expected to adhere to.  This term also encompasses practice statements, Red Book professional standards, global valuation practice statements, regulatory rules, SCSI/RICS Rules of Conduct and government codes of practice.	Mandatory
Guidance and information SCSI/RICS code of practice	Document approved by SCSI/RICS, and endorsed by another professional body/ stakeholder, that provides users with recommendations for accepted good practice as followed by conscientious practitioners.	Mandatory or recommended good practice (will be confirmed in the document itself).  Usual principles apply in cases of negligence if best practice is not followed.
SCSI/RICS guidance note (GN)	Document that provides users with recommendations or approach for accepted good practice as followed by competent and conscientious practitioners.	Recommended best practice.  Usual principles apply in cases of negligence if best practice is not followed.
SCSI/RICS information paper (IP)	Practice-based information that provides users with the latest technical information, knowledge or common findings from regulatory reviews.	Information and/or recommended best practice.  Usual principles apply in cases of negligence if technical information is known in the market.
SCSI/RICS insight	Issues-based input that provides users with the latest information. This term encompasses thought leadership papers, market updates, topical items of interest, white papers, futures, reports and news alerts.	Information only.
SCSI/RICS economic/ market report	A document usually based on a survey of members, or a document highlighting economic trends.	Information only.
SCSI/RICS consumer guide	A document designed solely for use by consumers, providing some limited technical advice.	Information only.
Research	An independent peer-reviewed arm's length research document designed to inform members, market professionals, end users and other stakeholders.	Information only.

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### 1.0 Introduction

Japanese knotweed (*Reynoutria japonica¹*) is one of many Invasive Alien Species (IAS) that are controlled by European legislation in Ireland (and by separate legislation in Britain) because it causes severe economic and environmental harm. Over the last 20 years, Japanese knotweed has come to the attention of the construction, land, and property sectors because of its capacity to cause structural damage to services, property, and other infrastructure.

### 1.1 Why Japanese Knotweed is a Problem in the Construction, Land, and Property Sectors

Japanese knotweed is a perennial plant that was introduced into Ireland as a prize ornamental in the late 1800s. It grows vigorously and becomes problematic when its underground rhizome system is disturbed. Rhizomes are underground stems that can extend several metres from the parent plant, sending out new shoots along their length. The rhizomes can propagate vegetatively, which means that if a length of rhizome is cut into pieces, by a spade or excavator, each piece contains the genetic makeup to produce a new plant. As a result, a single plant can rapidly disperse into thousands of plants if rhizome-infested soil is disturbed or compacted by heavy animals or machinery.



Rhizome

Rhizomes penetrate deeply underground (often more than 1 metre) and can horizontally extend several metres out from a plant<sup>2</sup>. This means that a large volume of soil beneath and around a Japanese knotweed plant may be infested with rhizomes. This 'vector' soil must be considered when implementing biosecurity measures to prevent dispersal and when planning a control/eradication programme. Effective eradication requires the secure removal and disposal of all above ground biomass (stems, leaves, and flowers) plus all infested vector soil.

The movement of soil in the construction and agricultural sectors is the main reason for the rapid and uncontrolled spread of Japanese knotweed in Ireland.

Aboveground stems (known as canes) of Japanese knotweed can also propagate vegetatively if they are cut into pieces. This means that widespread dispersal can occur if a plant is mown, cut, strimmed, or broken by vehicles, animals or moving water, and the fragments are left on the ground.

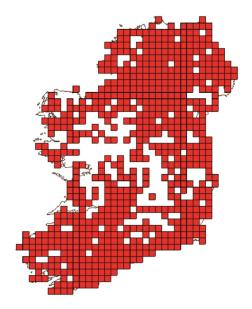
<sup>&</sup>lt;sup>1</sup>The scientific name of Japanese knotweed has recently changed from Fallopia japonica to Reynoutria japonica.

<sup>&</sup>lt;sup>2</sup>There is substantial evidence that rhizomes can extend 3–4 metres from a Japanese knotweed plant and some limited evidence that they can extend up to 7 metres (see section 1.7).

#### 1.2 Identification of Japanese Knotweed

Japanese knotweed is found throughout Ireland.

Distribution of Japanese knotweed in Ireland (Highlighted in red)



Source of data: National Biodiversity Network; (accessed May 2023)

Click on the <u>short video link</u> on how to identify Japanese knotweed at different times of the year and why it is a problem.

Appendix B is an illustrated identification chart that can be used on site to identify Japanese knotweed at different times of the year.

#### 1.3 Similar Species

Two close relatives of Japanese knotweed are established in Ireland: giant knotweed (*Reynoutria sachalinensis*) and bohemian knotweed (*Reynoutria x bohemica*). Differences in appearance between the three species can be found here.

Giant knotweed and bohemian knotweed are both limited in their distribution across Ireland. Recommended control methods are the same for the three species, so this IP focuses on Japanese knotweed, only.

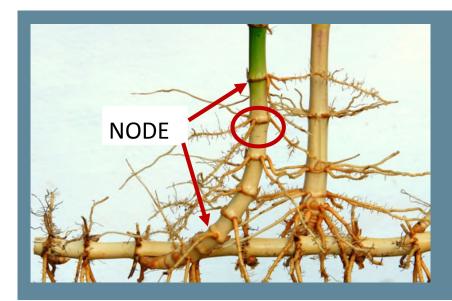
Himalayan knotweed (*Koenigia polystacha*)<sup>3</sup>) shares the same common 'knotweed' name but it is an entirely different plant, and it is unrelated to Japanese knotweed. It can be a problem on private and public property, and it is highly invasive; however, its control and eradication are more straightforward than with Japanese knotweed. It is not discussed further in this IP but, for more detail, please check out the <u>resources available</u> on Himalayan knotweed from Biodiversity Ireland.

#### 1.4 Legislation Governing Japanese Knotweed

There are two key pieces of legislation related to Japanese knotweed and other invasive alien species in Ireland.

#### 1.4.1 Section 49 (Birds and Natural Habitats) Regulations S.I. 477 (2011)<sup>4</sup>

Japanese knotweed and its relatives, giant knotweed (Reynoutria sachalinensis) and bohemian knotweed (Reynoutria x bohemica), are controlled by Section 49 of the European



Graphic of a Japanese knotweed rhizome.

The nodes, which look like rings around the rhizomes and aboveground canes, contain the genetic makeup to produce new plants. This means that if a rhizome is broken into pieces, each piece with a node (red circle) can regenerate into a new plant.

<sup>&</sup>lt;sup>3</sup> The previous scientific name for Himalayan knotweed was *Persicaria wallichii* 

<sup>4</sup> https://www.npws.ie/legislation

Communities (Birds and Natural Habitat) Regulations S.I.477 (2011) which was enforced in Ireland in 2014. The legislation states that it is an offence to knowingly allow the dispersal or escape of invasive alien species listed in Part 1 of the Third Schedule. There are currently 85 plant and animal species included in this list and it is updated regularly.

Also included in the legislation is the 'vector' material in which Japanese knotweed is growing; i.e., soil and other ground materials. Because of the problematic rhizome system, Japanese knotweed-infested soil and other ground materials are regarded as *hazardous waste* and they must be removed from a site under licence.

#### 1.4.2 The Invasive Alien Species Regulation<sup>5</sup>

In 2015, the Invasive Alien Species Regulation (also known as the Union List) came into force across Europe, including Ireland. The core of this is a list of invasive alien species of Union concern, including some of those species that cause the most damage to native biodiversity, and for which concerted measures are required across the EU. The Invasive Alien Species Regulation imposes restrictions on the keeping, importing, selling, breeding, and growing of the listed species. Member States are also required to take measures for their early detection and rapid eradication, and to manage populations that are already widely spread in their territory. Prevention is the priority because established populations can be expensive to manage and difficult or impossible to eradicate. Japanese knotweed and its relatives are not included in this list (see Section 1.7).

# 1.5 Implications of the Legislation for the Construction, Land, and Property Sectors

In practice, the EC (Birds and Natural Habitats) Regulations are most relevant to SCSI members. The implications of this legislation are substantial. It is not an offence to have Japanese knotweed growing at a property. However, it is an offence if the landowner 'knowingly' allows or causes Japanese knotweed to disperse beyond the property. Common examples include:

- Japanese knotweed growing on a public road verge and dispersing onto private property adjacent to the road verge, or vice versa.
- Japanese knotweed growing in a garden and dispersing into an adjacent garden.
- A builder constructs an extension at a private property and knowingly disperses Japanese knotweed growing in that

location, causing widespread dispersal across the garden and into adjacent properties.

If a property owner is aware that Japanese knotweed is growing at the property and wants to eradicate it, there are two main options: contain the plants *in situ* and use chemical treatment, or physically remove it and dispose off-site, or on-site if conditions are suitable. Off-site disposal must be executed under license from the National Parks and Wildlife Service (NPWS). The license is free, but the cost of transporting Japanese knotweed biomass and its vector soil and disposing to a landfill facility licensed to take Japanese knotweed is a serious consideration.

# 1.6 Difference between Legislation in Ireland (Europe) and Britain

The legislation governing Japanese knotweed is different in Britain. In Britain, Japanese knotweed is included in Schedule 9 of the Wildlife and Countryside Act, 1981, which makes it an offence to plant or otherwise cause Japanese knotweed to grow in the wild. Japanese knotweed-contaminated soil is classified as *controlled waste* under the Environmental Protection Act, 1990.

#### 1.7 Correcting Myths and Misinformation about Japanese Knotweed

There is much fear surrounding Japanese knotweed, at least partly because of reactive mainstream press and social media. In 2013, the Environment Agency UK, published a 'Knotweed Code of Practice' that emphasised the potential for Japanese knotweed to cause structural damage to buildings and specified that an incidence of Japanese knotweed within 7 metres of infrastructure posed a high risk.

Since then, there have been a series of publications which have questioned the risk of Japanese knotweed to buildings and infrastructure. Fennell et al. (2018)<sup>6</sup> compiled survey data and concluded that Japanese knotweed posed less of a risk to substantial buildings than most woody trees and shrubs. In 2019, the UK House of Commons Science and Technology Committee published a report, 'Japanese knotweed and the Built Environment', which argued that the '7 metre rule' should be revised. In 2020, following an analysis of the approach taken by other countries towards Japanese knotweed, the Department of Food, Environment, and Rural Affairs (DEFRA) concluded that 'attitudes are currently disproportionate to the physical risk posed by Japanese knotweed'.

https://ec.europa.eu/environment/nature/pdf/IAS\_brochure\_species.pdf

This downscaling of the risk of Japanese knotweed to the construction, land, and property sectors is also reflected in the Invasive Alien Species Regulations (see section 1.4.2) which does not include Japanese knotweed as an invasive alien species of gravest concern in Europe. Nevertheless, although the evidence indicates that Japanese knotweed cannot force its way through concrete (unless there are structural weaknesses or fissures) as was originally thought, it can create a significant problem in a variety of situations.

### 1.8 Situations in which Japanese Knotweed can be Problematic

If Japanese knotweed is left undisturbed and it is located more than 7 metres away from infrastructure, it is unlikely to cause a substantial risk. Risk arises when the soil/ground materials in which it is growing are disturbed by excavation or digging, such that the underground rhizome system is fragmented, or the aboveground parts are cut and left on the ground. Then, it is highly likely to disperse. Dispersed infestations can lead to the following:

- Dispersal off-site to an adjacent property or public place.
   In this case, an offence under the EC (Birds and Natural Habitats) Regulations S.I. 477 (2011) has been committed.
- Dispersed Japanese knotweed can render a garden or piece
  of land unusable because the more the soil is disturbed
  (e.g., during landscaping), the more the rhizome system will
  fragment and regenerate new plants.
- If a structure, such as an extension to a property, is constructed over a Japanese knotweed infestation that has been present in that location for many years, the rhizome system is likely to continue to grow until it finds light (e.g., at the edge of a structure) or along a path of least resistance (e.g., drains). Problems can then arise, particularly if there are any infrastructural weaknesses.

#### 1.9 Advice to Clients

Although the risk associated with Japanese knotweed at a property has been downgraded in recent years, a substantial infestation, or a dispersed infestation, does create challenging situations for property owners and they should be advised accordingly.

It is highly appropriate to recommend that the grounds of a
property should be surveyed by an invasive species specialist
prior to purchase or major landscaping/construction. This is
equally true in old rural properties and old urban properties. In
older properties in Dublin, for example, Japanese knotweed
was frequently planted in the back corner of gardens up until
about 15 years ago.

- It is highly advisable for a property owner to appoint a
  competent and experienced professional to undertake
  control measures. A DIY approach is inadvisable and could
  make the situation worse. Effective control requires the
  capacity to be able to identify Japanese knotweed at all times
  of the year (including where it may have been deliberately
  concealed); to identify underground rhizome fragments;
  have the experience to know how and where rhizomes may
  have dispersed to, and to determine the most appropriate
  measures to eradicate or contain an infestation within the
  timescale and budget of the client.
- A potential purchaser should carefully consider the purchase of a property where Japanese knotweed has been extensively dispersed because the cost of physical excavation and disposal off-site can be prohibitively high and chemical treatment can involve a toxic herbicide loading. This is particularly true if major landscaping, renovation, or construction are planned.
- As Japanese knotweed matures, it produces a basal crown and rhizome system that are substantial in weight and size. Rhizomes will grow along paths of least resistance and, if necessary, force their way through structural weaknesses in their search for water and nutrients. In the same way that sycamore and buddleia can destabilise brick, block, and stone walls over time, Japanese knotweed has the capacity to destabilise structures that have weak points (e.g., mortar between brick). Old buildings and light weight structures are most at risk. Clients should be advised of this risk.
- Once Japanese knotweed has been identified, it is good practice to advise the client on biosecurity measures to prevent dispersal of the infestation. The following biosecurity measures are recommended.
  - Cordon off the infested area with a 3–5 metre buffer zone
     The barrier can be as simple as stakes and rope.
  - Ensure that there is no activity within the cordon. It is essential not to disturb the aboveground parts (i.e., do not strim Japanese knotweed or otherwise cut it back), and do not disturb the soil/ground materials within the cordon for any reason. Disturbing the soil can lead to fragmentation of rhizomes, with each fragment capable of growing into a new plant.
  - Do not apply herbicide without seeking professional guidance first. Poorly executed herbicide application can lead to distorted growth that can be extremely challenging to eradicate.
  - Do not ignore it. When disturbed, a small Japanese knotweed plant can rapidly become a major infestation.

# An Assessment Framework for Japanese Knotweed

This section sets out an assessment framework for addressing a Japanese knotweed infestation at a property.

#### 2.1 Assessment

An assessment of the severity of any problem affecting a residential property is generally carried out in three stages:

- Collection of information about the nature and extent of the problem.
- 2. Analysis of this information so that the magnitude of the issue can be established, and
- 3. The use of this assessment as a basis for client advice.

#### 2.2 Collection of Information and Inspections

Information is collected by inspection. The inspection process can be subdivided into the following parts:

#### 2.2.1 Knowledge of the Area and **Pre-Inspection Checks**

Local knowledge and pre-inspection checks can help the surveyor identify general neighbourhood features regularly associated with the growth of Japanese knotweed. Useful resources for pre-inspection in Ireland are:

- The Biodiversity Ireland website (https://www.maps. biodiversityireland.ie) has interactive maps which can be used to locate records of Japanese knotweed in a specific area.
- Town and county/townland searches for flood risk and other environmental issues.
- The use of mapping and 'street view' sources.

Neighbourhood features that are at risk of being associated with Japanese knotweed typically include the presence of:

- · Local water bodies with moving water, such as rivers, canals, streams, and drains,
- Public and private paths, cycle-paths, roads, railway or underground railway embankments, rural lanes and tracks, rural gates, and other entrances,

- · Large open spaces, car parks and cleared sites,
- Commercial and industrial buildings, workshops, storage depots and similar,
- Derelict rural properties, derelict and/or abandoned commercial properties, and
- The grounds of old estates and large country houses.

#### 2.2.2 Inspection of the Property

RICS Valuation - Global Standards 2022 - set out the standard approach to the provision of valuation advice to prospective lenders in a mortgage valuation. Note, that the visual inspection is of as much of property as is readily accessible without undue difficulty, or risk to personal safety. Please refer to RIC's guidance on Surveying Safely for more information on appropriate management of health & safety in the workplace.

Some problems, such as invasive vegetation, are particularly prevalent in certain districts. If appropriate, the surveyor should make some reference to these defects, even if the subject property does not appear to be affected at the time of the inspection.



In most cases this visual inspection of the grounds of a property is relatively cursory and takes place naturally during the normal inspection process. However, in circumstances where there may be a greater risk of Japanese knotweed;

for example, where it is widespread locally, this part of the inspection may require particular attention.

If the client wants greater assurance, he or she should commission a building survey at the appropriate time.

SCSI has developed guidance for members who are involved in residential building inspections, titled 'Surveys of Residential Property', which can be downloaded by members at ww.scsi. ie. This guidance note outlines the various types of surveys suitable for particular property types whilst providing practical advice to members from taking the instruction to completing the inspection report for the client.

Equally, the SCSI has developed guidance for members who are involved with commercial building inspections; i.e., Technical Due Diligence at <a href="https://www.scsi.ie">www.scsi.ie</a>.

# 2.2.3 Information from the Building Owner/Agent

In addition to these measures, asking the homeowner if the property (or any neighbouring properties) has been affected by Japanese knotweed is an important part of an inspection process. Ideally, this should be done at the start of the assessment process so any provided information can be followed up during the inspection.

#### 2.3 Resources

There are some excellent resources available to assist in the identification of Japanese knotweed and other invasive alien species and find out more about where and how they become established and dispersed. Using these resources, it is easy to access valuable information, such as maps of the location of Japanese knotweed in a specific area, how to report sightings, and which biosecurity measures may be necessary.

https://invasives.ie

https://species.biodiversityireland.ie

https://maps.biodiversityireland.ie

### 2.4 Challenges to Identifying a Japanese Knotweed Problem

Surveyors are not specialists in this area and the tightly prescribed nature of surveys mean that there may be practical difficulties in identifying the problem. The following scenarios indicate some of the difficulties that may be encountered:

#### 2.4.1 Concealment

Japanese knotweed can often be hidden among other dense foliage, or it may be deliberately concealed.

#### Typical examples include:

The physical removal of the plant prior to inspection; covering over with turf and mowing lawns before inspection and covering the garden with landscape fabric and ornamental gravel or bark chippings.

#### 2.4.2 Misidentification by Surveyors

Other vigorous growing shrubs and trees can be mistaken for Japanese knotweed. Contracting organisations report increasing numbers of abortive visits because of 'mistaken identity'. Surveyors are encouraged to access the many resources that are available to help with identification including this <a href="mailto:short video">short video</a> by the Department of Housing, Local Government and Heritage.

#### 2.5 Risk Assessment of Japanese Knotweed

A risk assessment considers the real risk to a property and addresses some concerns from mortgage lenders and insurance companies. A hierarchy of risk categories given below may be helpful.

 The term 'habitable space' refers to those parts of the subject property associated with daily living (including conservatories) and not ancillary spaces (such as outbuildings and/or garages).

Where a Japanese knotweed infestation falls into categories 1 and 2, further investigations are automatically required. In terms of a 'further investigation,' this should be conducted by an appropriately qualified and/or experienced person who should carry out a detailed inspection and assessment of the property and provide a management plan, as described in Section **3.6** below.

For categories 3 and 4, the decision as to whether further investigations are needed will be based on a combination of the surveyor's professional judgment and the client's particular requirements.

If Japanese knotweed was not seen on the property or in the vicinity, then no mention needs to be made and this assessment process does not apply.

	Risk categories			
Category	Description	Action required		
1	Japanese knotweed is within 5–7 metres of a habitable space, conservatory and/or garage, either within the boundaries of the property or in a neighbouring property or space; and/or  Japanese knotweed is causing serious damage to outbuildings, associated structures, drains, paths, boundary walls, fences, and so on.	Further investigations by an appropriately qualified and/or experienced person are required.		
2	Although Japanese knotweed is present within the boundaries of the property, it is more than 7 metres from a habitable space, conservatory, and/or garage. If there is damage to outbuildings, associated structures, paths and boundary walls and fences, it is minor.	Further investigations by an appropriately qualified and/or experienced person are required.		
3	Japanese knotweed was not seen within the boundaries of this property, but it was seen on a neighbouring property or land. Here, it was within 7 metres of the boundary, but more than 7 metres away from habitable spaces, conservatory and/or garage of the subject property.	The decision as to whether further investigations are needed will be based on a combination of the surveyor's professional judgment and the client's particular requirements.		
4	Japanese knotweed was not seen on this property, but it can be seen on a neighbouring property or land where it is more than 7 metres away from the boundary.	The decision as to whether further investigations are needed will be based on a combination of the surveyor's professional judgment and the client's particular requirements.		

### 2.6 Properties Previously Affected by Japanese Knotweed

Although surveyors may not see Japanese knotweed during their inspections, they may be aware that the property has been previously affected. This information may result from their knowledge of the area.

Please note, because the standards of previous treatment regimens adopted by property owners and their agents have been inconsistent, the effectiveness of older treatment programmes must be cautiously assessed.

Whatever the source of the information, one of two responses may be appropriate:

- Where there is no satisfactory evidence to show that Japanese knotweed is currently undergoing a properly planned programme or that the planned programme has been properly completed, further investigations will be required; or
- Where there is satisfactory evidence to show that Japanese knotweed is currently undergoing a properly planned programme or that a planned programme has been properly completed, further investigations will not be required.

An important feature of this process will be the definition of what constitutes 'satisfactory evidence' and this will be a matter for the individual surveyor's professional judgement.

#### 2.7 Management Plan

Once Japanese knotweed has been identified, and an appropriately qualified and/ or experienced person has further investigated the problem and provided a report, a Japanese knotweed management plan should be prepared. The management plan can provide the necessary reassurance to both lenders and buyers that the problem is being appropriately managed.

Although the methods of controlling Japanese knotweed will depend on the commercial choices and preferences of the contractor, the management plan should be based on best practice guidance and should be consistent across the industry. As a minimum, a management plan should include the following features:

- A description of the property with an accurate record of the Japanese knotweed infestation, including its location, extent, estimated age, and if there is evidence of prior attempts at treatment and/or evidence of dispersal.
- A scaled plan with dimensions and supporting photographs would be particularly useful.
- The full details of the contracting organisation and a
  description of the methods to be used to treat Japanese
  knotweed. The methods should state if the aim is to
  eradicate Japanese knotweed from the site or to control it
  securely, and how long the method is estimated to take.

- A treatment schedule, including a timescale, that is updated as treatments are carried out.
- A completion certificate that confirms the control programme is complete and that the Japanese knotweed at the property has been securely contained or eradicated.

Surveyors should take account of this range of information when deciding if the evidence of previous control regimes is adequate.

For additional reassurance, the management plan should be:

- · Transferable to any subsequent owners.
- Includes the entire property and not just those affected parts identified by the original surveyor.

#### 2.8 Control and Eradication Options

Japanese knotweed can be straightforward to effectively control and eradicate, except when it has been dispersed by the movement of rhizome-infested soil or repeated cutting of the aboveground parts.

Control measures adopt physical or chemical methods and sometimes a combination of both, depending on the circumstances.



Japanese knotweed canes persist through winter

#### 2.8.1 Physical Control

This approach involves excavation of Japanese knotweed plants plus the vector soil/ground materials in which the plants are growing, and disposal, either off-site at a specific landfill facility licensed to take Japanese knotweed materials, or on-site by the construction of a bund or cell in which the Japanese knotweed-contaminated soil and biomass can be contained within a root barrier and chemically treated over a period of years. Both on-site and off-site disposal can achieve eradication if the control programme is executed systematically and with skill.

In some situations, vector soil can be screened to remove all infesting rhizome fragments prior to bunding or disposal off-site. This is an approach that can be successfully adopted at private properties if there is sufficient space to conduct the screening operation. However, the Environment Protection Agency still regards screened soil as hazardous and it cannot be used for infill or landscaping purposes, so the benefits of this additional step may be questionable at a commercial property.

#### 2.8.2 Chemical Removal

If herbicide is applied with the right equipment, at the right time of year, and with the right dose, it can be very effective. Glyphosate is the active ingredient in the main herbicides used against Japanese knotweed. Herbicide is applied, either by a light foliar spray or by stem injection once a year in autumn just before the plant dies back. A high kill rate (>90%) can be achieved in the first year but repeat treatment is necessary, once a year, for a further 2–3 years to ensure that all rhizomes have been killed. It may be necessary to treat very old and / or highly dispersed infestations over a longer period of time.

Frequently, herbicide application is ineffective because too high a dose is applied. This can result in distorted growth (known as epinasty) and rhizome dormancy, which can make further control efforts very challenging.

#### 2.9 Neighbouring Properties

### 2.9.1 Japanese Knotweed Growing from a Neighbouring Boundary

Where Japanese knotweed is confined to the grounds of a single property, its eradication will normally be a straightforward process involving only two parties: the property owner and the contractor. However, where Japanese knotweed straddles the boundaries of different properties, the

solution may be less straightforward. Although the owner of the subject property may have paid for a control programme, the treatment is unlikely to be effective if the owners of the neighbouring properties do not co-operate. In some residential areas, property ownership can be complex and transient, and establishing a joint strategy in this situation will be challenging. In these cases, the installation of root barriers along the boundary may appear an attractive option to owners who require a straightforward, time-limited solution. However, this approach may be unsuitable for many domestic properties for two reasons:

- The disruption of excavations to an appropriate depth (generally > 1 m, and 2 m in some circumstances) may be expensive and legally challenging, as the owner's legal advisers take into account matters relating to boundaries, party walls, and general property rights.
- Not all commentators agree that root barriers on their own are effective ways of preventing the spread of Japanese knotweed, but they can significantly curtail dispersal if they are installed according to best practice.

#### 2.9.2 Strategy for Neighbouring Properties

Consequently, where Japanese knotweed is present on a neighbouring property or land, two strategies can be adopted:

- Where Japanese knotweed is on both the subject and neighbouring property, the management plan should include:
  - provision for the treatment of the entire infestation with neighbour consent; and
  - a project management service in which the contractor will co-ordinate plans with willing neighbouring owners regarding access for inspection and treatment regimes.

 Where a neighbouring owner does not cooperate and prevents the completion of a treatment programme, the new owner of the subject property may have to commit to a continued treatment programme that will restrict the growth of Japanese knotweed on the subject property until a crossboundary, co-ordinated treatment programme can be agreed.

For additional guidance on boundaries, please refer to 'SCSI Guidance Procedures for Boundary Identification, Demarcation, and Dispute Resolution in Ireland' at www.scsi.ie.

Conversely, where the neighbouring owner is the lead party in the management plan, the surveyor will want to remind the owner of the subject property that they should cooperate. Failure to do so may expose them to potential legal action for negligence.

To protect the legal interests of the subject property owner, his or her legal advisers may wish to put adjacent owners on notice of the problem, indicating what should be done to tackle Japanese knotweed and the possible consequences of failing to take appropriate action.

# 3. Summary

- Japanese knotweed has become established across Ireland, and it can be found in a very wide range of locations.
- Once identified at a property, clients need to be appropriately informed as to the implications and their requirements under the relative legislation to prevent dispersal.
- Although the risks associated with Japanese knotweed have been tentatively downgraded by RICS, it can become problematic if it is allowed to disperse near infrastructure and onto adjacent properties.
- Its presence and effects are considerations that surveyors should consider when completing inspections.
- Japanese knotweed control and eradication can be relatively straightforward if a systematic approach is adopted. However, best practice guidelines on appropriate and effective methods must be followed as poorly executed control programmes can cause significant problems.
- A management plan on every Japanese knotweed infestation should be put in place and implemented.

# Appendix A:

Further sources of information; Invasive Species Ireland (www.invasivespeciesireland.com) Environmental Protection Agency (www.epa.ie) Irish Fisheries Ireland (www.fisheriesireland.ie)

# Appendix B:

# **Knotweed Identification Chart**

	Feb	Bare stems: The leaves fall off as the plant turns orange and brown in the early part of winter. Eventually the stems 'peel' leaving them pale 'straw' coloured.
Winter	Jan	B 1 11 11 11 11 11 11 11 11 11 11 11 11
	Dec	hollow, lient and I standing spring. Agency (www otweed Forum ecies secreta
	No.	Bare stems:  The leaves fall off as the plant turns orange and brown in the early part of winter. Eventually the stems are hollow, brittle and resilient and are usually still standing the following spring.  The stems are hollow, brittle and resilient and are usually still standing the following spring.  The stems are hollow, brittle and resilient and are usually still standing the following spring.  The Environment Agency (www.environment-agency.gov.uk)  The Environment Agency (www.environment-agency.gov.uk)  The Cornwall Knotweed Forum (www.cornwall.gov.uk)  GB non-native species secretariat (http://secure.fera.defra.gov.uk/nonnativespecies)
	Oct	creamy with a 100mm.
	Sep	Leaf stems: alternate leaves on a 'zig zag' stem.  Flowers: Spikes of small creamy white flowers with a spike length of 100mm.
	Aug	notweed: libited, the w in dense acked ands.'
Growing Season	InC	Stands of Knotweed: Where uninhibited, the plant will grow in dense and tightly packed clumps or 'stands'.
Growing	Jun	or heart n'flattened green colour.  the main nitially green of distinctive kles. Stems and never ng the ason.
O	Мау	Leaf: shield or heart shaped with flattened base; lush green colour.  The stems: the main stems are initially green but develop distinctive purple speckles. Stems are hollow and never woody during the growing season.
	Mar Apr	Small red/purple shoots or 'spears' emerge. Can be seen growing among the tall stems of the previous year's growth.  Leaves begin to unfurl and can be red or green with red veins.

# Appendix C:

#### **Glossary of Terms**

Included in this glossary are both terms referred to in the information paper and other commonly used terms that the surveyor may encounter when undertaking desk research or investigations to support surveys of residential property.

Basal crown	The visible part of the rhizome from which canes grow. Crowns can produce many new canes and, because of their size, can be resistant to burning or drying out.
Canes	Tall, hollow, bamboo-like stems.
Japanese knotweed	Japanese knotweed belongs to the plant genus <i>Reynoutria</i> (formerly <i>Fallopia</i> ). There are two other species of <i>Reynoutria</i> in Ireland that are controlled by the EC (Birds and Natural Habitats) regulations SI477(2011): giant knotweed ( <i>Reynoutria sachalinensis</i> ) and bohemian knotweed ( <i>Reynoutria x bohemica</i> ).
Surveyor	In the context of this information paper, surveyor refers to a broad range of professionals involved with advising their clients about all types of property.
Rhizome	Underground stem which enables Japanese knotweed to survive overwinter when the canes die back. A small section of rhizome can regrow into a new plant.
Vector material	Vector material is the soil/ground materials in which Japanese knotweed is growing.



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