



SOCIETY OF
**CHARTERED
SURVEYORS**
IRELAND

Knotweed and Residential Property

Information Paper



RICS[®]

Knotweed and Residential Property

Information Paper

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- Oliver Held MSCSI MRICS, Jones Lang LaSalle, Dublin 2
- Andrew Ramsey MSCSI MRICS, Malcolm Hollis, Dublin 2

Parts of this Information Paper have been informed by the innovative work carried out by Dr Frances Giaquinto, a specialist in invasive alien plant species (IAPS).

SCSI / RICS Information Paper

This is an information paper (IP). Information papers are intended to provide information and explanation to SCSI members on specific topics of relevance to the profession. The function of this paper is not to recommend or advise on professional procedure to be followed by members.

It is, however, relevant to professional competence to the extent that members should be up to date and have knowledge of information papers 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 information papers published by SCSI in deciding whether or not the member has acted with reasonable competence.

Document status defined

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

Document status defined		
Type of document	Definition	Status
SCSI practice statement	Document that provides members with mandatory requirements of the Rules of Conduct for members	Mandatory
SCSI code of practice	Standard approved by SCSI that provides users with recommendations for accepted good practice as followed by conscientious surveyors	Mandatory or recommended good practice (will be confirmed in the document itself)
SCSI guidance note	Document that provides users with recommendations for accepted good practice as followed by competent and conscientious surveyors	Recommended good practice
SCSI information paper	Practice based information that provides users with the latest information and/or research	Information and/or explanatory commentary

This information paper aims to help surveyors consider the implications of a Knotweed infestation on or near a residential property, when undertaking building surveys in Ireland. The IP includes reference to Irish legislation.

In addition, Appendix B includes an illustrated 'on-site' identification chart designed to help surveyors recognise Knotweeds during the different seasons of the year.

1. Introduction

1.1 The Knotweed problem

Invasive Species Ireland provides the following status for Knotweeds in Ireland:

Knotweeds are an invasive, non-native group of plants that grow vigorously and out-compete indigenous flora and associated fauna. They have a negative impact on the environment, infrastructure and water quality. They were introduced into Europe in the late 19th century as garden plants but their spread escalated because they had no natural predators outside of their native habitats.

Knotweed is very common right across Ireland. It occurs in numerous different types of habitats from road sides, to river corridors, to waste ground in urban areas.

Knotweeds are problematic because tiny fragments of their roots and shoots (rhizome) can produce viable plants. Therefore, movement of knotweed-contaminated soil and cutting of vegetation that contains Knotweed (e.g. hedge cutting) can rapidly lead to dense infestations that are challenging to eradicate.

In Ireland, there are four regulated knotweed species:

- Japanese Knotweed (*Fallopia japonica*)
- Giant Knotweed (*Fallopia sachalinensis*)
- Bohemian Knotweed (*Fallopia x bohemica*)
- Himalayan Knotweed (*Persicaria wallichii*)

Of these, Japanese knotweed and Himalayan Knotweed are the most invasive, and most likely to cause damage to property.

1.2 Identification features

The four Knotweed species look quite similar. See www.invasivespeciesireland.com for information on identification and how to distinguish between the four species.

Because of its impact on property, Knotweed can be readily identified. In early spring it is distinctive because of the red/purple shoots. By mid-summer it can be distinguished from other plants by its tall, hollow bamboo-like canes covered with purple speckles. The large, lime-green leaves are arranged in a zig-zag pattern along the canes. The leaves are shield shaped with a flat base and pointed tip. It often forms dense infestations, growing to 3 metres in height.

The roots are known as "rhizomes". They are thick, knotty and bright orange when broken open. Rhizomes can penetrate ground to a depth of 3 metres, and radiate 7 metres from each plant.

In winter, the leaves die back leaving visible the distinctive bamboo-like canes as shown below.



Japanese Knotweed in winter



Japanese Knotweed in spring



Japanese Knotweed in summer



Japanese Knotweed in autumn

Photos sourced from <http://invasivespeciesireland.com/>

1.3 Legislation affecting Japanese knotweed and other IAPS

The most important legislation underpinning biodiversity and nature conservation in Ireland is the Wildlife Act, 1976 the Wildlife (Amendment) Act, 2000 and the European Union (Natural Habitats) Regulations, SI 94/1997, which have been amended twice with SI 233/1998 & SI 378/2005.

The 1997 Regulations and their amendments were subsequently revised and consolidated in the European Communities (Birds and Natural Habitats) Regulations 2011. The intention of these Regulations is to considerably increase the controls of the introduction of non-native species to the Republic of Ireland.

Regulation 49: Prohibition on introduction and dispersal of certain species

This places restrictions on the introduction of any plant species listed in Part 1 of the Third Schedule¹. A person shall be guilty of an offence if they:

Plant, disperse, allow or cause to disperse, spread or cause to grow the plant in the Republic of Ireland.

Regulation 49 addresses both plants and animals

¹Third schedule lists regulated invasive plant and animal species. It includes Japanese knotweed, Giant knotweed, Bohemian knotweed and Himalayan knotweed.

Regulation 50: Prohibition on dealing in and keeping certain species

Section 50 of the Regulations makes it an offence to or intend to: import, buy, sell, breed, reproduce or propagate, advertise, offer or expose for sale, publish a price list, transport or distribute; any animal or plant species or vector material listed in the Third Schedule.

Third Schedule, Part 3: Vector materials. Two vector materials are referred to. One is blue mussel seed and the second is:

Soil or spoil taken from places infested with Japanese knotweed, Giant knotweed, or their hybrid Bohemian knotweed.

Regulation 50 is not in effect until the date on which the Minister gives public notice of this.

The above activities can be undertaken in accordance with a granted licence.

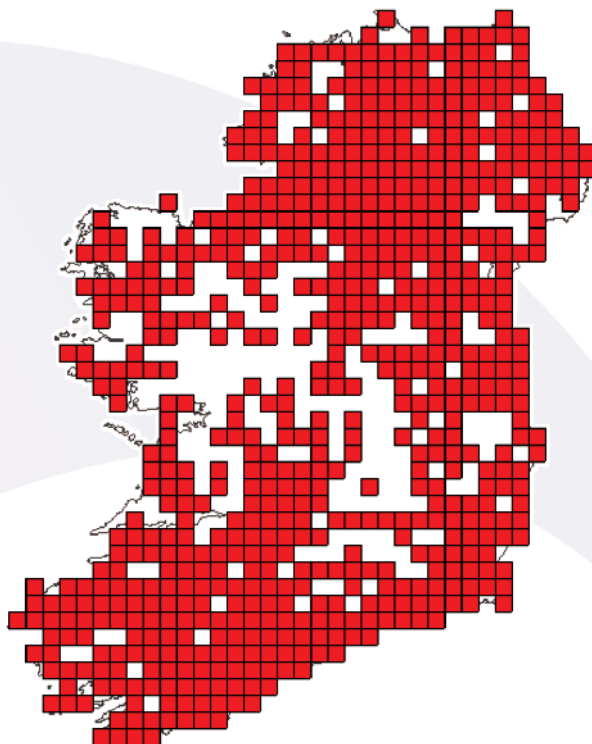
The full Regulations can be downloaded from:

- For the exact text of the regulations please see:
<http://www.irishstatutebook.ie/1976/en/act/pub/0039/sec0040.html>
- NPWS ranger contact details can be found at the following link:
http://www.npws.ie/media/npws/images/Contact_numbers.pdf

These Regulations must be complied with by public bodies, local authorities, contractors etc. Activities which are relevant to this IP include:

- Hedge cutting
- Movement of soil
- Infrastructure development
- Landscaping
- Procurement
- Planning (development control and forward planning)

2. The scale of the problem



Distribution of Japanese Knotweed in Ireland (Highlighted in red).

Source of data: National Biodiversity Network; accessed 07 April 2008.

2.1 How much of a problem does Knotweed cause?



Knotweed causes problems in the property market and if we define the level of damage that most commentators would consider serious, it can help surveyors be less susceptible to misinformation and so make balanced judgements.

Knotweed growing through cracks in concrete

Photo copyright of PLR Ltd, London

2.1.1 The most common effects and affected areas include:

Drains and other buried services:

Knotweed roots can exploit existing cracks and gaps in pipes in their search for water and, in some cases, block drains. Dense infestations can disrupt drain runs and in the worst cases, the drains should be renewed.

Patios, paths and driveways:

Knotweeds can grow between slabs and movement joints of concrete driveways and disrupt brick paving. Repairs can involve the removal of the existing paving and bedding material, treatment of the plant, removal of the disruptive crowns and roots and replacement of the path, patio or driveway.

Boundary and retaining walls:

Dense infestations can undermine garden walls with shallow foundations. The mass of the Knotweed stands can undermine walls leading to potential collapse.



Photos showing Knotweed growing through boundary walls

Photo copyright of PLR Ltd, London

Outbuildings:

Vigorous stands can overwhelm lightweight, insubstantial and poorly founded outbuildings such as garden sheds, greenhouses and garages.

Existing property and development on contaminated land:

Knotweed stands have been identified growing internally within dwellings that have either been constructed on contaminated land or are located on land that has become contaminated. Primarily Knotweed growth internally is via weak spots within the concrete slab (e.g. a crack in the concrete, or an expansion joint).

Knotweed can grow within cavity walls. Stems and healthy leaves have been identified emanating through vents and air bricks located 2m above ground level. When Knotweed grows in cavity walls it has the potential capacity to force the two skins of the wall apart.

Identifying Knotweed before building work commences allows the assessment of the costs associated with containment or removing the Knotweed to be calculated. There is a choice of herbicides available for dealing with any Knotweed infestation and it would be advisable to have a Knotweed management plan in place to oversee its removal or eradication. Any Knotweed infested soil should not be removed from the site unless it is going to an authorised waste facility.

Gardens:

The invasive nature of the plant can ruin gardens. Any of the following works being carried out on Knotweed affected properties can result in the spread of the Knotweed:

- Adding an extension to a building
- Redesign of gardens
- Maintenance and repair to properties following a Knotweed infestation (e.g. re-laying of paths and drains)



Photo copyright of PLR Ltd, London

Because root and shoot fragments of Knotweed can readily produce new plants, any disturbance of Knotweed contaminated soil risks a rapid escalation of the problem and may lead to new and highly damaging infestations.

3. An assessment framework for Knotweed

3.1 Introduction

3.1.1 Assessment

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

1. 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.

3.2 Collection of information & inspections

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

3.2.1 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 Knotweed. Such pre-inspection checks may include county/ townland searches for flood risk and other environmental issues, the use of mapping and 'street view' sources.

Neighbourhood features associated with the growth of Knotweed typically include the presence of:

- Local water sources, such as culverts, ponds, canals and lakes
- Public and private paths, cycle-paths, roads, railway or underground railway embankments, dual carriageways and motorways
- Large open spaces, car parks and cleared sites, and
- Commercial and industrial buildings, workshops, storage depots and similar.

3.2.2 The inspection of the property

The latest edition of the RICS Red Book sets out the standard approach to the provision of valuation advice to prospective lenders in a mortgage valuation. This makes it clear that in normal circumstances, as much of the exterior of the property and the land within the ownership is readily accessible without undue difficulty, or risk to personal safety, should be inspected visually. At the time of writing, the RICS Red Book appendix 10 adds:

Although personal judgment has to be used, this inspection should include all of the property that is visible when standing at ground level within the boundaries of the site, and adjacent public/communal areas, and when standing at the various floor levels.

Additionally:

Certain 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 inspection¹.

¹ These statements may be revised in subsequent versions of the RICS Red Book.

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 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 inspection survey.

The SCSi commissioned Red C research to conduct a survey of the public regarding engaging the services of a surveyor to carry out a building inspection prior to purchasing a property. The results show that 43 per cent² of respondents would commission a building inspection to be carried out prior to purchasing their home.

The SCSi has developed guidance for members in the area of residential building inspections, '*Surveys of Residential Property*'. 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. This guidance note can be downloaded by members at <http://www.scsi.ie/membersguidancenotes>.

3.2.3 Information from the homeowner

In addition to these measures, asking the homeowner whether the property (or any of its neighbours) has been affected by Knotweed growth 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.

3.3 Identification of Knotweed

3.3.1 Publications

Many authoritative publications on Japanese and other Knotweeds have been in the public domain for a number of years; however, not all surveyors are confident in their ability to identify the plant.

3.3.2 Identification

This information paper therefore includes an easy-to-use identification guide for surveyors, illustrated in Appendix B. Intended to be taken along on inspections, this A4-size, chronologically structured chart is divided into three sections to aid identification throughout the year.

The growing season (March–October):

- March–April: at this time of year the plant will be at an early stage of its annual life cycle, and some of the classic visual characteristics will not yet have developed. Despite this, its appearance can still be distinctive. It is described and pictured in Appendix B.
- May–October: during these months the growth of Knotweed will be most vigorous, and in normal circumstances the plant should be easily identifiable. This section of the figure highlights just four characteristics:

² Results from 2013 Red C research survey of the general public, commissioned on behalf of SCSi.

1. The leaf
2. The zig-zag leaf stems or 'petioles'
3. The main stems, and
4. The flowers

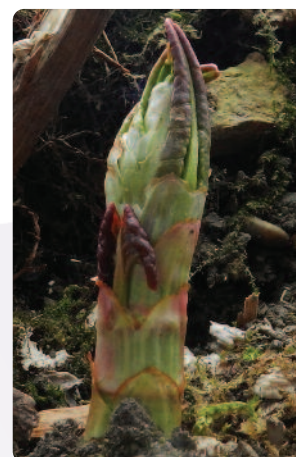
The winter (November–February):

In these months the plant will shed its leaves and die back. Because the stems are robust, it is possible to identify Knotweed even during this season.

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:

Concealment:

Knotweed can often be hidden among other dense foliage or – as is more likely – owners may deliberately conceal growth.



Japanese Knotweed shoots

Photo copyright of PLR Ltd, London

Typical examples include:

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

Mis-identification by surveyors:

Other vigorous growing shrubs and trees can be mistaken for Knotweed. Contracting organisations report increasing numbers of abortive visits because of 'mistaken identity'.

Effects of treatment:

During a formal treatment programme, Knotweed re-growth can be so deformed and sparse that many surveyors may not notice it. Treatment can also send the plant into a 'dormant' phase, where the rhizomes remain undetected below ground for long periods only to re-emerge a few years later.

3.4 The risk assessment of Knotweed

3.4.1 The assessment

This risk assessment takes into account the real risk to a property and addresses some concerns from mortgage lenders and insurance companies. A number of definitions 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).
- According to the Best Practice Management Guidelines published by Invasive Species Ireland, Knotweed rhizomes can extend up to seven metres horizontally and three metres vertically from the last sign of visible surface growth. This has been used as the minimum distance in the assessment process.

Table 1: Knotweed risk categories

Category	Descriptors
4	<p>Knotweed is within 7 metres of a habitable space, conservatory and/or garage, either within the boundaries of this property or in a neighbouring property or space;</p> <p>and/or</p> <p>Knotweed is causing serious damage to outbuildings, associated structures, drains, paths, boundary walls and fences and so on.</p> <p>Further investigations by an appropriately qualified and/or experienced person are required.</p>
3	<p>Although 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.</p> <p>Further investigations by an appropriately qualified and/or experienced person are required.</p>
2	<p>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.</p>
1	<p>Knotweed was not seen on this property, but it can be seen on a neighbouring property or land where it was more than 7 metres away from the boundary.</p>

Source: Royal Institution of Chartered Surveyors.

3.4.2 Risk categories

Where the Knotweed infestation falls into categories 3 and 4, further investigations are automatically required. In terms of a 'further investigation,' this should be carried out 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 1 and 2, 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 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.

3.5 Properties previously affected by Knotweed

3.5.1 Knowledge of the area

Although surveyors may not see 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 regimes 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 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 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.

3.6 Management plan

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

3.6.1 Consistent management plan

Although the methods of tackling Knotweed will depend on the commercial choices and preferences of the contractor, the management plan should be based on documents published by Invasive Species Ireland 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 Knotweed infestation.
- 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 eradicate Knotweed.
- A treatment schedule that is updated as treatments are carried out.
- A completion certificate that confirms the treatment is complete and that the Knotweed at the property has been remediated.

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

For additional reassurance, as detailed below.

- The management plan should be transferable to any subsequent owners.
- The management plan should cover the whole of the property and not just those affected parts identified by the original surveyor.

3.7 Neighbouring properties

3.7.1 Boundaries



Knotweed growing from neighbouring boundary

Photo copyright of PLR Ltd, London

Where 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 Knotweed straddles the boundaries of a number of different properties, the solution may not be so simple. Although the owner of the subject property may have paid for a treatment programme, if the owners of the neighbouring properties do not co-operate, the treatment is unlikely to be effective. 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, providing root barriers along the boundary may appear an attractive option to lenders who require a straightforward, time-limited solution.

However, this approach may be unsuitable for many domestic properties for two reasons:

1. The disruption of excavations to depths of three metres will be expensive, disruptive and legally challenging, as the owner's legal advisers take into account matters relating to boundaries, party walls and general property rights.
2. Not all commentators agree that root barriers on their own are effective ways of preventing the spread of Knotweed.

3.7.2 Strategy for neighbouring properties

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

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

2. Where a neighbouring owner does not co-operate and prevents the completion of the treatment programme, the new owner of the subject property may have to commit to a continued treatment programme that will restrict the growth of Knotweed on the subject property until a cross-boundary, 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*.

http://www.scsi.ie/boundaries_guidance_note

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 and 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 the Knotweed and the possible consequences of failing to take appropriate action.

4. Effective treatment of Japanese and other Knotweeds

4.1 Introduction

Once established, Japanese and other Knotweeds can be challenging and expensive to eradicate. The following advice should always be adhered to:

- Do not strim it. This creates millions of tiny pieces, all of which can grow into new plants. Do not attempt to dig up the rhizomes. Even 1cm of rhizome can produce a viable plant so if the soil is disturbed and rhizomes fragmented infestations can rapidly escalate.
- Do not cut it back and leave the cuttings on the ground. These will quickly spread in the wind, in water, on car tyres and on animals and each piece can form a new plant.
- Do not compost cuttings or put them in the rubbish bin or take it to the dump. It is an offence to do so.
- Do not cut the canes and then pour herbicide down the cut end. This has become popular, but it does not work because as soon as a Knotweed cane is cut, that part of the plant shuts down and it will not take up the herbicide.
- Do not ignore it! A small Japanese knotweed plant quickly becomes a major infestation.

4.2 Treatment options

Best Practice Management Guidelines for Knotweed treatment can be downloaded from the Invasive Species Ireland website www.invasivespeciesireland.ie. A range of treatment options are available, as follows:

4.2.1 Excavation of plants

Knotweed-infested soils can be excavated and removed to an appropriately licensed waste management facility. However, there are no/very few such facilities available in Ireland at this present time, and removal of contaminated soil to such facilities, is likely to be prohibitively expensive.

The volume of excavated soil can extend up to 3m vertically and up to 7m horizontally from the above-ground growth, resulting in large volumes of waste soil.

All disposals should be carried out in accordance with the Waste Management Acts.

It is possible to reduce the volume of waste soil by a variety of soil sifting techniques which remove all plant fragments.

4.2.2 On-site burial and/or encapsulation with membranes

One on-site burial technique is the use of vertical barriers to prevent Knotweed crossing boundaries. This can help where adjoining landowners are not co-operating with a cross-boundary programme to treat Knotweed infestation. However, vigorous Knotweed growths can often breach a poorly designed root barrier installation so the advice of an appropriately qualified and experienced person is essential.

In most circumstances, root barriers are used in conjunction with other treatment methods.

Knotweed can be excavated and then buried on site, but it must be covered with 5 m or more of overburden and a specialist root barrier membrane installed to fully or partially encapsulate the knotweed-bound soil to prevent regrowth. A root barrier membrane can also be used to encapsulate Knotweeds where space does not allow burial.

4.2.3 Soil Screening

Removal of Knotweed fragments from the soil which can then be reused on site. Soil is passed through a variety of screening processes.

4.2.4 Biological control

Biological control involves the introduction of a “pest” species that attacks and controls the target host species (in this case, Japanese and other Knotweeds). It is effectively a grazing system, whereby the growth of Knotweeds is controlled to a level that keeps them in check.

Note: This process does not kill the Knotweed; however, it simply controls it.

The Centre for Agricultural Bioscience International (CABI) released a biological control agent in the UK, under license in 2012. The agent is an insect (a psyllid) which is found on Japanese knotweed in its native range in Japan. The programme will be closely monitored for 5 years to assess its effects on plant control.

4.2.5 Chemical control

Chemical control is the application of specialised herbicides to Knotweed plants. Treatment with herbicides is usually the most cost-effective method, although it can take 2-4 years to achieve acceptable control and/or eradication.

Herbicides must be systemic (i.e. actively taken up by the plant) and contain one of the following ingredients: glyphosate, triclopyr, and 2,4-D amine. There are 3 main methods of application:

Spraying:

A systemic herbicide with a surfactant must be used. Spraying requires several applications in dry, calm weather conditions per growing season for 3-4 years. Spraying is indiscriminate and kills surrounding flora and fauna, and it is not safe to use near water or in residential settings where space is limited and property boundaries are closely located.

Stem injection:

This involves injection of each Knotweed cane with a small dose of systemic herbicide without surfactant. Specialised injection equipment is available. Contamination of surrounding vegetation is minimised using this method because only the target plant is treated, and it is the only safe method to use in urban and residential areas; in sensitive environmental habitats, and near water. The approach is more systematic than spraying. Although labour intensive it is more cost-effective in the long term because fewer applications are required to achieve satisfactory control.

Weed-wiping:

Specialised equipment is available to wipe the surface of leaves with herbicide. The method is more cost-effective and less environmentally polluting than spraying. It is quicker than injection, but it is less effective at achieving satisfactory control. However, it is the preferred method for young growth and would be the appropriate method for treating young shoots emerging from contaminated soil.

5. Summary

Knotweed is widespread throughout Ireland, it can remain dormant for up to 20 years and can grow 100mm per day after the winter die back.

Its presence and effects are another one of the considerations surveyors should take into account when completing inspections.

While this invasive, non-native plant can be difficult to control, it should be recognised that timely and persistent treatment programmes can minimise its impact. As the treatment industry develops and matures, it is hoped that surveyors will be able to provide more informed advice to their clients.

Once identified on site, clients need to be appropriately informed as to the implications and their requirements under the relative legislation to prevent further spread.

A management plan on every Knotweed infestation should be put in place and implemented.

APPENDICES

Appendix A:

Further sources of information;

Invasive Species Ireland (www.invasivespeciesireland.com)










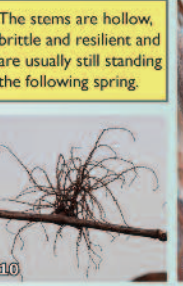
Environmental Protection Agency (www.epa.ie)

Irish Fisheries Ireland (www.fisheriesireland.ie)

Knotweed injection service (www.knotweedcontrolireland.ie)

Appendix B:

Knotweed Identification chart

Growing season								Winter			
Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
<p>Small red/purple shoots or 'spears' emerge. Can be seen growing among the tall stems of the previous year's growth.</p> 		<p>Leaf: shield or heart shaped with flattened base; lush green colour.</p> 				<p>Leaf stems: alternate leaves on a 'zig zag' stem.</p> 					
<p>Leaves begin to unfurl and can be red or green with red veins.</p> 		<p>The stems: the main stems are initially green but develop distinctive purple speckles. Stems are hollow and never woody during the growing season.</p> 		<p>Stands of knotweed: Where uninhibited, the plant will grow in dense and tightly packed clumps or 'stands'.</p> 		<p>Flowers: Spikes of small creamy white flowers with a spike length of 100mm.</p> 		<p>The stems are hollow, brittle and resilient and are usually still standing the following spring.</p> 			
<p>Further information</p> <ul style="list-style-type: none"> - The Environment Agency (www.environment-agency.gov.uk) - The Cornwall Knotweed Forum (www.cornwall.gov.uk) - Scottish Environmental Protection Agency (www.sepa.org.uk) - GB non-native species secretariat (https://secure.fera.defra.gov.uk/nonnativespecies) 											

Source: Royal Institution of Chartered Surveyors.
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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.

Canes	Tall, hollow, bamboo-like stems.
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.
Knotweed	The common type of Knotweed is known as <i>Fallopia japonica</i> , but there is a smaller compact variety called <i>Fallopia japonica</i> var. <i>compacta</i> , which reaches a height of 1 metre. Giant Knotweed (<i>Fallopia sachalinensis</i>), can grow up to 5 metres.
Petiole	The stalk or stem that connects the leaf to the plant.
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 residential property.
Rhizome	Underground stem which enables Knotweed to survive over winter, when the canes die back. Small sections of rhizome, as little as 0.7g, can regrow into a new plant.
Stands	Large clumps of densely packed Knotweed stems.

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