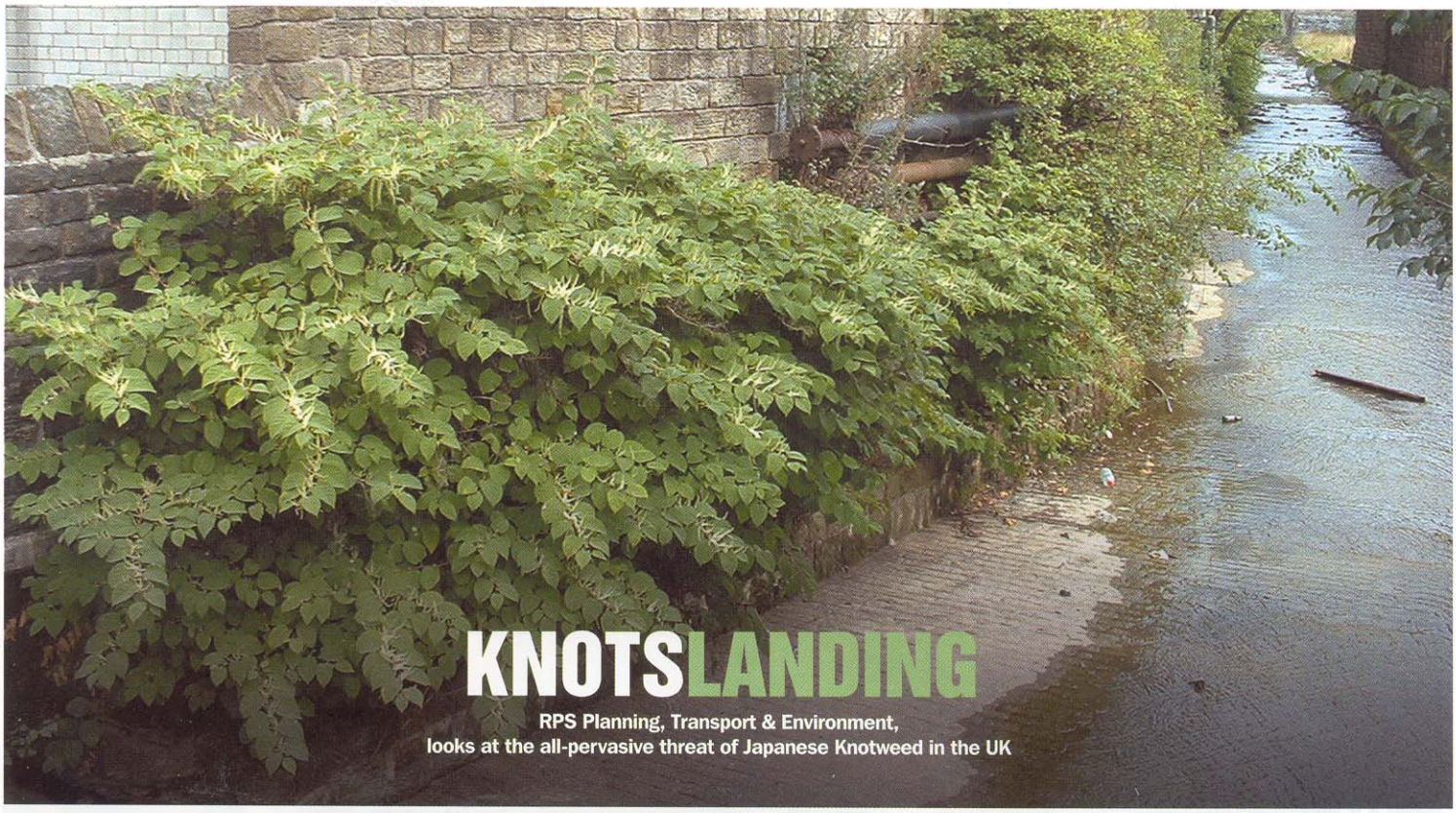

KNOTSLANDING

RPS Planning, Transport & Environment, looks at the all-pervasive threat of Japanese Knotweed in the UK

Once you have experienced Japanese knotweed, not only are you unlikely to forget it, but you will also quickly realise that it grows almost everywhere. A fact that is reinforced by numerous television, radio and newspaper appearances by this invasive, alien weed.

If you have not yet experienced knotweed, chances are that at some time in the not-too-distant future you will do. Developers, gardeners, the Environment Agency and many more people involved in the building industry are recognising and becoming more aware of Japanese knotweed as a serious pain.

TALL, VIGOROUS AND HARDY

The plant was originally introduced to the UK for the simple reason that it is quite pretty. It is tall (growing up to three-metre high), vigorous and hardy, quite happily flourishing in a variety of harsh locations such as colliery spoils and building rubble. Its leaves are a soft, green colour with a smooth, heart-shaped profile. Its stems are pleasantly bamboo-like, with purple streaks, and it produces small, creamy white flowers in late summer to early autumn.

All these features would suggests that the behaviour of the Victorian botanists who brought it here 150 years ago was entirely reasonable. However, knotweed's ability to grow almost anywhere and its quite impressive regenerative skills when hoed into the ground or spread across the land make its pattern of growth more similar to the spread of a disease rather than the cultivation of a decorative shrub.

INVASION: UK

This invasive nature is primarily due to knotweed not being exposed to any of the controlling organisms that maintain it to its natural extent in its countries of origin (Japan, Korea and North Western China). Consequently, the absence of these controls (such as bacteria, fungi and various larvae and bugs) has allowed knotweed to grow unhindered throughout Britain, and this can sometimes be at the expense of native species in biologically diverse and sensitive habitats.

The plant grows through the soil from a woody rhizome, which can form a complex, knotty (hence the name) mass of roots that spread far from where the above-ground shoots emerge. If left unchecked, significant damage can be caused to services, drains, walls and other building structures as rhizomes creep their way into cracks and openings, spreading and expanding as they colonise new areas.

LEGISLATION AND GUIDANCE

Although a range of legislative mechanisms cover knotweed growth, the main items of law that can cause serious headaches to developers and landowners alike, are as follows:

- the Wildlife and Countryside Act (WCA) 1981, where it is stated that it is an offence to plant or otherwise cause knotweed to grow in the wild;
- the Environmental Protection Act (EPA) 1990, Duty of Care Regulations 1991, where cut knotweed material and soil containing rhizomes must be disposed of as controlled waste if they are to be removed from their site of origin; and
- third-party litigation, where you can be sued for costs and damages if you allow knotweed to spread from your property onto that of an adjacent landowner.

Being caught out on any of the above can result in prosecution and/or significant and unplanned expense to a developer or landowner. There are, of course, a host of undesirable knock-on effects that follow these actions, usually lead by bad publicity for the person or company in question.

There are two main sources of guidance for making moves to rid yourself of Japanese knotweed. These are produced by the Environment Agency[1] and the Welsh Development Agency[2]. Both documents are intended to give advice to contractors and developers and there is usually some flexibility in the suggested control measures. However, and particularly with regard to the WDA guidance, these can be specified as conditions in some local authorities' planning consents for proposed development projects.

MINIMISING KNOTWEED WASTE

As mentioned in an earlier **sustain'** article on Japanese knotweed (*Winter 2001*), plants are often only discovered on a site when they start to cause a problem. It is often the case, therefore, that the available options to remove knotweed are limited to those that require some serious earth-moving operations, and these can be extremely expensive, especially if they require large volumes of soil to be disposed of to landfill (see case study overleaf).

The key, therefore, to minimise costs while gaining protection from prosecution is to minimise the amount of knotweed waste you create by digging it up.

If Environment Agency guidelines are strictly adhered to, you could end up wasting time, energy, money and valuable landfill space unnecessarily. For example, a one-square-metre stand of knotweed plants would require that soil be removed from around them out to a distance of seven metres and to a depth of three metres. If landfill charges for disposal are approximately £50 per tonne (including tax) and it is assumed that one cubic metre of soil is 1.6T in weight, then the total volume of material would be 530cu m to be disposed of at a cost of over £40,000 for >>

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landfilling charges alone (ie: not including excavation machinery, labour and transportation costs). Multiply this figure by the area of coverage that is often seen on knotweed-infested sites and you could be looking at bank-breaking costs.

However, with expert guidance and onsite supervision, these can be reduced to fractions of these frightening values. As mentioned in the previous **sustain'** article, there are alternatives to the landfilling option that can bypass the monetary and environmental costs of using this unsustainable treatment method.

Some of the most important points to note when dealing with knotweed are detailed below:

- Japanese knotweed should be identified as a potential liability as early as possible - this can greatly reduce the cost of any treatment options;
- It is usually necessary and important to discuss and agree treatment proposals with the Environment Agency;
- Supervisory and monitoring works, undertaken by experts, are vital during knotweed treatment activities and follow-up survey work;
- You are breaking the law if you allow material to be moved off of your site that could result in the spread of Japanese knotweed;
- You could be held liable for costs and damages if you allow knotweed to grow onto an adjacent landowner's property □

If Environment Agency guidelines are strictly adhered to, you could end up wasting time, energy, money and valuable landfill space unnecessarily

1 Environment Agency. 2001. The Environment Agency Code of Practice for the Management, Destruction and Disposal of Japanese Knotweed. EA: Cornwall Area.
2 Welsh Development Agency. 1998. The Eradication of Japanese Knotweed. WDA: Cardiff.

For further info contact Daniel Smyth, Steve Rhodes and Ruth Melvine, Japanese Knotweed specialists at RPS Group Plc: T 01892 770881 F 01892 770885 E rpstw@rpsplc.co.uk W www.rpsplc.co.uk

CASESTUDY

BATTERSEA REACH DEVELOPMENT: **Luxury flats on 5ha site on south bank of River Thames near Battersea**

Client: St George South London Limited
Project Team: RPS Planning, Transport and Environment and McArdle Environmental and Construction Services Ltd
Project Description: Provision of Japanese knotweed eradication services

Due to development constraints, proposals for onsite solutions (eg: screening infested soils, burial, or treatment stockpiles) were not viable. Therefore the only available strategy for dealing with Japanese knotweed, which covered large areas of the site, was to remove it to a licensed tip for disposal.

Measures to control the handling and transportation of the knotweed were put in place onsite to prevent any rhizomes being lost in transit. These measures included controlled haul routes, loading lorries on areas protected with membranes, and cleaning all plant and haulage lorries in controlled areas.

Environment Agency guidance had been used to estimate the volume of soil contaminated with rhizomes. However, by careful excavation of the soil under close supervision by specialist staff, the volume of material removed from the site was reduced by almost 50 per cent.

As Japanese knotweed is a controlled substance under the Waste Regulations, compliance with the Duty of Care Regulations was provided by an auditable data-management system in respect of the removal of waste from the site to licensed disposal facilities.

Smaller areas of knotweed in non-critical areas of the site were fenced off for longer-term spraying treatment as a more sustainable method of management.