

A report on meetings with the major national Japanese knotweed remediation firms to explore how a national dataset could be assembled with a discussion of ideas for further research

Japanese knotweed inquiry—completion of recommendation

- The EA gave evidence to the committee's inquiry on knotweed back in January 2019. One of the recommendations of the report was:
“ ... the Environment Agency should also convene a meeting with the major national Japanese knotweed remediation firms to explore how a national dataset could be assembled from this information and how companies could contribute to this on an ongoing basis to inform academic research which seeks to better understand Japanese knotweed.”.
- We accepted that recommendation through the Government's response.

Summary

In response to the recommendations of the May 2019 House of Commons Science and Technology Committee hearing into the impact of Japanese knotweed on the built environment, I convened meetings with the two trades' bodies representing the industry; the Weeds Group of the Property Care Association (PCA) and the Invasive Non-Native Specialists Association (INNSA). The purpose of the meetings was to explore how remediation companies could contribute to a national dataset on the physical effects of Japanese knotweed in the built environment to inform academic research.

This report summarises the views expressed at those two meetings; in follow-up e-mails; and in response to the initial draft of this report.

Most members felt that a database of the physical effects of Japanese knotweed on the built environment would be of limited value; this subject having been adequately covered by the study performed by Fennell et al (2018). There were topic areas that members felt would be worthy of further research, and this would best be undertaken by independent researchers to which the industry contributed its information.

Both INNSA and PCA generally support these findings.

Introduction

In May 2019, the House of Commons Science and Technology Committee published the report of the inquiry on “Japanese knotweed and the built environment”. In the summary of that report, it is stated that:

“Japanese knotweed (*Fallopia japonica*) is a fast-growing invasive plant with bamboo-like stems. It was introduced to the UK in the mid-nineteenth century as an ornamental plant in parks and gardens, but has since become a significant nuisance throughout the country as an invasive weed. It has been estimated that over 2% of development sites and 1.25% of residential properties in Great Britain are affected by the plant, amounting to tens of thousands of sites in total.

Given the anxiety that the plant can cause for homeowners, and the publication of new evidence relating to the physical effects of Japanese knotweed we were prompted to hold a one-off evidence session on the effect of Japanese knotweed in the ‘built environment’ of buildings, paving, drainage channels and outbuildings.

In this Report we find that the latest research suggests that the physical damage to property from Japanese knotweed is no greater than that of other disruptive plants and trees that are not subject to the same controls and do not have such a substantial 'chilling' effect on the sale of a property. However, Japanese knotweed has some distinguishing features that are relevant in this context. Japanese knotweed is particularly hard to eradicate compared with other plants, requiring multi-year treatment with herbicide or excavation. This is not the case with trees or plants such as buddleia. There is also an ongoing risk that the plant will regrow, either because it is only made dormant by herbicides or because fragments of the plant remain in the soil. ..."

The report included the following recommendation:

"There is surprisingly little academic research on the physical effects of Japanese knotweed in the built environment, despite the impact that the presence of Japanese knotweed can have on a property sale. Remediation companies collect a considerable amount of data relating to Japanese knotweed as part of their work, and several have indicated their willingness to share this information with others. We welcome the Environment Agency's offer to approach Defra and others with a view to ensuring that research is commissioned to fill knowledge gaps. To support this, the Environment Agency should also convene a meeting with the major national Japanese knotweed remediation firms to explore how a national dataset could be assembled from this information and how companies could contribute to this on an ongoing basis to inform academic research which seeks to better understand Japanese knotweed. This would provide a useful resource for further research and an evidence base to inform guidance in this area."

The Environment Agency accepted the recommendation to convene the meeting.

Purpose

The purpose of this document is to report on discussions with the major national Japanese knotweed remediation firms to explore how a national dataset could be assembled from the information they hold and to discuss how companies could contribute to this on an ongoing basis to inform academic research; and to draw recommendations and conclusions from that.

The approach and structure of this report

Separate meetings were held with the two groups representing the major Japanese knotweed remediation firms as part of their normal business meetings. I met with the Property Care Association (PCA) on 17 September 2019 and with the Invasive Non-Native Specialists Association (INNSA) on 5 December 2019.

At each meeting, I made a short presentation to introduce the subject and to suggest discussion topics; I invited comments both during and after the meetings. The discussions at both meetings were lively and candid with constructive debate and plenty of time given to air a wide range of views.

The relevant minutes of the meetings and follow-up comments were reviewed to identify the key issues raised by the participants. That analysis is in the following section.

That is then followed by a discussion of the findings and an outline of possible future research work; and finally, conclusions.

An initial draft of this report was sent to PCA and INNSA and their responses informed minor revisions of this, the final report.

Analysis

A number of key themes emerged from the two discussions and follow-up correspondence, although there were polarised views on many of them:

1. The balance of opinion seemed to be that a database on impacts on the built environment would **not** significantly advance knowledge, even if the organisations held reliable data that could be used to test selected hypotheses (and the latter was not clear). This is because it was generally accepted that (as demonstrated by Fennel et al) the physical damage to buildings caused by Japanese knotweed is no worse than such damage caused by some other species; and it was felt that there was little to be gained by doing further work on that subject.
2. It was also considered that advancing knowledge in this area would require properly designed scientific research, to which the remediation sector could contribute. Topics that seemed to be important to the community included:
 - (1) Quantifying the impact of Japanese knotweed (and other plants) on amenity and quiet enjoyment;
 - (2) Quantifying the costs of the control / eradication of Japanese knotweed (and other plants);
 - (3) Quantifying the difficulty of controlling / eradicating Japanese knotweed (and other plants);
 - (4) Quantifying the economic cost of Japanese knotweed (and other plants) on the built environment and on residential property development.
3. Existing information held by the industry might be shared more widely, ideally to help illustrate the outcomes of future research findings, using the case study material that they hold. These could be used as standalone information notes and could feed into items such as the existing guides and planning advice notes.
4. There was a concern, shared by many, that the impacts of Japanese knotweed could be inadvertently downplayed to the extent that there might be less interest in controlling it. While the impact of Japanese knotweed may have been exaggerated or sensationalized in the past, what was needed now was a realistic description of the impacts; impacts that were still seen as serious by homeowners and the remediation community.

Discussion

I acknowledge that there was a degree of polarisation in the views expressed on most of the subjects discussed; to analyse the information I had to judge where the weight of opinion lay based on my sense of the most widely held views at the two meetings, the written submissions and the extent to which the views were based on evidence. It was reassuring that the feedback from the two groups on an earlier draft of this report confirmed that the report generally reflected the views of their members.

In this discussion I will attempt to answer three questions: Is more research on the impact of Japanese knotweed on the built environment an immediate priority? What research might be helpful? What role might the remediation sector play?

Is more research on the impact of Japanese knotweed on the built environment an immediate priority?

I sensed that this is not an immediate priority for the remediation companies because their experience is generally consistent with the findings of Fennell et al (2018) i.e. as summarised in the Abstract of that paper:

“No support was found to suggest that F. japonica causes significant damage to built structures, even when it is growing in close proximity to them and certainly no more damage than other plant species that are not subject to such stringent lending policies. It was found that the seven-m rule is not a statistically robust tool for estimating likely rhizome extension. F. japonica rhizome rarely extends more than 4m from above ground plants and is typically found within 2m for small stands and 2.5 m for large stands. Based on these findings, the practice of automatically restricting mortgage options for home buyers when F. japonica is present, is not commensurate with the risk.”

Indeed, some expressed surprise that the Committee thought more evidence on this subject was required. It was not thought that collecting further information from the sector (that had already been surveyed in the Fennell et al study) to refine the results would be worthwhile, even if suitable information existed.

However, there was concern about the extent to which the study was being misquoted to potentially under-play other real impacts of Japanese knotweed on the built environment that include nuisance, loss of amenity and increased costs of development.

What research might be helpful?

There were a few areas of research the participants expressed a strong interest in that I will expand upon here, in what I sensed was the priority order.

- a) Quantifying the impact of Japanese knotweed (and other plants) on amenity and quiet enjoyment.

The impacts of Japanese knotweed on the built environment might now be considered to be no worse than those of other species: however, it is widely considered to be a nuisance causing a big impact on amenity and quiet enjoyment. Participants considered that the quantification of the nuisance caused to homeowners by Japanese knotweed, most usefully in comparison to other plants, was the top priority for research. I understood that participants thought that the nuisance caused by Japanese knotweed (in part caused by the perceived difficulty in controlling it) was the key criterion that distinguished it from other invasive plants.

However, this is a very subjective area to study, with public perceptions likely to change if, and when, policies, guidance and media positions change; specialist advice would be required to assist with the design.

- b) Quantifying the costs of the control / eradication of Japanese knotweed (and other plants);

It was repeatedly claimed that Japanese knotweed was more expensive to treat than other plants; however, it appears that this has never been formally quantified. An independent assessment of these costs should prove very useful; and an interim assessment by the remediation sector might be a good first step.

- c) Quantifying the difficulty of controlling / eradicating Japanese knotweed (and other plants).

Similarly, it was repeatedly claimed that Japanese knotweed was more difficult to control than other plant species; again, it appears that this has never been formally quantified. An independent assessment of the difficulty of controlling Japanese knotweed compared to other plants is a priority.

- d) Quantifying the economic cost of Japanese knotweed (and other plants) on the built environment and on residential property development.

This an area with several dimensions that need to be quantified including the following:

- The cost of the impact of Japanese knotweed and other plants on the fabric of the built environment, considering (if practicable) whether the plants were exploiting poor maintenance;
- The costs of managing the plants (i.e. the results of “c”, above);
- The effect on property value;
- The economic cost on property development.

The following ideas for fundamental research were suggested by the sector in response to an earlier draft of this report and the first three test some of the common assertions:

- e) Quantification of the growth rate of Japanese knotweed in different soil types; research to better understand which factors stimulate lateral growth in Japanese knotweed.
- f) Research to better understand dormancy of Japanese knotweed rhizomes (can they really survive 20 years?) and how it is affected by pesticide treatments and other factors.
- g) Research into physical, chemical and biological treatments alone, and in combination (given the precarious situation surrounding Glyphosate and its future availability: UK approvals confirmed to 2025).
- h) Distribution of hybrid knotweed and studies of the occurrence or possible occurrence of back-crossing with Japanese knotweed and giant knotweed to produce viable seed production in the UK.

What role might the remediation sector play?

It is evident that the remediation sector could contribute to all these studies, given their unique expertise in this area; in fact they would be eager participants. In response to the earlier draft of this report, representatives of the sector expressed great enthusiasm in taking part in this research and said that they were willing to contribute their time, data and significant financial investment.

Whether they are active participants, contribute information or oversee the research depends on the designs. However, in all cases the results of the research will carry more weight if it is conducted by independent researchers, working in cooperation with the sector.

If such research is funded by Government, representatives of the sector should inform the design and sit on any project board or technical steering group.

Final thoughts

There is still much work to be done to better specify the proposed research, assuming it is generally supported and can be resourced. The results of the outlined research, if successful, would better inform how the risks from Japanese knotweed should be taken into account in revised policies and practice, when considered alongside the findings of Fennel et al (2018).

The next steps will be:

- To share the report with Defra to consider how the proposed research could be taken forward and funded
- To report the finding back to the Science & Technology Committee
- For Defra to consider how the research should be initiated in partnership with the sector.

Conclusions

In discussions with the two major trades' bodies engaged in Japanese knotweed management, it seemed that the majority of members felt that a database of the physical effects of Japanese knotweed on the built environment would be of limited value; this subject having been adequately covered by the study performed by Fennell et al 2018.

The remediation community expressed support for further study into the economics of knotweed management, efficacy of treatment options and the potential for knotweed to cause nuisance.

Reference

Fennell et al. (2018), Japanese knotweed (*Fallopia japonica*): an analysis of capacity to cause structural damage (compared to other plants) and typical rhizome extension. Peer J 6:e5246; DOI 10.7717/peerj.5246