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|---|---|--|---------------------------|
| Title: Improving protection for sweet chestnut trees: Validation IA IA No: Defra1512 Lead department or agency: Defra Other departments or agencies: | Impact Assessment (IA) | | |
| | Date: 17/09/2013 | | |
| | Stage: Final | | |
| | Source of intervention: Domestic | | |
| | Type of measure: Secondary legislation | | |
| Contact for enquiries: Richard McIntosh 01904 465632 richard.mcintosh@defra.gsi.gov.uk | | | |
| Summary: Intervention and Options | | | RPC Opinion: GREEN |

| Cost of Preferred (or more likely) Option | | | |
|---|----------------------------|--|---|
| Total Net Present Value | Business Net Present Value | Net cost to business per year (EANCB on 2009 prices) | In scope of One-In, Two-Out? Measure qualifies as |
| -£72,000 | -£72,000 | £6,900 | Yes IN |

What is the problem under consideration? Why is government intervention necessary?

Sweet chestnut trees are at risk from *Cryphonectria parasitica* (Chestnut blight), a serious fungal disease of sweet chestnut trees. Sweet chestnut is regulated by the Plant Health Directive, with protection against Chestnut blight. Additional requirements apply for movements into protected zones, including the UK, but these are restricted to wood and isolated bark. These requirements have proved deficient, as infected planting material from France has caused outbreaks in the UK. The action is supported by stakeholders and will have little direct impact on growers and traders, as the main impact will be on suppliers in other countries. The rationale for tightening the existing measures is therefore to address 'negative externalities' - i.e. where importers, who increase the risk of disease spread, do not pay the full cost of that damage.

What are the policy objectives and the intended effects?

The discovery of *Chalara fraxinea* has highlighted the increasing threat to the health of our trees from pests and pathogens which are already present in continental Europe. Following the publication of the control plan for *Chalara*, and the report of the Task Force on Tree Health and Plant Biosecurity on 20 May 2013, we are continuing to review the top risks to tree health and are proposing action to prevent incursion of organisms which would be damaging to tree health. Sweet chestnut trees have been identified as being at risk from harmful organisms not present in GB. The new measures will strengthen existing measures aimed at protecting sweet chestnut trees by requiring that material comes from areas free from *Cryphonectria parasitica*.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

No non-regulatory options exist which would provide adequate protection.

Option 0 - Maintain the status quo. Continue to rely on the existing EU measures, while seeking EU protected zone status for the whole of the UK, carry out surveillance, and keep the situation under review in light of the results. Protected zone status could not be achieved before next spring at the earliest, due to the processes to be followed to introduce new EU legislation. This option is not favoured, as it means waiting for the problem to arrive before doing anything about it. It may then be too late and expensive to carryout eradication.

Option 1 - Regulation to strengthen existing measures in the Plant Health (England) Order 2005 and the Plant Health (Forestry) Order 2005, in advance of EU measures. The aim is to protect sweet chestnut trees by requiring that material, including seeds, entering England comes from places of production in countries where *Cryphonectria parasitica* is known not to occur or from an area free from the disease. This is the preferred option.

| | | | | | |
|--|---------------------|-----------------------|-----------------------|---------------------------|---------------------|
| Will the policy be reviewed? It will be reviewed. If applicable, set review date: 03/2014 | | | | | |
| Does implementation go beyond minimum EU requirements? | | | N/A | | |
| Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base. | Micro Yes | < 20 Yes | Small Yes | Medium Yes | Large Yes |
| What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent) | | | Traded: N/A | Non-traded: N/A | |

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs.

Signed by the responsible SELECT SIGNATORY: _____ de Mauley _____ Date: _____ 21/10/2013 _____

Summary: Analysis & Evidence

Policy Option 1

Description: Strengthening existing measures aimed at protecting sweet chestnut trees

FULL ECONOMIC ASSESSMENT

| | | | | | |
|-------------------------|----------------------|-------------------------|---------------------------------------|----------------|----------------------|
| Price Base Year 2013 | PV Base Year 2013 | Time Period Years 10 | Net Benefit (Present Value (PV)) (£m) | | |
| | | | Low: Optional | High: Optional | Best Estimate: -£72k |

| COSTS (£m) | Total Transition (Constant Price) Years | Average Annual (excl. Transition) (Constant Price) | Total Cost (Present Value) |
|---------------|--|---|-------------------------------|
| Low | Optional | Optional | Optional |
| High | Optional | Optional | Optional |
| Best Estimate | £0 | £8,300 | £72,000 |

Description and scale of key monetised costs by 'main affected groups'

Administration (time) costs to nurseries: £64,600

Potential increased price of imports to nurseries from more restricted supply base: plants (£4,900); seeds (£2,400)

Other key non-monetised costs by 'main affected groups'

| BENEFITS (£m) | Total Transition (Constant Price) Years | Average Annual (excl. Transition) (Constant Price) | Total Benefit (Present Value) |
|---------------|--|---|----------------------------------|
| Low | Optional | Optional | Optional |
| High | Optional | Optional | Optional |
| Best Estimate | £0 | N/A | N/A |

Description and scale of key monetised benefits by 'main affected groups'

Other key non-monetised benefits by 'main affected groups'

The overall 'value at risk' for sweet chestnut trees is around £34m per year (covering environmental, social and economic value). This policy contributes towards safeguarding that value, although the precise contribution of this policy cannot be quantified.

Tighter measures may provide an opportunity for UK nurseries to increase their business (as a result of the tightening of measures leading to import restrictions).

| | | |
|--|--------------------------|------|
| Key assumptions/sensitivities/risks | Discount rate (%) | 3.5% |
|--|--------------------------|------|

The cost estimates above are based on a series of assumptions and expert judgement:

- the time cost for companies to raise their awareness is based on a high-end wage assumption, and 1 hour's time per nursery for reading a short letter and informing employees
- the price increases from restricted supply base assume price increases of 20%, declining 20% each year to reflect the market adjusting and increasing supply fairly quickly, along with the availability of substitutes

BUSINESS ASSESSMENT (Option 1)

| | | | | |
|--|---------------|--------------|--------------------------|-----------------------------|
| Direct impact on business (Equivalent Annual) £m: | | | In scope of OITO? | Measure qualifies as |
| Costs: £6,900 | Benefits: N/A | Net: -£6,900 | Yes | IN |

Evidence Base (for summary sheets)

Summary

Improved protection is required for sweet chestnut trees to combat the threat posed by *Cryphonectria parasitica* (Chestnut blight), a harmful fungal disease. We are proposing to lay in Parliament orders under the Plant Health Act which will introduce, inter alia, new national measures to protect sweet chestnut trees. The orders will amend the Plant Health (England) Order 2005, which covers plants (including small trees) and plant produce, and the Plant Health (Forestry) Order 2005, which covers forestry material (i.e. large trees and wood). Similar measures are being planned by the Devolved Administrations. The new measures will require that material, including seeds, entering England comes from places of production in countries where *Cryphonectria parasitica* is known not to occur or from an area free from the disease.

Policy Background and Rationale for Intervention

The Report of the Tree Health and Plant Biosecurity Expert Taskforce published on 20 May 2013 recommended that biosecurity should be strengthened to reduce risks at the border and within the UK. Recommended measures include timely consideration of EU Protected Zone status to protect against new threats before they arrive, notification of the import of high-risk plants and monitoring of threats including pathways into the UK to take rapid action where necessary. A range of actions to address these recommendations is currently being considered.

In the meantime, the UK Plant Health Risk Group (which co-ordinates UK assessment and management of tree and plant health threats, involving representatives from Fera, Forestry Commission and Devolved Administrations), is continuing its monthly review of new and revised threats, including production of risk assessments and consultations on such assessments. Around 10-15 risk assessments are published for consultation each year, with the outcome helping to identify priorities for new or revised measures.

Many harmful organisms affecting tree health are already regulated through the EU Plant Health Regime and the UK makes good use of the EU Protected Zone system, which requires additional measures to be met when moving specified material into designated areas. The UK already has 11 Zones in place for forestry affecting organisms, the most of any Member State. The Risk Group has reviewed the UK's Protected Zones, to consider whether additional measures are needed in relation to other organisms which are present elsewhere but not in the UK. This work is contributing to the response to Taskforce recommendations referred to above.

As a result of the ongoing work referred to above, taking account of the recommendations emerging from the Task Force, the Risk group has recommended strengthening existing measures aimed at protecting sweet chestnut trees by requiring that material entering Great Britain comes from areas free from a specific high risk disease. This issue has also been identified as a priority during development of a UK plant health risk register, which was one of the recommendations arising from the Task Force.

Stakeholders have supported the need for stronger measures, through a consultation on the initial risk assessment which ended on 1 July, at the stakeholder workshops which were arranged to help develop the risk register and at the Tree Health Summit held by the Secretary of State on 11 July.

Sweet chestnut is regulated by the Plant Health Directive, with protection against *Cryphonectria parasitica* (Chestnut blight), a harmful fungal disease. Additional requirements apply for movements into protected zones, including the UK, but these are restricted to wood and isolated bark. These requirements have proved deficient, as infected planting material from France has caused outbreaks in the UK.

Cryphonectria parasitica mainly affects sweet chestnut, which is commonly planted in the south of Britain. The tree was probably introduced in Roman times and can be very long lived; some specimens are thought to be 400 to 600 years old. Overall, woodlands cover approximately 3 million hectares in GB in total. In GB there are 28 thousand hectares of sweet chestnut in woodlands over 0.5 ha in size, a standing volume of 7.6 million m³ (3% of broadleaved trees) and 44.2 million trees. Sweet chestnut is highly valued as a timber species and is locally important to Kent and Sussex as a species which is grown on short coppice rotations for fencing material. It is occasionally planted as a specimen tree and in orchards for nut production.

If *Cryphonectria parasitica* were to spread then it would be likely to do so at around 13 miles per year, and so majority of sweet chestnut in the south of England would be exposed within 10 years. Damage is to the form of older trees, and so a total loss would not be expected and would take a much longer time (perhaps another 10 or 20 years for 50% loss in total, including the disease spread).

The Secretary of State proposes to take urgent action to minimise the risk to sweet chestnut trees. The rationale for acting now is that winter is the main import and planting season for trees, while they are dormant. The main

interception of ash trees infected with *Chalara fraxinea* and the previous outbreaks of sweet chestnuts infected with sweet chestnut blight involved trees imported over the winter period. A delay in introduction would mean that we would miss some of this crucial period. The action is based on the best technical evidence available, has been supported by stakeholders through three different processes (consultation on the risk assessment, development of the risk register and at the Secretary of State's Tree Health Summit). There will be little direct impact on nurseries growing and trading sweet chestnut trees, as they are already authorised to issue plant passports, but there will be some indirect impacts through having a reduced supply base for imported stocks. The potential benefits are substantial, given the value of sweet chestnut trees. The national measures will be kept under review in light of developments at the EU level.

A statutory notification scheme is in place for imports of sweet chestnut and other tree species to help make the best use of surveillance resources, to focus on the highest risk plants (in terms of their source, intended destination and use etc). Also, to help target follow up inspections and/or submission of samples for laboratory analysis. This is providing useful intelligence and facilitating targeted checks on sweet chestnut planting material. However, it does not address the fundamental issue that the existing EU requirements, which rely on the observation of visual symptoms which may not always be associated with infected material, have proven to be deficient.

We are pressing the Commission to include measures in a proposal which is currently progressing through the Standing Committee. This would extend the protected zone against *Cryphonectria parasitica* to the whole of the UK (currently the Isle of Man is excluded) and introduce requirements for sweet chestnut planting material. Our aim would be that such material (including seeds) originates from a pest free country, a pest free area or from a recognised protected zone. Most compliance costs would therefore fall on exporters/suppliers in other member states, with some additional time/admin enforcement/monitoring costs.

EU measures will not be agreed and in place before the forthcoming season. We therefore intend to introduce national measures in advance of action by the EU.

The improved protection for sweet chestnut trees is part of a wider package of tree health measures being introduced through single amendments to the Plant Health (England) Order 2005 and the Plant Health (Forestry) Order 2005.

The intervention is intended to protect the nation's sweet chestnut trees, through minimising the risk of introducing an organism which would be potentially very damaging to such trees. The action is supported by stakeholders and will have little direct impact on growers and traders, as the main impact will be on suppliers in other countries. The rationale for tightening the existing measures is therefore to address negative externalities (i.e. where importers who increases the risk of disease spread, do not pay the full cost of that damage).

Options

No non-regulatory options exist which would provide adequate protection. The European Commission recognise that EU measures are required to protect sweet chestnut trees, as requirements are included in the EU Plant Health Directive. Additional requirements apply for movements into protected zones, including the UK, but these are restricted to wood and isolated bark. These requirements have proved deficient, as infected planting material from France has caused outbreaks in the UK. There are existing EU legal provisions which provide for member states to take action in such situations, but as these are set out in the EU Plant Health Directive rather than in a directly-applicable regulation, a domestic statutory instrument is needed to make use of them.

The following options have been considered:

Option 0: Maintain the status quo. Continue to rely on the existing EU measures, while seeking EU protected zone status for the whole of the UK (which would require additional measures to be met when moving specified material into designated areas),, carry out surveillance, and keep the situation under review in light of the results. Protected zone status could not be achieved before next spring at the earliest, due to the processes to be followed to introduce new EU legislation. This option is not favoured, as it means waiting for the problem to arrive before doing anything about it. It may then be too late and expensive to carry out eradication.

Option 1: Regulation to strengthen existing measures aimed at protecting sweet chestnut trees by requiring that material, including seeds, entering England comes from places of production in countries where *Cryphonectria parasitica* (Chestnut blight), a serious fungal disease of sweet chestnut trees is known not to occur or from an area free from the disease. This is the preferred option.

Proportionate Assessment of Direct Costs to Business (OITO Method)

Costs

The effect of the measures will be to remove the option of importing sweet chestnut trees from places of production where the disease is present. This will affect mostly exporters situated in those areas.

In terms of administration costs, 189 growers and traders of sweet chestnut trees are already registered and authorised to issue EU plant passports (which would be the means by which they could confirm that disease-free trees were being supplied), so no additional administrative burden would be imposed. For these 189 growers, the requirements should simply involve awareness raising rather than additional checks and visits (whereby a short letter is sent to 189 bodies to inform them of the new requirements for sweet chestnut trees).

At a time cost of up to 1 hour per nursery to read the letter and inform the team, the total time required could be up to around 190 hours. Multiplied by an upper-bound wage rate of £30 per hour (taken from the top decile of earnings for full time workers in ONS ASHE 2012) and then applying an uplift of 30% to reflect non-labour costs, this results in an hourly cost of around £40. Multiplying this hourly rate by the total estimated hours of additional burden results in an overall cost estimate of around £7,500 per year for the inclusion of sweet chestnut within the list. If projected forwards over ten years, and expressed as the 'Equivalent Annual Net Cost to Business' (EANCB), as defined in the latest BIS Impact Assessment calculator, the **EANCB is around £6,250**.

However, the proposed measures would extend to sweet chestnut seed, which is not currently regulated under the EU plant passport scheme. Therefore, traders of sweet chestnut seed will be brought within scope of the new requirements for the first time. The RPC commented, in their sign-off of the Regulatory Triage Assessment, that further consideration should be given to the impact of familiarisation costs for such companies. Such trade is carried out for forestry purposes and the Forestry Commission estimate that only one such business is involved. This is already approved under the Forest Reproductive Material Regulations and existing authorisation and documentation can be used in relation to the proposed new requirements, hence a negligible impact. Since submitting the RTA, the Forestry Commission have consulted informally and confirmed that the business involved (who imports in bulk for the UK) is in fact registered with Fera and so (as above) the costs would be limited to awareness raising. Therefore, because the estimate above reflected approximately 190 companies, the awareness raising cost is already included in that EANCB.

A further impact on English businesses is likely to be a reduced supply base for imported plants which could lead to increased prices. Indirectly, however, as the UK will be designated a disease free zone, there could also be greater opportunity for UK suppliers, if they increase their supply of sweet chestnut plants.

The RPC commented, in their sign-off of the Regulatory Triage Assessment, that further consideration should be given to the impact of such increasing prices, to increase the robustness and completeness of the EANCB. An additional analysis is therefore provided. If the prices importers face increase as a result of being able to buy from more limited sources in future, then this would result in increased costs to UK businesses. However, the level of trade is very low relative to other forestry species and commodities (in the order of 10s of thousands per annum). Working on an assumption that 20,000 plants are imported per year, with a plant costing in the region of £0.30 for forestry planting purposes, it is estimated that around £6,000 of sweet chestnut trees are imported each year. If a restricted import base leads to price increases in the order of 20% based on expert judgement from the Forestry Commission, using similar previous examples of price increases resulting from restrictions in supply of trees), then this would lead to additional costs of £1,200 per year in total. If projected forwards over ten years, but at a declining rate each year of 20% (to reflect that suppliers will respond and increase supplies fairly quickly for sweet chestnut, coupled with the fact that substitutes are often available), and expressed as the 'Equivalent Annual Net Cost to Business' (EANCB), as defined in the latest BIS Impact Assessment calculator, the **EANCB is around £500**.

For sweet chestnut seed any impact of price increase is also expected to be negligible. The approximate volume of imports of seed is around 500kg per year. With a cost of up to £6 per kg, it is estimated that around £3,000 of seeds are imported each year. If a restricted import base leads to price increases in the order of 20% (based on expert judgement from the Forestry Commission, using similar previous examples of price increases resulting from restrictions in supply of trees), then this would lead to additional costs of £600 per year in total. If projected forwards over ten years, but at a declining rate each year of 20% (to reflect that suppliers will respond and increase supplies fairly quickly for sweet chestnut, coupled with the fact that substitutes are often available), and expressed as the 'Equivalent Annual Net Cost to Business' (EANCB), as defined in the latest BIS Impact Assessment calculator, the **EANCB is around £250**.

Note that rising prices may lead to a reduction in demand. This, along with the other factors identified above, suggests that the additional elements of EANCB estimated above (associated with rising prices) are likely to be on the cautious side.- Note that any changes in prices as a result of exchange rate fluctuations, or general changes in demand, are not included here as they will occur independent of this policy amendment.

In total, the EANCB is estimated at £7,000.

Benefits

The overall social and environmental values at risk for sweet chestnut, that this tightening of existing measures will contribute towards safeguarding, are in the order of £34m per year for England in 2012 prices (comprised of approximately £30m for the value of recreation, landscape, biodiversity and air pollution absorption, and approximately £4m for the value of timber).

The method for calculating the social and environmental values is set out in Willis et al. 2003 in a report to the Forestry Commission entitled 'The Social and Environmental Benefits of Forests in GB'. In summary, the values are estimated based on the 'stated preference' technique, whereby respondents are asked to place a value on various environmental attributes associated with trees. The aggregate values have then been divided-up based on area of sweet chestnut trees as a proportion of overall trees in the country. The exception to this is for carbon sequestration values, which have been estimated using National Forestry Inventory data and the Woodland Carbon Code lookup tables for the amount of carbon sequestration by particular species, which has then been valued based on the latest DECC guidance.

The method for calculating the value of timber is based on ONS data for GVA of forestry.

Although we cannot determine precisely the extent to which the tightening of existing measures will safeguard the benefits outlined above, the following information helps to describe the benefits qualitatively. Should the pathogen become established, economic impacts will be mainly to the chestnut timber industry (primarily coppice for fencing) and ornamental tree nurseries since there is no significant commercial nut production. Environmental impacts include reductions in food resource and habitat for associated organisms. Sweet chestnut is a dominant component of landscapes in the areas where large numbers of trees have been planted for coppicing, particularly Kent and Sussex, and their loss would cause considerable changes to the landscape. As a specimen tree, sweet chestnut is a long lived species which often reaches a large size. The tree is widely planted for aesthetic reasons in arboreta, parks and gardens where it is highly valued by the public who may also forage for the nuts in the autumn. The loss of these trees would have a social impact as it would reduce the environmental enjoyment of these areas by the public.

Sweet chestnut is a suitable broad-leaved substitute for ash on certain non-calcareous sites in lowland England and Wales. After oak and ash, sweet chestnut has been the next most common species planted on woodland creation schemes in England over the last 7 years. Although only 4% this could rise to around 10-20% as people seek to fill the void left by ash (*pers. comm.* John Morgan and Andrew Smith, 2013).

Moratorium on Micro Businesses

The new measures will apply to all businesses, including micro-businesses, importing sweet chestnut trees. The risk of introducing harmful organisms isn't mitigated by the size of the business importing material.