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Summary of responses to the consultation on future management of risks from *Phytophthora ramorum* and *Phytophthora kernoviae* – 15 July to 10 October 2008

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Background

Phytophthora ramorum and *Phytophthora kernoviae* are fungus like diseases of trees and plants. Since their first discovery Defra and the Forestry Commission have been overseeing an emergency programme of work to contain and eradicate two *Phytophthoras*; *Phytophthora ramorum*, first confirmed in Great Britain in May 2002, and *Phytophthora kernoviae*, first discovered in October 2003. Both are thought to have arrived in GB within the last ten to twenty years and there is evidence that they both have the ability to kill trees and heathland species in GB and have the potential to cause serious disease on some garden shrubs. A joint programme of work has been overseen by an interdepartmental programme board, whilst evidence has been gathered to decide on a long term policy towards the two pathogens. In October 2007 a review of the policy was initiated this included an impact assessment and external scientific review of the evidence followed by a public consultation. The consultation ran from 15 July until 10 October 2008.

A total of 41 responses were received from a range of trade organisations and associations, individual businesses, local councils, owners and managers of historic gardens and government agencies . This document summarises the responses to each question. For each question it identifies how many respondents addressed the question and for each question the main themes of responses are listed with the number of respondents who supported each.

A more detailed analysis of individual responses by question is at Annex 1.

An outline of proposed action in response to comments received is at Annex 2.

Summary of Responses by Question

Question i) - Under option 1 clearance of infected *R. ponticum*, for *P. ramorum* and *P. kernoviae* control, would cease. What implications for the wider environment do you perceive from this policy?

25 respondents addressed this question.

All thought that if clearance of infected *R. ponticum* ceased the spread of *P. ramorum* and *P. kernoviae* would increase in the wider environment putting at risk native species and habitats across a wide geographical area.

Question ii) - The current level of EU minimum controls is due to be reviewed by the EC Standing Committee on Plant Health. What do you think are appropriate levels of controls for *P. ramorum* and *P. kernoviae* both on nurseries and in the wider environment? How should these levels be reflected in EU law?

23 respondents addressed this question.

12 respondents thought that current EU measures should continue.

7 thought they should be extended to include *P. kernoviae*.

2 thought that more stringent measures were needed on *P. kernoviae* due to its more aggressive nature.

1 respondent felt that EU measures should be tightened in line with Option 2.

9 supported tighter controls on the movement of plant stock, including tightening control and inspection of imported material, extending plant passporting to include all exported nursery stock, prevention of import and movement of host material within EU and within individual Member States.

2 suggested introduction of traceable sales system to assist with trace-back in case of outbreaks.

1 respondent proposed greater monitoring across the EU to determine level of infection.

4 felt that the current measures weren't being applied equally across EU.

1 respondent thought that the diseases, susceptible material and controls on material from USA and New Zealand should be listed in Plant Health Directive.

Question iii) - Would Option 1 pose any other impacts which are not considered in the Impact Assessment? If so what are they and how might they be addressed?

17 respondents addressed this question.

4 thought that all impacts had been covered in the Impact Assessment.

1 respondent commented that loss of support for clearance of infected *R. ponticum* would lead to a further increase in the amount of native woodland and heathland it covers with a consequent cost in terms of loss of bio-diversity.

4 thought that the impact on tourism and the local economy resulting from visitors staying away had not valued appropriately.

2 commented that there was little mention of the impact on smaller domestic gardens which could in turn have knock-on effect on nursery/garden centre industry.

2 respondents thought the impact of closure/ clearance on sites used for recreational purposes (i.e. forest trails, mountain biking) had not been taken into account.

1 believed the Impact Assessment did not adequately record the loss of investment already made in creating and restoring woodlands and heathlands.

1 respondent thought there would be a positive impact from commercial growers not being burdened by the cost of *P. ramorum* management activities that do not apply to their competitors in the rest of the EU.

1 noted the failure to take account of the relevance of the very different disease spread characteristics of *P. ramorum* and *P. kernoviae*.

1 mentioned the significant savings for Government if disease spread is not as per the worst-case scenario presented throughout the consultation.

1 respondent suggested there would be extra costs in monitoring for the disease as species susceptible to *P. ramorum* require extra care in their cultivation, in irrigation and containment of crop batches.

1 thought that overall impact on garden heritage of a high incidence of the disease or the disease occurring in all gardens within 20 years (as is assumed in the concurrent DEFRA consultation) was not fully recognized.

1 commented that the secondary implications for cleared areas within gardens of controlling weeds and replanting do not seem to have been accounted for.

1 respondent thought the descriptions of the impacts to woodlands and heathlands were inconsistent and undervalued the impacts that will be caused by heathland losses. Both the 'social and environmental benefits' referred to for woodlands and the 'ecosystem services' referred to for heathlands are attempting to measure non-market benefits and should be included in the overall Impact Assessment in the same way.

1 questioned whether the assessment of heathland and woodland values was consistent.

1 suggested that no account was taken of the value and impact on blueberry production and bilberry and other non-timber forest products and heathland products for which value may be lost.

1 respondent thought that the value of a number of threatened species strongly associated with both beech woodland and heathland was unlikely to be included in the general values given for these habitats.

Question iv) - Option 1 identifies that trade in host material may be affected, how would a ban on exports and limits to other trade of host material impact on British Horticulture?

17 respondents addressed this question.

3 thought that there would be a major impact on those businesses relying heavily on exports, particularly as the host list seems to be growing bigger by the day limiting nurseries to what they would be able to export.

3 thought there would be no or little impact on trade in general as there was limited export trade in host material, although the impact on individual businesses would vary.

1 respondent mentioned the need for exporters to obtain export certificates for all HNS not just those assumed to be hosts.

3 thought it would push up costs to the consumer.

1 felt it would lead to a reduction in the choice and range of plant material available.

1 thought it could lead to diversification and promotion of non-susceptible species.

1 respondent thought it could lead to a shortage of plant material for exchange by professionals and amateurs to enhance gardens and potentially impact the breeding and development of new plants and the evaluation of plants in trials etc.

2 were concerned that the perceived gap in the market could be filled by imports from other EU countries with less rigorous inspection and control regimes than the UK.

Question v) - Option 2 will involve enforced clearance of *R. ponticum* from gardens and woodland where infection is found.

a) Should enforced clearance of infected sporulating hosts be applied in all cases?

21 respondents addressed this question.

14 agreed that enforced clearance of infected sporulating hosts should be applied in all cases.

7 disagreed.

b) Should infected plants of historic significance be regarded differently from other sporulating hosts? If so how?

29 respondents addressed this question.

25 thought that infected plants of historic significance should be regarded differently from other sporulating hosts.

4 disagreed.

4 respondents thought that micro propagation techniques should be used, with 3 respondents supporting the work being undertaken at Duchy College.

2 thought that further research was needed into the inoculation of such plants to prevent or contain infections.

3 believed that plants of historical significance should not have an unrealistically short time constraint enforced for any removal, with the availability of propagation facilities and subsequent safeguarding of the material determining the timing of any removal.

2 respondents supported further research into the susceptibility of Rhododendrons and other woody plants so to inform replanting after removing infected plants.

4 favoured further research and trials into chemical and physical protection for such plants. A review of the current EU approved applicable chemicals may be necessary to allow the use of products which may have shown some potential as in the US.

1 proposed micro-propagation and quarantine of material to protect the genetic code of the plant undertaken under licence.

2 thought that the 'value' of plant material should be quantified on an individual basis. Historic significance needed to be carefully defined and clear guidelines formulated.

2 respondents thought that any eradication policy should have included within it, the ability for the garden / owner to identify appropriate conservation techniques.

3 favoured a site by site based risk assessment approach in terms of the threat of spread outside of the infected site.

Question vi) - Option 2 offers the opportunity to reduce inoculum levels to epidemiologically insignificant levels. How do you perceive the risk that the diseases may continue to spread regardless of increased activity?

25 respondents addressed this question.

1 respondent thought there would be limited spread if control measures on transport, trade etc were in place.

7 believed that disease spread would at least be slowed down.

1 thought that the evidence suggested that there is the potential to significantly reduce the risk of a substantial increase in geographic distribution but more robust data was needed to increase confidence in the proposed approach.

3 respondents believed that the diseases will spread regardless of increased controls.

1 thought the risk of spread was uncertain and would depend on the level of activity. The measures proposed under Option 2 would be insufficient to contain the diseases.

3 said there would always be a residual risk of spread which would need to be monitored.

1 respondent thought the diseases have the potential to spread but there was an opportunity to eradicate by confining them to small areas.

1 thought increased activity needed to be intense and prolonged to avoid the possibility of reinfection.

1 believed that there was little evidence to support the idea that eradication or reducing inoculum levels to epidemiologically insignificant levels was possible.

1 respondent thought that controls on movements by professional and amateur gardeners needed tightening, with an awareness campaign to reduce uncontrolled movements.

1 believed there was little chance of controlling spread without greater public awareness of the risks from movement of susceptible material.

1 thought that clearance of *R. ponticum* has been shown to be successful in limiting spread of *P. ramorum*. But no control measures have been tested for *P. kernoviae*.

1 thought that control of *P. kernoviae* may be possible due to its limited geographic spread. *P. ramorum* was more complex and measures may not be sufficient to control spread of that disease.

Question vii) - Are the measures described under option 2 sufficient to reduce the disease inoculum to epidemiologically insignificant levels? Would you suggest any alternative or additional measures?

31 respondents addressed this question.

5 respondents thought the measures described under option 2 were sufficient to reduce the disease inoculum to epidemiologically insignificant levels, although 1 believed that control of *P. ramorum* may prove more difficult than *P. kernoviae*.

2 didn't think the measures described under option 2 were sufficient to reduce the disease inoculum to epidemiologically insignificant levels.

1 thought that a survey programme should be maintained so as not to miss any potential outbreaks in areas not regularly accessed.

1 respondent thought that controls on movement by professional and amateur gardeners needed tightening, with an awareness campaign to reduce uncontrolled movements.

5 supported tighter controls or a ban on imports, with trade from infected areas being restricted until the host country can ensure no movement of infected material would take place. 1 of the 5 thought Protective Area Status should be granted to the UK.

1 suggested that a 'cut and leave to rot' policy could be employed with re-spraying of any re-growth at a later date, leading to much quicker clearing and removal of potential host plants.

1 respondent favoured payments for the removal of non infected *R. ponticum* within woodlands and historic gardens based on a risk assessment.

1 thought that access to properties or land where outbreaks were occurring should be controlled.

2 thought that good biosecurity best practice and disease awareness should be encouraged and supported.

3 suggested that the measures on nurseries be reviewed as the current measures seem to have only reduced not eliminated the pathogens moving on nursery trade.

2 respondents thought that specific EU measures were needed for findings in less contained areas such as countryside, woodland and open gardens to reduce the chances of nurseries becoming infected from sources of inoculum in the wild.

1 believed there was a need for a legal and enforceable obligation to monitor, treat and eradicate the disease

1 supported a requirement to sterilise equipment and the people who monitor and treat infected material, to minimise the spread of risk.

1 respondent thought the level of plant removal proposed in option 2 was unclear and appears disproportionate to the proven threat.

2 thought the future success of control measures was dependent on the actions taken at an EU level.

1 believed the risk of the diseases spreading was uncertain but would depend on the level of increased activity. If this was only at the limited levels outlined in Option 2 they would not be effective in containing the diseases.

4 proposed an awareness raising and communication plan to run alongside the identification and control programmes. 1 of the 4 thought Defra's and the EU's role should not be one of control, but one of education and awareness.

1 respondent thought that further information on the impact of integrated control strategies in historic/botanical garden contexts was needed.

4 supported more basic research and investigation of alternative ways to treat diseases, including investigation of the role of fungicidal control.

1 thought that grants should be available for *R. ponticum* removal.

1 was concerned that although the measures had been successful on *R. ponticum* they had not been tested on *P. kernoviae*.

1 respondent was concerned that the control measures did not result in the complete removal of native species such as bilberry and other susceptible shrubs from the wider countryside.

1 believed that if land owners took control of their estates the disease would not spread as much and both Rhododendron and Azalea would not be considered to be an "invasive plant" by DEFRA.

1 felt that the feasibility of eradication should be proven before it was included in a disease management strategy.

1 thought that the predicted success of option 2 was based only on a present-day, static assessment of the diseases and their behaviour and failed to take account of factors such as climate change, accidental or inadvertent movement of the diseases and other unknown future developments.

Question viii - Would option 2 pose any other impacts which are not considered in the Impact Assessment? If so what are they and how might they be addressed?

15 respondents addressed this question.

1 thought that all impacts had been considered.

1 believed that difficulties would arise when dealing with 'unclaimed' land.

1 was concerned that a range of ornamental and landscape plants will be denied to gardeners and landscapers.

2 respondents thought the impact on design at historic gardens was underestimated and needed further consideration.

2 suggested that research into the diseases genetic makeup and habit may yet make further physical and chemical controls possible.

2 mentioned that the financial implications of producing Conservation Plans which help direct the future of an historic garden should be taken into account.

2 thought there was a need to consider the impact on wildlife habitat and archaeology within the wider countryside.

2 respondents questioned whether the proposed increases in staff levels took into consideration the need for PHSI to survey and monitor for disease within susceptible species in the wider landscape.

1 highlighted the additional regulatory processes and costs associated with clearance operations within any woodland. These should not have to be a further burden to the woodland owner.

1 mentioned that the positive impact of *R. ponticum* clearance to the forestry and timber sector had not been considered.

1 thought the scale of the task was unknown and that further measures and increased effort in addition to those described under Option 2 would be required

1 respondent believed the government must make provision for financial support and relief to owners of affected sites. A compensation scheme for affected nurseries should also be considered to ensure compliance.

1 felt that the Government must also address the potential for disease spread via the informal movement and exchange of plant material.

1 thought it was important that clearance work was completed in line with best practice and considers and is sensitive to its potential to damage existing biodiversity values especially within ancient woodland settings.

1 believed the regional impact of option 2 would be significant.

2 respondents were concerned that the costs of Option 2 were significantly understated and its proposals too dramatic and open-ended.

1 thought it was difficult to tell from the Impact Assessment exactly how the values for woodland and heathland had been calculated.

1 thought that the values associated with the loss of historic specimens from public gardens, the reduction of visitor numbers, and the costs of garden transitions should be included.

1 respondent thought the descriptions of the impacts to woodlands and heathlands were inconsistent and undervalued the impacts that will be caused by heathland losses. Both the 'social and environmental benefits' referred to for woodlands and the 'ecosystem services' referred to for heathlands are attempting to measure non-market benefits and should be included in the overall Impact Assessment in the same way.

1 questioned whether the assessment of heathland and woodland values was consistent.

1 suggested that no account had been taken of the of value and impact on blueberry production and bilberry and other non-timber forest products and heathland products for which value may be lost.

1 respondent thought that the value of a number of threatened species strongly associated with both beech woodland and heathland was unlikely to be included in the general values given for these habitats.

Question ix) - Which of the proposed options do you favour? Please give your reasons for your preference, if possible explaining why you do not favour the alternatives.

39 respondents addressed this question.

28 respondents favoured Option 2. Of those 6 had reservations on some elements, including the proposed timescale of clearance, flexibility of approach for historic gardens and increased destruction of *R. ponticum* not in woodland and 1 supported additional controls on plant movement.

6 respondents favoured Option 1. Of those 1 proposed further research on identification of effective fungicidal and biological control treatments. 1 thought that in consultation with the EU all restrictions could now be lifted subject to an education programme and grants for *R. ponticum* clearance were available.

1 favoured Option 1 for commercial businesses and historic parks and gardens and Option 2 for the wider environment.

3 found neither option satisfactory. Of these 1 felt that reduction and containment of the fungi should be achieved by the continuation of a funded programme of *R. ponticum* removal and proper treatment after felling, run parallel with the continuation of finding other ways to treat the diseases.

1 favoured the discounted third option.

Question x) - Please explain whether you think that separate policy approaches should be adopted for each disease or should the same policy be applied to both?

20 respondents addressed this question.

16 thought the same policy should be adopted for both diseases, although 2 thought *P. kernoviae* warranted special attention given its limited geographic distribution and more aggressive nature.

2 thought it was difficult to isolate an ideal answer as both approaches have elements that seem sensible.

1 believed that much of the evidence suggested that separate policy approaches should be adopted, based on the significant differences in the characteristics of the two diseases. But the clearance of *R. ponticum* required a unified approach.

1 felt that insufficient evidence was available on *P. kernoviae* to make a judgement and recommended further research be undertaken into its behaviour and appropriate control methods.

Question xi) - Should measures continue to be taken to prevent these pathogens moving on nursery stock within GB/EU?

28 respondents addressed this question.

26 thought measures continue to be taken to prevent these pathogens moving on nursery stock within GB/EU. Of those, 3 felt that additional nursery inspections of commercial nurseries were unnecessary. 2 thought it vital that all Member States operated to the same standard. 2 supported a ban on movement of material from Member States/areas where the diseases were present. 1 thought that the level of control should be dictated by the incidence and success of industry pathogen/disease monitoring in conjunction with nursery hygiene and other precautionary measures deployed on a specific production site.

1 believed that all movement restrictions could now be lifted, although greater resources were needed for the control and inspection of imported material.

1 supported Protective Area Status for the UK.

Question xii) - What additional evidence would improve the ability to make a balanced long term decision?

18 respondents addressed this question.

1 proposed a further review in two years.

3 thought that current studies should continue whilst increasing the level of activity as it may allow the programme to be scaled down at some point in the future.

1 thought that evidence that removal of hosts will lead to total eradication of the disease(s) was needed.

3 respondents believed that more support for basic research on the biology of these pathogens was needed and how to prevent further infection.

3 suggested that further work should be undertaken to locate the source of the pathogens to work out how and when they were first introduced to GB, to provide information on speed of spread and help to locate a natural biological control from the host country.

1 supported continuation of the magnolia/agrifos project and further research into any treatments to the disease.

1 thought that baseline data on prevalence of the two diseases was needed based on a systematic survey.

2 respondents proposed work to establish the effectiveness of methods of controlling diseases' e.g. proactive use of chemicals as barriers to diseases.

1 wondered whether there were any instances where *P. kernoviae* had been eradicated following an outbreak in the wider environment and what 'eradication' was considered to be in terms of levels of inoculums.

1 proposed work on longevity and infection potential of inoculum in soil and debris, and the effects of soil treatments with additives such as *Bacillus subtilis* or compost materials with high FDA activities on oospore and chlamydospore viability.

1 thought that much work was still required on the possibilities of managing and controlling disease in gardens using carefully monitored integrated strategies.

2 respondents thought that factors such as climate change, accidental or inadvertent movement of the diseases, both within and beyond national boundaries, and other unknown future developments might seriously affect the projected outcomes.

1 thought that the assumptions used in the partial impact assessment did not adequately take into account the real cost of disease management for nurseries, which would include factors such as staff time to manage diseases.

1 suggested further work was needed to develop safe composting and other disposal methods.

1 believed that decisions on future management of these diseases would benefit significantly from a feasibility of eradication study.

2 thought that further work on the inoculation of specimens may help to direct clearance in a more informed way.

2 questioned why some species which have high toxin levels seem asymptomatic for long periods of the year?

2 wondered if there was any relationship between disease spread and bird or animal migration.

2 respondents suggested research into genetic variation and distribution with detailed methodology of predicted and actual disease spread/dispersal.

2 wanted to widen the research funding base to include Government Departments/Agencies involved with conservation, habitat protection and the rural economy.

2 proposed new research into the susceptibility levels of different plant species resulting in recommendations for alternative planting after any outbreak in a garden or parkland situation.

2 queried whether inspections of plant material at source and destination dealt with asymptomatic material.

2 wondered whether nursery monitoring systems in the UK were of sufficient length to see any development of *P. ramorum* given that it has the capability of producing (long lasting) Chlamydo spores.

2 respondents suggested that the availability of PCR machines should be improved and the technology developed further.

2 thought that further work needs to be done on how major clearance would impact financially on heritage gardens.

2 suggested that more consideration should be given to how each option impacts on the EU habitat regulations.

2 thought no allowance had been made for surveying or protection of sites of Archaeological significance exposed as result of clearance work, which could also expose features that are a safety risk, e.g. mine shafts, imposing an additional financial burden on land owners.

2 respondents thought further work was needed to predict financial losses resulting from closures, increased infection levels, or robust clearance of sporulating hosts.

Other issues raised

4 respondents thought that R&D should be directed towards identifying effective fungicide and biological control treatments for both diseases.

1 suggested that rhododendron plants should be produced from cuttings instead of grafting onto a common rootstock thus eliminating the problem of rootstocks becoming diseased or overtaking the cultivar grafted onto them.

1 thought that there should be open tenders for the analysis work currently done at CSL and Forest Research to ensure best value for money and to encourage maximum participation in any grower-initiated diagnostic work. Other establishments had the required diagnostic expertise. Making free disease diagnostics available from establishments viewed generally as Government laboratories is not considered the best way to encourage grower participation in future responsibility sharing strategies. Growers should also have available to them the option of what they would perceive as free independent disease diagnostic services.

1 respondent thought it important that a mechanism for reducing adverse economic impacts to private and public gardens, landowners and the horticultural trade be made widely available

1 expected Government to share the responsibility and cost of managing the diseases by funding those measures that protect the wider environment.

List of Respondents

Two Private individuals
Bolitho Estates
British Christmas Tree Growers Association
Burncoose Nurseries
Cadw – Ancient Monument Administration, Wales
Caerhays Estate
Cardiff Council
City and County of Swansea
Confederation of Forest Industries (ConFor)
Cornwall County Council Natural Environment Service
Cornwall Phytophthora Working Group
Duchy College Micropropagation Unit
Duchy College, Rare Species Laboratory
Eden Project
Heather Trust
Heaselands and Heaselands Garden Nursery
Heligan Gardens Ltd
Historic Houses Association
Horticultural Development Company (HDC)
Horticultural Trades Association (HTA)
Joint Nature Conservation Committee
Millais Nurseries
Moorland Association
National Council for the Conservation of Plants & Gardens
National Farmers' Union
National Trust
National Trust for Scotland
National Trust Wales
Natural England
Network Rail
Plant Network
Royal Botanic Gardens, Kew
Royal Horticultural Society
Scottish Environment Protection Agency
Shelly Common Nursery
Society for General Microbiology
South West England Regional Advisory Committee for the Forestry Commission
Stockbridge Technology Centre
Trebah GardenTrust
Woodland Trust