

Committee(s)	Dated:
Epping Forest and Commons	21 November 2016
Subject: Proposed response to Sudden Oak Death “Ramorum” outbreak at The Warren Plantation, Epping Forest (SEF 51//16)	Public
Report of: Superintendent of Epping Forest	For Action
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Summary

Sudden Oak Death, *Phytophthora ramorum*, or more appropriately “Ramorum disease”, has been discovered this year at The Warren Plantation following eight years of monitoring at Epping Forest. This discovery was somewhat unexpected given that the nearest known locality was at least 50km away and the main outbreak has been in the western third of the UK. This disease is spread by several host shrubs and trees with the best known and most widespread being Rhododendron. The most prolific infective host species is larch. Both of these species are present within Epping Forest at The Warren Plantation near the M25.

The disease has been found in 3 Rhododendron shrubs at The Warren Plantation and a Statutory Plant Health Notice has been issued requiring their immediate removal and the removal of surrounding bushes. This was implemented in early November. This report sets out the future concerns about the control of the disease’s spread and the main options available to The Conservators. The option for complete removal of the two best-known, non-native infective host species, namely larch and Rhododendron, from all Forest and Buffer Land sites is recommended.

Recommendation(s)

Members are asked to:

- note the requirements of the Statutory Plant Health Notice and the subsequent management actions taken;
- approve the felling and removal of all larch plantings from the Buffer Lands Estate with The Warren Plantation trees as top priority within this Financial Year;
- approve the clearance of Rhododendron from *all* sites across the Forest as soon as practicable, with priority given to those closest to ancient Beech populations.

Main Report

Background

1. This disease was first found in England in 2002 in Cornwall. It is related to Potato Blight. *Phytophthora ramorum* is not a fungus but is in a completely separate group more closely allied to plants. However, it does spread by spores in water and damp air. It affects ornamental garden shrubs such as *Viburnum* and *Rhododendron* which can act as hosts and spread the disease. Although it affects oak species in the USA it does not affect oaks in the UK. Instead it seems to affect several other broad-leaved species and a growing list of coniferous hosts.
2. Of greatest concern for Epping Forest, it is known to cause disease and death in mature Beech trees. Beech is a terminal host for the disease which means that the species is not an infective agent in the spread of the disease. So, rather than refer to it as Sudden Oak Death, or SOD, the term "Ramorum Disease" seems to be a more appropriate name for the UK and it is the one adopted here.
3. As Epping Forest is amongst the most important sites for Beech conservation in Europe this disease poses a significant threat to the continuity of ancient tree cover and to the site's condition (see **Appendix 2**). As a consequence we have been monitoring for this disease over a long period, with a state of heightened vigilance given the recent rapid spread of other tree diseases and pests, including Ash Dieback.
4. Each year since 2009 a painstaking Forest-wide survey has been conducted by the Biodiversity Officer, monitoring for tree diseases in general and, in particular, "Ramorum Disease" or SOD. As *Rhododendron* has been identified as a key host, and is present across the Forest, this has been the focus of this monitoring work. This has involved checking the eight main localities where Rhododendrons are found; work that takes a minimum of five days each year.
5. However, the hosts with the most potential to spread the disease widely are species of larch and their hybrids. These have been identified as being key to the spread of Ramorum disease in the UK by the Forestry Commission (FC) because the organism sporulates in vast quantities from the tops of these trees from where spores can then travel many kilometres. As a result, thousands of acres of larch have been felled by the FC across Wales, northern England and Scotland during the last 8 years or so.
6. Larches are not native Epping Forest trees but they have been planted in numbers within the historic Copped Hall Estate, mainly in that part now incorporated into the Forest at The Warren Plantation. As a result, the larch plantations at this site have also been carefully scrutinised for symptoms of the disease over recent years.

Current Position

7. In September 2016 at The Warren Plantation next to the M25, the Biodiversity Officer, discovered two localities where there seemed to be recently infected *Rhododendron* bushes. This discovery is in an area of the UK of lowest concern and at least 50km from the nearest infected site and so the finding was somewhat unexpected. By early October Forestry Commission (FC) scientists had confirmed its presence in three bushes through DNA tests. However, the other seven *Rhododendron* sites that the Biodiversity Officer has checked have not shown any indications of infection.
8. The larch plantations at The Warren Plantation were also carefully checked and DNA laboratory tests were carried out by FC from samples from a felled tree. Although showing signs of having been affected by the dry summer conditions this year, the larch tests returned in early October showed no infections with Ramorum disease.
9. The FC scientists will be returning to conduct a further survey guided by CoL officers to examine other tree species in the vicinity of the larch plantations and *Rhododendrons*.
10. Following the FC site visit, the Animal & Plant Health Agency (APHA) then met City of London officers at the Forest in mid-October to agree the scope of the immediate management actions for the *Rhododendron*. APHA, this week, issued a Statutory Plant Health Notice (SPHN) requiring The Conservators to clear the infected bushes at the two localities and at least 10m around them (see **Appendix 1**). The plants were destroyed and burnt on site in the first week of November by an in-house arborist team with biosecurity training.
11. Attention will now be turned to the removal of the key susceptible plants likely to spread the disease, including larch and *Rhododendron*.

Options

12. The current SPHN must be adhered to and all staff have been briefed about the importance of the conditions particularly as further SPHNs may follow, depending on future results of the monitoring and testing work. The SPHN prohibits the removal of soil and susceptible plant materials from the site. It also makes it a statutory requirement that all and any **staff or contractors** entering the site and coming into contact with susceptible material – which includes trees and shrubs - must remove soil and plant debris from equipment and footwear and disinfect these with *Propellar* – one of only two chemicals that can kill the spores of Ramorum (standard anti-bacterial disinfectants do not kill Ramorum).
13. Beyond the SPHN the options for ensuring control of the disease's spread are limited because of the potential for a very serious impact on one of the most important Beech populations in Europe (see *Background* above). Felling and burning of infected plants or mulching and killing of susceptible plant materials on site is the safest option. Nonetheless, the SPHN does not override other designations, which at The Warren Plantation are the Grade II* Registered Park

& Garden and the Conservation Area. For these designations Historic England and Epping Forest District Council are being consulted respectively.

14. At the other seven *Rhododendron* locations, four lie within the Site of Special Scientific Interest and/or Special Area of Conservation (SAC) and Wanstead Park is another designated Grade II* Registered Park & Garden. Clearance work in the former sites requires Natural England consent for the way in which the operation is to be carried out although the removal of *Rhododendron* has been a target for restoring favourable condition at these sites for some time.
15. Given the significance of this outbreak there are four main options for your Committee to consider:
 - a. **Option 1 – reactive** - continue with annual monitoring only and carry out no further clearance work other than that indicated by future monitoring results or required and directed by future SPHNs from APHA or the FC;
 - b. **Option 2 – incremental** - begin monitoring at 6-monthly intervals (10 person days per year approx.), carry out complete clearance of larch at The Warren Plantation. Carry out phased and incremental removal of *Rhododendron* here and at the other seven locations over several years, preserving some *Rhododendron* as ornamental plantings in the Registered Park and Gardens sites, including the rarer *Rhododendron* cultivars discovered at Knighton Woods and Wanstead Park;
 - c. **Option 3 – partial removal, high priority sites only** - begin monitoring at 6-monthly intervals (10 person days per year approx.) carry out complete clearance of larch at The Warren Plantation and all other Buffer Land locations and carry out complete clearance of *Rhododendron* at The Warren Plantation followed by complete clearance from the other sites within the SAC (Oak Hill, Paul's Nursery) as soon as practicable. At other *Rhododendron* sites, namely The Warren, Knighton Woods, Highams Park and Wanstead Park remove only selected *Rhododendron ponticum* bushes whilst monitoring the remaining *Rhododendrons* and azaleas for symptoms;
 - d. **Option 4 – complete removal** - begin monitoring at 6-monthly intervals (10 person days per year approx.) carry out complete clearance of larch at The Warren Plantation and all other Buffer Land locations. Carry out complete clearance of *Rhododendron* at The Warren Plantation as soon as practicable followed by clearance from all other sites including The Warren, Knighton Woods and Wanstead Park. To preserve the small number of locally significant varieties identified at Wanstead Park, Warren House and Knighton Woods, employ a specialist to take cuttings and grow on new plants away from site.
16. **Option 1 (reactive)** is *not* recommended as this poses too great a risk to the internationally important Beech populations. Although the symptomatic plants from this year would have been removed, too little is known of the Ramorum organism to be sure how widely it is already distributed amongst non-symptomatic plants. Also, although the retention of larch would prevent the temporary visual impact of felling on The Warren Plantation, the susceptibility of this species is likely to be a constant concern and limit the use of the site,

including public access. It also seems likely that the FC would eventually serve a SPHN for its removal given the concerns that infected trees would spread spores across a wide area of neighbouring land in Essex, not just the within the Forest. Acting now would mean that the felling and removal is not likely to be a cost to The Conservators as the non-infected crop has value.

17. **Options 2 and 3** are similar and there are other variations on these too. **Option 2 (incremental)** would choose a more incremental approach ensuring that more of the *Rhododendron* clearance work could be included within the normal annual work programmes and thus the resources required may be spread over a number of years. As with Option 1 the risks are too high that the Ramorum disease could be spread to areas with the host plants in areas of ancient Beech forest. A grant may be available to cover costs of removal work and mechanical clearance seems to be a viable option which would further reduce costs of clearance. Therefore, **Option 2 (incremental)** is *not* recommended because of the importance of Epping Forest for Beech.
18. **Option 3 (partial, high priority only)** would ensure swift removal from the most obviously vulnerable sites in the north of the Forest whilst retaining some older and more ornamental *Rhododendron* plantings. A grant may be available to assist this faster clearance. Such clearance would ensure that there would be little material for Ramorum to sporulate from although the risks would remain in the central and southern locations which would require constant monitoring and vigilance and in which symptoms might be missed. Given the risks that would remain – although smaller this **Option 3** is *not* recommended. It is considered better to act now, to set an example to other local land-owners and managers and to inform the public well ahead of the clearance work. This would ensure that landscapes are adapted according to the new circumstances for a more sustainable management, without constant monitoring of a disease that continues to spread and seems able to move across larger distances than expected.
19. **Option 4 (complete removal)** – this option **is recommended** to ensure that the most important natural aspect of Beech forest is protected in the most effective way possible. It recognises that whilst there are some interesting ornamental *Rhododendron* specimens these are not in important collections or high numbers/densities and can be better preserved and managed away from the Forest at a site that can then be monitored and strictly-controlled for Ramorum disease.

Proposals

20. It is recommended that **Option 4** is adopted because of the potential threat to the continuity of ancient Beech woodland at Epping Forest, including the international obligations deriving from the SAC designation and the fact that over 80% of the UK's ancient Beech pollards are found here. For sites furthest from the The Warren Plantation outbreak there would need to be a detailed information and interpretation exercise to explain the reasons for the operations to visitors.

Implications

21. **Corporate & Strategic Implications:** the options and proposals in this report meet the *City Together* Strategy by contributing to “a world class City that promotes and enhances our environment”. In relation to the Open Spaces Department’s Business Plan Improvement Objectives this report fulfills the objective to “promote sustainability, biodiversity and heritage”
22. **Health Implications:** there is no public health risk from Ramorum disease.
23. **Financial Implications:** the destruction of the small areas of *Rhododendron* required by the SPHN took in-house staff three days to complete and was carried out as a part of the reactive operational tasks within the normal scope of the local risk budget.
24. The proposed larch felling and removal in The Warren Plantation is to be tendered to a contractor and as the larch is not currently infected it is likely that this will either be sold or removed at no cost. This tendering exercise will be carried out once the results of the further FC testing of other tree species nearby are concluded.
25. More extensive *Rhododendron* clearances at The Warren Plantation and other sites are likely to be carried out by a combination of mechanical and hand clearance work and there will be significant costs associated with these operations. CoL officers, working with advice from FC, APHA and Natural England, are currently looking into grant support from capital grants specifically targeted at *Rhododendron* clearance under the Countryside Stewardship Scheme.
26. **Legal Implications:** the requirements of the current Statutory Plant Health Notice (SPHN) and any subsequent SPHN as served under the Plant Health (Order) England 2015 must be adhered to in all operations by staff and contractors. In addition, any clearance and tree work must receive the required consents and permissions under the other relevant legislation protecting the Special Area of Conservation, Site of Special Scientific Interest, Registered Parks and Gardens and Conservation Areas.

Conclusion

27. Ramorum disease has the potential to become endemic in the Forest and, thereby, to threaten the health and longevity of the ancient Beech populations for which the site is renowned and protected by the international conservation designation of Special Area of Conservation. As a result, this report recommends that felling and clearance operations begin as soon as practicable so as to remove susceptible and potentially infective host plants. The work would initially concentrate on the outbreak site and other localities closest to ancient Beech before being carried over and completed at more distant localities in the Forest.

Appendices

- Appendix 1 – Statutory Plant Health Notice issued to The Conservators by APHA on 28th October 2016
- Appendix 2 – Improvement Programme for England's *Natura* 2000 Sites (IPENS) - Epping Forest SAC Site Improvement Plan

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