



P ramorum, NRW Synopsis to 19th June 2013

Purpose

This paper summarises the history of the *P ramorum* infection in larch in Wales and the current NRW position. It describes:

- The short history of the infection.
- Governance and Regulation of *P ramorum*.
- Compliance
- The management of *P ramorum* on Welsh Government's Woodland Estate.
- The impact of *P ramorum* on privately owned woodlands in Wales.
- NRW Conclusions and next steps
- Communications

Short history of the infection.

Phytophthora ramorum (*P ramorum*), is a fungus-like organism which was first confirmed in Great Britain in 2002 in rhododendrons in the wider environment. It is known to affect other species such as bilberry and there were concerns that it would move into oak trees. However, larch has proved to be a much more susceptible host. It was found to be affecting larch trees in 2009 in Devon and Cornwall and then in Wales in June 2010 on the Welsh Government's Woodland Estate, (WGWE) in the Afan valley in South Wales.

Table 1: Rate of spread of ramorum disease in Wales as at 12th June

Year	Areas of new infection (ha)	Cumulative area (ha)
2010	876ha	876ha
2011	545ha	1,421ha
2012	1,280ha	2,701ha
2013a	264ha to end April	2,965ha
2013b	2,300ha to 12 th June	* 5,265ha

FCW responded to the 2010 infections quickly by undertaking extensive felling in the South Wales valleys. The reduced rate of infection in 2011 appeared to indicate that this response was effective. However, contrary to what early models had predicted, there was a sharp increase in the rate of new infections in 2012 and new infections were identified throughout the year.

The 2013 aerial survey began in the middle of May as soon as the larch trees came into needle. The surveys identified a huge increase in the extent of the infection. The infection has spread beyond the original outbreak in the South Wales valleys, and new

infections have been identified in West, Mid and North Wales, particularly on sites where rhododendron also grows. The rate of disease progression has also increased dramatically, with areas thought to be uninfected in 2012, showing heavy infection, including some dead trees by May 2013.

Surveys in England, Scotland and Northern Ireland have also shown a rapid spread of the disease, with a particularly dramatic increase in South West Scotland where a more virulent form of the P ramorum (EU 2) is present.

There are approximately 22,400ha of larch in Wales of which some 12,000ha are on the Welsh Government's Woodland Estate, (WGWE.) Most of the infected areas are on the WGWE with only around 500ha of private woodlands infected to date.

Because P ramorum is a recent pathogen in larch, it is not well understood. However, it is known to spread via spores emitted from the needles of infected trees and the main sporulation period is in the Autumn from late September. It was thought that most spores would not travel more than a few hundred metres but it now seems that in wet and windy conditions, they may be dispersed for many miles. However, it is by no means certain that all the new infections in Wales are derived directly from the original infected areas in the South Wales valleys. New infections in areas of Pembrokeshire and Snowdonia may be associated with rhododendrons and the disease is now becoming endemic on the western margin of the British Isles.

Governance and Regulation of P ramorum.

P ramorum is subject to EU Plant Health regulations under which member states are obliged to take appropriate measures to "at least contain" the harmful organism. It is down to member states to determine if and at what scale the disease will be contained within the member state.

There are specific UK Plant Health orders covering P ramorum which provide the powers to implement the controls, in particular Statutory Plant Health Notices, (SPHNs.)

The governance of Plant Health and Tree Health within the UK is a bit complicated. Responsibilities for Tree Health within the UK have been in transition. Prior to NRW, responsibility for Tree Health lay with the GB former Forestry Commissioners but these were transferred to the Welsh Ministers as part of the preparations for the creation of NRW. However the Welsh Government is not working in isolation and has drafted an MOU with the FC and is identifying certain elements of work, (such as import inspections,) that would be better delegated back to a GB level, through a section 83 Agreement. Meanwhile the implementation of other aspects of the Welsh Government's Plant Health policy, (including the regulation of P ramorum in larch) are being delegated to NRW through a separate Section 83 agreement.

In the meantime countries have worked together in order to apply the controls effectively. A P. Ramorum Outbreak Management Team, (OMT) was formed to develop an overall UK strategy. For P ramorum OMTs have been set up for other pathogens, such as Chalara disease in Ash. The OMT is a non-statutory group that pools advice, knowledge and research resources to deal with this UK wide pathogens.

The OMT developed and own the Outbreak Management Strategy which provides the basis for the regulatory approaches for dealing with P ramorum in each country.

Following the rapid spread of the infection in 2012, a (Wales) Disease Management Plan was developed for to take account of the way the infection was spreading in Wales. This was endorsed by the OMT in December 2012 and then in January 2013 by the Wales Phytophthora Outbreak Response Team (PORT) at which the Welsh Government and other stakeholders in Wales are represented. The key change in the plan was to target resources and reduce the environmental impact of disease control by allowing selective felling of trees in areas of light infection – rather than clear-felling the whole area. This approach effectively recognised that the infection could no longer be fully contained but sought to reduce the environmental impacts and costs of dealing with the infection by slowing down the rate of infection and extending the felling and replanting over a longer period

Unfortunately, the further spread of P ramorum in 2013 has overtaken the Wales Disease Management Plan, as many of the previously lightly infected areas are now too heavily infected to undertake selective felling and many of the new areas of infection have not followed the previous pattern of gradual infection and are also already too heavily infected to treat selectively.

The Wales Disease Management Plan was reviewed in the light of the increased rate of spread and a change was put forward to the OMT on the 16th June. The key change proposed was the inclusion of an additional containment measure that avoids the immediate impact of clearfelling and this is killing the infected trees by injection of herbicide into the stem. Stem injection is a technique that is used in certain situations in forestry and the methodology is covered by published, research-based guidance. However, it is not a technique that has been widely used for disease control and there is considerable doubt about whether it would kill the tree in time to prevent the autumnal sporulation period - and indeed whether the trees might even generate more spores before dying.

While the OMT were very keen to see stem injection tested, they adopted a neutral stance over whether this would be an effective alternative to felling. In the absence of previous trials of stem injection in infected larch trees, the research advice is that treatment would need to take place by the middle of July in order to have a reasonable chance of preventing the autumnal sporulation period. However, it is very uncertain and it is possible that in some situations, the trees may take many months to die.

The transport and processing of infected timber is also subject to regulatory controls to minimise the risk of spreading the disease. A number of timber processors in Wales are licensed to process infected material and timber hauliers have to secure licences to enable them to transport infected material. The regulatory controls and bio-security measures add costs to the processing of larch which significantly reduces the price paid for the timber.

Compliance with Statutory Plan Health Notices

Despite the targeting of operational resources at P ramorum fellings, and the felling of over 1000ha of infected crops in the WGWE, the degree of non compliance with SPHNs has increased as the infection in P ramorum has accelerated in 2012 and 2013. The areas in table 2 shows that not only is there a significant area of unfelled areas carried forward but this is now dwarfed by the new areas of infection and which under the existing Disease Management Plan would require felling by the end of August.

Table 2: Treatment required to ensure compliance with SPHNs by 31 August 2013

	Carried forward	Estimated New areas	
WG's woodland estate (WGWE)	1,323ha	2,329ha	3,652ha
Private sector (PS) woodlands	341ha	150ha	591ha
Totals	1,664ha	2,479ha	4,243ha

Impact of P ramorum on Welsh Government's Woodland Estate, WGWE

FCW responded to the 2010 infections quickly by undertaking extensive felling in the South Wales valleys. Because the timber markets could not absorb large quantities of infected larch, many areas were felled to stump in order to comply with the deadlines in Statutory Plant Health Notices.

The reduced rate of infection in 2011 appeared to indicate that this response was effective and that FCW would be able to manage the infection by substitution of volume within the timber production programme from the WGWE (and without increasing the larch element above 100,000 cubic metres of larch / year – which was considered manageable in terms of the timber supply chain in Wales.)

However, once the scale of the increased infection in 2012 was considered, it became clear that FCW would need to increase the size of the larch programme in order to address P ramorum effectively.

Based on research advice that P ramorum was likely to affect all larch in Wales within 10 years, FCW developed an outline programme to reduce the larch on the WGWE to a low level over a period of 10 years. Given that prior to P ramorum, the production forecast indicated that there were some 2.5million cubic metres of larch timber on the WGWE, this equated to increasing the programme to around 220,000cubic metres / year by 2014/15. This planned approach would enable more effective resource planning. About half of this programme would be substituted for spruce in the harvesting programme, while the other half would be additional volume and would take the harvesting programme up from just below 800,000cubic metres in 2010/11 to 895,000cubic metres by 2014/15.

The capacity does not currently exist in the timber processing sector in Wales to harvest the additional volume from steep ground and to process the additional timber into higher value products. In order to secure this capacity, it was concluded that FCW / NRW

would need to offer Long Term Contracts to secure the necessary commitment and investment. LTCs are part of the Timber Marketing Strategy for the WGWE and have been used successfully in securing investment. In October 2012, the views of the processing sector were sought about the additional volumes and the use of LTCs for larch. The feed-back has helped to shape the approach being used for the LTCs and bids have been received and are currently being evaluated. Given the high proportion of steep ground and condition of the felled timber, many of the areas will incur a net cost to clear as well as the subsequent cost of re-planting.

While the resource building has been taking place, the Forest Operations units have also continued to implement the existing programme of operations. To date well over a 1000 ha of infected larch areas have been felled. The majority of these have now been cleared and some 350,000 cubic metres of infected timber has been harvested from the WGWE and supplied to timber processors. Replanting began on the first felled areas last winter and more land is being prepared for planting this next winter.

However, the rapid increase in the rate of infections in 2013, takes the volume of infected timber way beyond what can be delivered through the proposed programme of 220,000 cubic metres / year. A wider set of options would need to be looked at.

NRW is also mindful that the felling of infected areas can result in significant local environmental and social impacts, especially in places where large areas of larch are near to communities and where trees have been felled but left on the ground for subsequent extraction and marketing.

The impact of P ramorum on privately owned woodlands in Wales.

Of the estimated 10,000ha of privately owned larch woodland in Wales, only around 500ha has been identified as being infected to date. However, this is increasing as the infection becomes more widespread. Private woodland owners and managers are very concerned about the potential impact on their woodlands. NRW officials have met with private sector representatives who challenged NRW's compliance with SPHN's on the public forest estate as well as the effectiveness of NRW's regulation. They also felt that the private sector were especially disadvantaged in responding to P ramorum and made 3 specific requests, see table below

Table 3 Requests from representatives of private woodland owners

Request	Comment
1. Speeding up the processing of felling licenses for larch. The normal processing times are restricting marketing opportunities	A letter was recently sent to the Minister on this subject. The request is valid and there is scope to implement this without cost.
2. Better access to replanting grants through Glas Tir. The current approach is much less supportive than the arrangements introduced	Discussions are taking place with Welsh Government policy officers and Glas Tir scheme managers to explore the potential for

under the RDP in England	this.
3. Removal of bio-security restrictions on timber (and in particular bark)	This causes significant income loss to private woodland owners (and NRW) with minimal gain in terms of disease control. However, there may be resistance from the horticultural sector for lifting current biosecurity controls. Further Research is being directed at this issue. (Action for WG Policy Official.)

The first and final requests are being followed up by NRW officials. The second will require the support of Glas Tir scheme managers to interpret the RDP regulations in relation to Plant Health.

NRW Conclusions and next steps

The NRW Executive team met on the 16th June to consider how to proceed in the light of a briefing paper setting out some options and the feed-back from the OMT. The conclusion reached was that the acceleration in the spread of P ramorum in Wales now takes it beyond a scale at which a policy of containment could be successfully implemented in Wales. The environmental impact of felling all the infected areas on the WGWE would be very significant and could not be achieved in any case in the timescales required. There is too much uncertainty about the efficacy of using stem injection as the main method of containment to implement a large scale programme of work.

The following steps were agreed as a way forward:

- To allocate up to £0.5m to carrying out a limited programme of containment to mitigate the rate of spread on the outermost leading edge of the infection. This funding would include a research trial to be set up quickly but in co-operation with Forest Research into the efficacy of stem injection.
- A further allocation of up to £1.7m would be made to address the consequences of P ramorum. This would largely be used to clear previously felled areas, build civil engineering facilities for clearance of new areas and undertake replanting of previously cleared areas. The allocation will enable Forest Operations to progress towards the award of Long Term Contracts.
- WG officials and the Minister will be briefed about the conclusions reached by NRW and the resource impacts of dealing with P ramorum this year. The briefing should also include the requests from the private sector, in particular the request relating to Felling Licences and the recommendation to suspend the public consultation period for larch felling licence applications.
- NRW to communicate with other countries, either through the OMT or some other forum, to convey the view that the strategy of containment is no longer deliverable in Wales and seek ways for the removal (or lessening of) bio-security restrictions on infected timber.

Communication

In addition to the briefings described above there are some other urgent actions..

The P ramorum communications plan needs to be revised in line with the new proposed approach and Lines to Take need to anticipate a hostile response from some stakeholders. It will be important to make an early statement with some clear messages about the reasons for changing the approach.

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