

Update on *P. ramorum* in Wales – February 2021

Hello from Wales. Just as a bit of background, Wales is a country, part of the United Kingdom. We are bordered by England to the east, the Irish Sea to the north and west, and the Bristol Channel to the south. We have a population of just over 3 million and a total area of 8,023 sq. mi. Wales has over 1,680 miles (2,700 km) of coastline, and we are largely mountainous with higher peaks in the north and central areas, including Snowdon (Yr Wyddfa), the highest summit in England and Wales (1085 m, 3559 ft. in height). Wales has 15% woodland cover, and a largely rural economy with the forestry sector contributing over £500 million (\$684 million) to the economy, directly employing between 8,000-11,000 people.

We have a devolved administration from the UK Government, with the Welsh Parliament having responsibility over agriculture, health, local government, transport amongst others. We have a distinctive Welsh language and Celtic culture.

Natural Resources Wales (NRW) manages land owned by the Welsh Government and also has responsibility for the monitoring and management of pests and pathogens affecting trees on private lands and the Welsh Government Woodland Estate. We work closely with the Forestry Commission in England and our devolved colleagues in Scotland as well as Forest Research, which is a Great Britain-wide agency undertaking research and advice with tree issues.

P. ramorum infection in larch was first picked up in Wales in 2010. Larch is one of a number of important forestry tree species that is planted throughout Wales. Sitka spruce, Douglas-fir, Norway spruce and pines (Scots, Corsican and lodgepole) make up the bulk of the other conifer species that are widely planted.

In terms of *P. ramorum* management, Wales is split into three zones: The Core Disease Zone 1 is an area of high infection and also large distribution of larch. The sheer number of infections and area since 2010 meant that felling could not keep up with the spread of infection, and so infected larch within this area does not have to be felled within a specific timeframe. The Core Disease Zone 2 is another area of increased spread over the last couple of years, and if infected larch trees are found in this zone, then the landowner has 3 years to fell the trees. The Disease Limitation Zone is designed to limit the spread of the disease further, and it borders England (Fig.1). Landowners typically have up to 6 months to fell infected trees in this zone. Infected trees and material need a licence in all of these areas if they are to be transported, and they can only be processed at a licensed sawmill, manufacturing plant, biomass site, etc.

During 2019/20, NRW carried out its annual aerial surveys program, primarily focused on *P. ramorum* affecting larch. These helicopter flights were delayed due to the ongoing Covid-19 pandemic, and the number of flights were reduced from the normal schedule. Four flights had good coverage of the Core Disease Zone 2 and the Disease Limitation Zone. The management of these flights is run in association with the Forestry Commission England Tree Health Team, as it ensures continuity of work and we use the added value and expert knowledge of these very experienced colleagues.

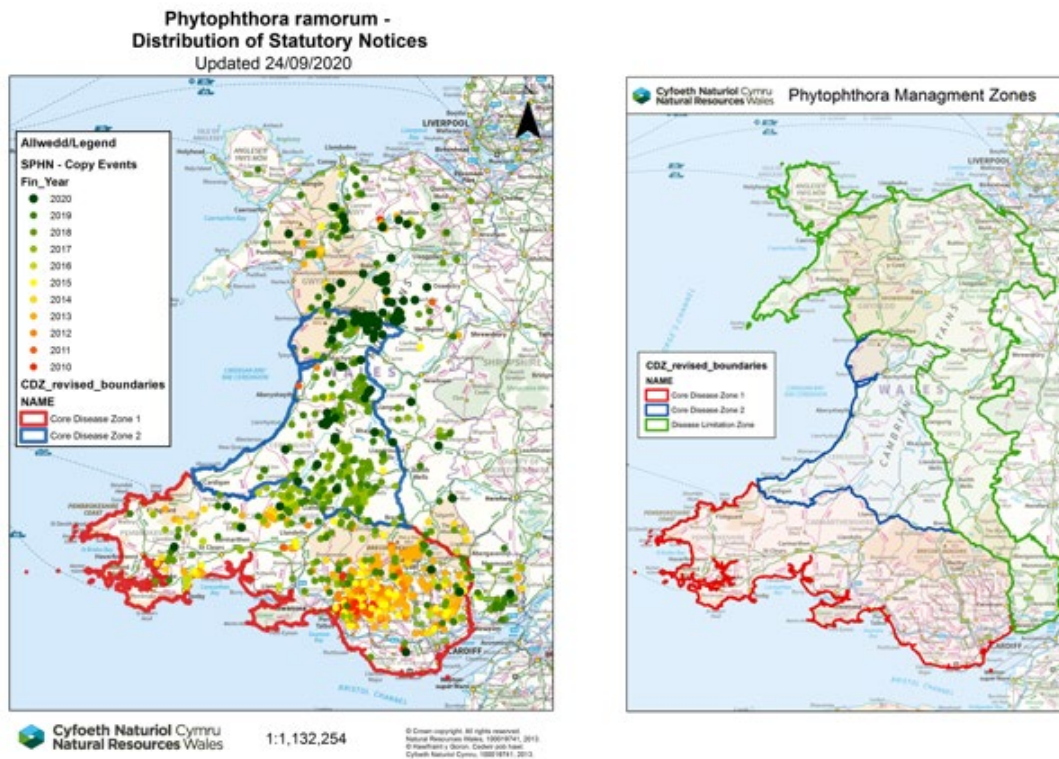


Figure 1. Left. Distribution of statutory notices in Wales. Right. Welsh Phytophthora management zones

In 2020 a highly significant increase of infection was detected in the Disease Limitation Zone across mid and north Wales. The infestations are notable in the number, area affected, and intensity of symptoms/dieback caused, with sub-compartments with up to 50 to 80% dieback observed. The location and intensity of some of these new sites in the Disease Limitation Zone is concerning, with the overall area affected for the year so far totalling 1,463 ha (3615 ac), compared to 804 ha (1986 ac) last year.

There have been other notable areas of new infection at locations in mid-north Wales such as Coed-Y-Brenin and Bala, where symptom intensity has been significantly lower than the 50-80% dieback rate, and more in line with typical infections but with a large volume of affected woodland in a previously uninfested area.

A dry September 2019 was followed by a spell of unsettled wet weather across England and Wales during late September which led to Storm Lorenzo that brought significant rainfall and flooding in early October. There was further persistent wet weather at the end of October. The winter was relatively warm but with various storm events and heavy rain being a common factor through to March. This weather pattern may have contributed to this increase in infections and distribution of infection farther north and east in Wales.

As of January 2020, 458 individual sites have been visited this year related to *P. ramorum*. In total, 4,052 sites have been investigated across Wales since 2010 with 14,404 ha (35,593 ac) affected by *P. ramorum*. There is an estimated 6,289 ha (15,540 ac) of uninfested larch across Wales.

A point to note is that timber affected by *P. ramorum* can still be felled, transported and processed at sawmills, manufacturing plants and biomass plants, under a Forestry Commission license which requires strict biosecurity and traceability. The price of infected timber is buoyant and is the same as non-infected

timber, due to current demand and also because the processors are experienced in handling the material and have processes and protocols in place.

We are hoping that the 2021 survey year will have a lower rate of infection and spread, but there was another wet October in 2020, which may facilitate further pathogen spread.

If you would like any further information, please do not hesitate to contact us, Diolch! (Thanks in Welsh!) Joe McMinn, Senior Advisor, Tree Health (NRW) (Fig. 2) and Sam Milner, Tree Health Officer (NRW), Joe.mcminn@naturalresourceswales.gov.uk sam.milner@naturalresourceswales.gov.uk.



Figure 2. Joe McMinn, NRW.

Photos courtesy Joe McMinn and Sam Milner, NRW.