

Joint Links response to the consultation on the proposed application for a temporary derogation to use a 'highly hazardous' pesticide by SGS Qualifor, Soil Association Woodmark and Control Union

1. Executive Summary

- i) The Joint Links oppose any application for a further derogation to allow the continuing use of cypermethrin and alpha-cypermethrin to control *Hylobius* spp. in UK forestry and believes that cypermethrin use in UKWAS / FSC certified woodlands should cease on 14th June 2014 when the current derogation expires.
- ii) To be granted an extension to the derogation for the continued use of cypermethrin and alpha-cypermethrin in forestry, the FSC requires that the applicants must show that these are exceptional circumstances and there is no evidence of negative impacts over the last five years. The Joint Links firmly believe that the application fails both tests.
- iii) There is more than sufficient evidence to suggest that the FSC's second test – that there be no damage – has not been met and a derogation cannot therefore be granted (see further detail below). To that extent, no further consideration is required and the application for an extension to the derogation must be rejected. Indeed both the Habitats Directive and Water Framework Directive may require a cessation of the use of cypermethrin in forestry, quite irrespective of this derogation application.
- iv) The deployment of the full range of alternative techniques and strategies - at a site-specific level - would reduce the *Hylobius* threat, possibly to a very dramatic degree, and likely to a level at which the economic cost was easily bearable, but this is only likely to occur in practice if the cypermethrin tool is first removed from the tool box to provide the incentive for alternatives to be used more extensively. The Joint Links are far from convinced that the forestry industry is taking a sufficiently proactive approach to eliminating the need for use of cypermethrin and has thus fallen very far short of demonstrating the 'exceptional circumstances' that the FSC requires before it can extend the derogation.
- v) Overall, the Joint Links question whether the 'doomsday' predictions of serious financial losses in commercial forestry if forestry is transferred to mixed species – and even the failure of restoration of Ancient Woodland sites – ring true. The applicants claim that "the use of alpha cypermethrin and cypermethrin is, in some cases, currently the only economically, environmentally, socially and technically feasible way of preventing this damage", yet the research presented by them and in earlier forestry research suggests strongly that the use of a combination of novel and alternative techniques - in the event that no derogation was granted - would not result in the financial losses predicted.
- vi) There appears to the Joint Links to be an entrenched unwillingness to end cypermethrin use, but a refusal of the current application for derogation - or better still, a proactive decision by forestry interests not to apply – would enable the required culture change to begin. Implementation of the full range of available alternatives and adaptation of silvicultural practice, on a site-specific basis, including alternative use of sites where control proves impossible without cypermethrin, will reduce the projected economic losses in UK forestry to a level below which a derogation is necessary.

2. Introduction

Wildlife and Countryside Link, Wales Environment Link and Northern Ireland Environment Link are each a coalition of environmental voluntary organisations, united by a common interest in the conservation and enjoyment of wildlife, the countryside and the marine environment.

This response is supported by the following seven organisations:

- Afonydd Cymru
- Angling Trust
- Buglife – The Invertebrate Conservation Trust
- Salmon & Trout Association
- Wildfowl & Wetlands Trust
- Wildlife Trusts Wales
- Wye & Usk Foundation

Various UK forestry interests are likely to apply jointly for a derogation from the FSC under the UKWAS in order to permit the continued use of Alpha-cypermethrin (Alpha C 6ED) and cypermethrin (Forester) for the control of pine weevils (*Hylobius* spp.). The current derogation expires on 15th June 2014. The UK Woodland Assurance Standard Support Unit held a stakeholder workshop and launched a consultation on this derogation application in London on 13th November 2013.

The Joint Links oppose any such application for a further derogation to allow the continuing use of cypermethrin and alpha-cypermethrin to control *Hylobius* spp. in UK forestry and believes that cypermethrin use in UKWAS / FSC certified woodlands should cease on 14th June 2014 when the current derogation expires.

3. The existing derogation

It is important to note that this is an application for an extension of an existing derogation from June 2009.

Inter alia, the existing derogation required certificate holders to:

- submit yearly progress reports and adopt integrated weevil management;
- limit the use of cypermethrin by using this **only as a last resort**;
- periodically monitoring the population densities of pine weevil in managed areas;
- use parasitic nematode control as the method of choice in cases of epidemic outbreaks;
- only where biological control is not viable, to apply insecticides preferentially prior to planting by treating tree seedlings in nurseries;
- take the greatest care that the handling and application of cypermethrin and alpha cypermethrin does not endanger human health on non-target species (pollinators, natural enemies, birds, mammals, fish and amphibians) and take the necessary measures to reduce the risks as required by Government guidelines; and
- strictly follow all statutory requirements in the UK for the use of pesticides.

Further, the certificate holders were recommended to give highest priority to preventative silvicultural methods, especially reduced harvest intensity (e.g. sequential harvesting in unevenly aged stands), adopt the methods of integrated pest management, including reduced harvest intensity, planting seedlings either long before or several years after harvesting, and planting larger, more robust seedlings. They were required to consult with neighbours who are potentially affected in areas where use of cypermethrin was intended, including organisations engaged in conservation.

Finally, certificate holders were required to produce yearly progress reports.

4. The application for an extension of the existing derogation

In cases of an extension to existing derogations, the FSC requirements are strict and, if not met, there can be no derogation granted:

“Derogations **shall normally only be issued for a five-year period** and the FSC Pesticides Committee will **not normally issue an extension**. Extension of a derogation at the end of this five-year period will not be granted **unless there are exceptional circumstances** and it can be clearly demonstrated that the program to identify alternatives was fully implemented but has failed to identify an acceptable alternative in the available time...”¹

Further the FCS states that:

“The approval of an extension shall be based on the provided evidence that:

- a) specified controls were fully implemented **and there is no evidence that negative impacts occurred during the previous derogation period as a result of the use of the ‘highly hazardous’ pesticide**; and b) during the derogation period alternatives to the use of a ‘highly hazardous’ pesticide have been identified and are under development (as indicated by field trials) or that the program to identify alternatives has been fully implemented but has failed to identify a viable option in the available time.”²

In short, to be granted this extension for the continued use of cypermethrin and alpha-cypermethrin in forestry, the applicants must show that:

- these are exceptional circumstances; and
- there is no evidence of negative impacts over the last five years.

The Joint Links firmly believe that the application fails both tests.

Further, for a proper consultation to be possible before any application is made, the yearly reports required under the existing derogation should be provided to all stakeholders, with sufficient period within which to provide comment, together with details of the amounts / volume used on clear-fell sites with evidence of how this constituted, in each case, a ‘last resort’ use.

5. Evidence of the impact of cypermethrin use in forestry

In 2011, Forestry Research, the research arm of the Forestry Commission, acknowledged that: “Concern has been raised about the potential for pollution resulting from top-up applications of cypermethrin to control pine weevil damage on re-stock sites. Studies in Germany have shown that run-offs from cypermethrin use in forestry to have caused a number of pollution incidents (Zwick, 1992). This issue was evaluated in an intensive and extensive study of cypermethrin use in Wales in 2009, which found that the **pesticide was present at potentially damaging concentrations in minor watercourses at some sites** (Environment Agency 2010).”³

¹ FSC (2009) FSC Procedure – Processing Pesticide Derogation Applications, V2-2, paragraph 7.1.

² FSC (2009) FSC Procedure – Processing Pesticide Derogation Applications, V2-2, paragraph 7.3.

³ Nisbet T, Silgram M, Shah N, Morrow K, and Broadmeadow, S (2011) Woodland for Water: Woodland measures for meeting Water Framework Directive objectives. Forest Research Monograph, 4, Forest Research, Surrey, 156pp.

Indeed, there have been two significant Environment Agency Wales (EAW) reports in the last three years on this issue, one from 2010⁴ - in which four of the five author bodies are applicants for the derogation under consideration - and the second, from 2013, covering the period 2011-2012.⁵ These reports show evidence of damage having been caused during the term of the existing derogation.

The design of the monitoring programme reported in the 2010 report is questionable, with many days being allowed to lapse between the use of cypermethrin on the sample sites and the actual monitoring (ranging between 8 days and 32 days). Previous research has noted that the risk of run-off into adjacent stream was greatest in the first three days after spraying and so the 2010 report will have missed the period in which there was the most threat. Nevertheless, recommendations were made by the 2010 report to increase buffer areas, reduced use near drainage channels and identify high risk sites etc. The practical reality is, of course, that a great deal of the UK's coniferous plantations – on steep slopes, in areas of high rainfall, with many forestry-constructed drainage ditches - could qualify as high risk. As the draft application points out, sites with steeper slopes are relatively common in upland forestry situations where run-off of sprayed cypermethrin is likely to occur.

The 2013 report highlights a serious incident on the Afon Irfon, a tributary of the River Wye. The Irfon is part of the Wye Special Area of Conservation (SAC) under the EU habitats Directive, and is designated for white-clawed crayfish, which are highly sensitive to cypermethrin. In very low concentrations, cypermethrin is lethal to white clawed crayfish. Cypermethrin also acts adversely on salmon and bullhead – also designated species on the Wye SAC - by both diminishing invertebrate food supply and also as an endocrine disruptor. Salmon spawning and migration is affected by as little as one part of synthetic pyrethroid per trillion.⁶

Although the 2013 report concluded that at “all of the sites subject to monitoring in 2011 and 2012, no evidence to indicate an impact from forestry use of cypermethrin was detected”, it must always be remembered that absence of evidence is not the same as evidence of absence. The fact that no impact was determined on the invertebrate fauna may partly be due to its poor quality, due probably to a combination of existing acidification, forestry and pesticide impacts. The appendices to the report indicate low Biological Monitoring Working Party scores.

The report nevertheless concludes that the chemical results on the Irfon were in keeping with an acute cypermethrin pollution event:

“It is clear however that during the 2012 monitoring period there was a release of cypermethrin into the Afon Irfon or its tributaries. The source of that was between the Irfon 3 and Irfon 4 monitoring points. Whilst other sources, for example off label use for sheep dip, cannot be ruled out, the only known use of the type of cypermethrin detected was in the Nant Shingi 8c and 8e plot near Abergwesyn. This plot drains to the Nant Rhyd Goch, approximately 2.5km upstream of the monitoring point on the Afon Irfon. No data is available for the Nant Rhyd Goch itself. Cypermethrin was detected at three consecutive monitoring points on the Afon Irfon over a length of 12 km. The type of cypermethrin detected was confirmed by analysis to match that used in a forestry application.

Although the time weighted average result indicates compliance with EQS, it is not possible to infer from the data over how long a period the discharge occurred. The SPMDs were

⁴ Environment Agency, Forestry Commission Wales, Forest Research, UPM Tilhill, University of Plymouth (2010) Cypermethrin use in forestry and its impact on Welsh streams – A&R/W/SW/10/01.

⁵ Environment Agency Wales (2013) Monitoring of cypermethrin use in Welsh forests 2011 to 2012.

⁶ www.wyeuskfoundation.org/isac/issues-threats.php.

placed in the river on 30 July 2012 and removed on 10 September 2012. The discharge could have been a single acute event, such as a spillage, or an indication of a chronic discharge such as run-off from the spraying site. The detection at similar levels over 12km downstream, with the dilution and degradation that will inevitably have taken place may indicate that an acute discharge, with a higher concentration over a shorter timescale, is the more likely scenario.”

While there is no conclusive data in these reports as to the detailed impact on species assemblages, ecotoxicological data available on cypermethrin would strongly suggest an impact would have occurred. Further, it is worth noting that the Lrfon incident was ‘picked up’ as a result of the limited monitoring programme carried out for the report.

Reference is also made to the pollution event at Llanddewi Brefi in 2007, during which a biological survey of the Afon Brefi revealed several key invertebrates which should have been present were absent, and dead specimens of sensitive species were found close to the suspected forestry source – a small tributary draining a recently cypermethrin-sprayed coniferous plantation.

The question must therefore be asked as to how many Lrfon and Brevi-like incidents have been missed across UK forestry due to lack of monitoring. It would be unrealistic to assume that there were no other such incidents, and therefore the Joint Links believe the FSC must work on the assumption that other such incidents have gone unnoticed. As the 2010 EAW report stated, “*research on the effects of cypermethrin on the ecology of watercourses is limited considering its widespread usage*”.

There are, of course, a number of SACs in the UK designated for sensitive European Protected species, such as native white-clawed crayfish, which will drain forestry land⁷, and not just the River Wye SAC. The Habitats Directive requires that it needs to be beyond reasonable scientific doubt that any plan or project (including the use of cypermethrin in forestry) will not cause damage to the integrity of an SAC. Given the extreme toxicity of cypermethrin to designated species such as white-clawed crayfish, a species that is rapid decline and whose populations can easily be destroyed by chemical pollution, for example on the River Wye SAC, it is unlikely that such a conclusion could be reached for those catchments.

In relation to SACs, such as the River Wye and tributaries, given the paucity of monitoring data, the only safe conclusion is that it cannot be considered to be beyond reasonable scientific doubt that the integrity of the SAC, and the species for which the SAC is designated, are not affected by cypermethrin use in forestry. This is the legal test required by Article 6 of the Habitats Directive for compliance.

As such, any decision made by a public authority to continue now to use cypermethrin in public forestry draining into aquatic SACs – **or merely to apply for a derogation that would permit that continued use** – would call into doubt compliance with the Habitats Directive, could then be subject to legal challenge.

The Water Framework Directive is also highly relevant to any application for a further derogation. In summary, the Directive requires member states to achieve good ecological status for its water bodies and specifically, Article 4 requires Member States to implement the necessary measures “*with the aim of progressively reducing pollution from priority substances and ceasing or phasing out emissions, discharges and losses of priority hazardous substances*”.

⁷ E.g. JNCC River Wye/ Afon Gwy – www.jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUcode=UK0012642.

Cypermethrin is a priority substance under the Water Framework Directive or, more strictly speaking, the Priority Substances ‘daughter’ Directive that sits under the Water Framework Directive.

With, for example, over 65% of Welsh rivers below ‘good ecological status’ as required by the Water Framework Directive, with the cause for failure often unknown, even in remote areas, suspicion must fall on diffuse pesticide sources, such as the use of cypermethrin in forestry. Continued use of cypermethrin in UK forestry will call into question overall compliance with the Water Framework Directive.

In the Joint Link’s view, there is more than sufficient evidence to suggest that the FSC’s second test – that there be **no** damage – cannot be passed and a derogation cannot therefore be granted. To that extent, no further consideration is required and the application for an extension to the derogation must be rejected. Indeed both the Habitats Directive and Water Framework Directive may require a cessation of the use of cypermethrin in forestry, quite irrespective of this derogation application.

6. Are there ‘exceptional circumstances’ in UK forestry?

Further, the Joint Links believe that the stated reasons for seeking the continued use of cypermethrin and alpha-cypermethrin in UK forestry fail to meet the test of ‘exceptional circumstances’.

Much is made in the applicants’ case of the use of buffer strips and compliance with the Forest and Water Guidelines as a means for controlling the impact of cypermethrin used in forestry. However, there is plenty of evidence collected by Rivers Trusts as to how the current Forest and Water Guidelines are often ignored in practice. This has been raised with Natural Resources Wales, which is reported as being broadly in agreement with Rivers Trusts, on the lack of compliance with the guidelines ‘in the field’. The evidence is quite clear that contractors in the forestry industry appear sometimes to operate outside guidelines or outside the control of managers. For example, on two occasions in 2013, forestry contractors have re-drained forestry areas that were, by contract, set aside for the recreation of wetland in forested areas in the European-funded ISAC project run by the Wye and Usk Foundation to ameliorate the effects of forestry and acidification on the Afon Irfon.

A request for information on the licensing of cypermethrin based products for use in forestry in the UK made to the Chemical Regulations Directorate of the Health and Safety Executive has provided information to suggest that for surface waters, “a minimum buffer zone of 25 metres is required when using Forester,”⁸ and that, “in the interest of safety of the aquatic environment, it is recommended that professionals applying the formulation Forester should observe a safe spraying distance of between 20 and 25 metres (depending on site sensitivities) away from rivers, streams and other watercourses containing fish, algae and /or aquatic invertebrates”.

However, the draft derogation application appears to refer to environmental controls, voluntary additional controls and guidance relating to the use of pesticides near water, involving *only* 10-metre buffer zones near permanent watercourses and *up to* 20-metre buffer zones near lakes, reservoirs, large ponds and wetlands.

In many forested areas, it is likely that the area covered by a 25 metre buffer zone around all surface water (permanent or ephemeral) would amount to a significant proportion of the total area of

⁸ Forester PCS No 2533 Environmental Science Unit Assessment August 2006.

some clear-fell sites, with the consequence that cypermethrin should not properly be used there in any event.

The key point is that it is the use of clear-felling forestry systems that can create and perpetuate the need for extensive pesticide use to control pine weevil, including use of cypermethrin, which is highly toxic to aquatic life. Sustainable forest management practices such as low impact silvicultural systems and continuous cover can be hugely beneficial in maintaining a healthy soil and water environment. However, the continued availability of cypermethrin is encouraging the perpetuation of clear fell regimes, despite the many silvicultural, environmental and biodiversity benefits that would derive from a conversion to continuous cover silviculture. In Wales, such a conversion is already a stated aim of Government policy for its forest estate.⁹

Even where clear-felling is used, reducing the size of cut, or staggered clear-felling, can reduce *Hylobius* issues dramatically and, as Confor, the forestry industry's trade body, recognises, there are clear nature conservation benefits of such strategies:

*"...woodlands then develop and maintain a diversity of age classes and sizes, which becomes a gradually changing mosaic of different habitats. Replanted areas quickly colonise, for example, with rough grasses, thistles and rosebay willowherb, which continue until the canopy closes again, providing habitat for voles and other small mammals, attracting owls and other birds of prey. The nightjar also uses these cleared sheltered areas for nesting and courtship. These areas are also attractive to many species of butterfly and other insects"*¹⁰.

It is clear that as long ago as 2001, the Forestry Commission was well aware that the acceptability of the use of pesticide control of *Hylobius* was time-limited:

*"currently, insecticides provide the most effective method of protecting plants from damage. However, there is an urgent need to adopt a new approach to the management of this pest as public concerns about the use of chemicals in the environment increase and legislation concerning the use of chemical pesticides necessarily becomes more stringent."*¹¹

Further, it appears that *Hylobius* is not necessarily the universally present scourge it is sometimes portrayed as being. For example, the Forestry Commission reported in 2010 on the management of dense natural regeneration of Sitka spruce and other conifers, which it stated was an increasingly common feature of both recently clear-felled sites and stands managed under continuous cover forestry in upland forests of the British Isles.¹²

Not only does this rather conflict with the applicants' assertion that "*restocking in the UK is invariably by planting*"¹³, but it appears that this regeneration occurs in spite of *Hylobius*.

The Forestry Commission reported that, "*this regeneration can be managed by combining natural self-thinning in the early stages of stand establishment with management intervention to cut access racks and carry out selective re-spacing to favour the best quality trees. The target density should be about 2000–2500 stems per hectare in young regeneration or on wind-firm sites where thinning will take place. On less stable sites that are unlikely to be thinned, a single intervention to a target*

⁹ Woodlands for Wales (2009) The Welsh Assembly Government's Strategy for Woodlands and Trees.

¹⁰ http://www.confor.org.uk/Upload/Documents/22_Conforpolicypaper5SOSsaveoursoftwoods.pdf.

¹¹ Forestry Commission (2001) The Assessment of Site Characteristics as Part of a Management Strategy to Reduce Damage by *Hylobius*, Information Note, April 2001 - [http://www.forestry.gov.uk/pdf/fcin38.pdf/\\$file/fcin38.pdf](http://www.forestry.gov.uk/pdf/fcin38.pdf/$file/fcin38.pdf).

¹² [http://www.forestry.gov.uk/pdf/FCPN016.pdf/\\$file/FCPN016.pdf](http://www.forestry.gov.uk/pdf/FCPN016.pdf/$file/FCPN016.pdf).

¹³ Draft Application form for temporary derogation – cypermethrin and alpha cypermethrin, page 5 of 17.

density of 1750–2000 stems per hectare should improve mean tree diameter without compromising timber quality”.

In short, natural regeneration of Sitka plantation appears to occur readily - “*an increasingly common feature*” - without recourse to cypermethrin spraying.

It is also well known that the leaving of standing mature trees in felled areas can make a significant difference to the damage caused to replanting by *Hylobius* spp, as recognised by Forest Research over 12 years ago:

*“Standing mature trees: Adults will feed on smaller shoots in the crowns or lower branches of large trees. Damage to plants within 15 m of the edge of felled areas is likely to be reduced by adult Hylobius moving to the surrounding standing crop to feed. Any felling practice that leaves remnants of a standing crop will reduce damage to nearby plants. Where species such as larch and Scots pine have been left standing as seed trees or for other management, the reduction in damage may be slight. However there may be **considerable protection afforded by felling regimes such as strip felling so that all parts of the restocking site are only a few metres from nearby standing trees.**”*

Already Natural Resources Wales is able to report the use of biological control at between 35 – 50% of its clear fell sites¹⁴ and already recognises that the use of cypermethrin is only required “in an increasingly smaller number of instances”¹⁵.

Another example of why ‘exceptional circumstances’ do not pertain here, can be seen in the size of clear-fell sites chosen in the UK, where coniferous forestry harvesting practices are based on average 10 ha to 30 ha clear-fell cuts. It is already well understood that smaller clear-fell sites are less impacted by *Hylobius*.

What all these findings demonstrate is that cypermethrin use is not necessary unless the large area (10 to 30ha)¹⁶ clear-fell and replant pattern of forestry is the only pattern of forestry that is being considered.

However, the FSC requirements are clearly that a “program to identify alternatives was fully implemented”¹⁷ and this must include a proper consideration of other silvicultural practices.

While much of the research presented at the recent UK Stakeholder Workshop is dated as being from 2012 and 2013¹⁸, Forest Research publications from 2001 show that many of the alternatives are, in fact, now over a decade old. In the view of the Joint Links, it is the take-up of alternative methods of dealing with *Hylobius* that has been slow, perhaps largely due to the availability of the convenient post-planting spray method of control, favoured by agents and contractors in the industry.

There are numerous methods of control that can reduce the *Hylobius* issue. The range of alternatives, involving management techniques, differing patterns of felling and plantation, different timings of felling, natural regeneration, use of physical barriers, IT-based *Hylobius* management systems, can all be used to address and reduce *Hylobius* losses.

¹⁴ Email from Joanne Sherwood 11th October 2013.

¹⁵ Email from Joanne Sherwood 11th October 2013.

¹⁶ Draft Application form for temporary derogation – cypermethrin and alpha cypermethrin, at page 4 of 17.

¹⁷ Presentation by Pasi Miettinen, Forest Management Program Member, FSC, London, 13th November 2013.

¹⁸ Presentation by Douglas Orr of SGS, 13th November 2013.

While it is accepted that “*none of the [above] alternative strategies currently offers a **complete replacement** as yet for chemical protection by alpha cypermethrin and cypermethrin*”¹⁹, that is not what the FSC requires the applicants to demonstrate.

In the view of the Joint Links, the deployment of the full range of alternative techniques and strategies - at a site-specific level - would reduce the *Hylobius* threat, possibly to a very dramatic degree, and likely to a level at which the economic cost was easily bearable, but this is only likely to occur in practice if the cypermethrin tool is first removed from the tool box to provide the incentive for alternatives to be used more extensively. The Joint Links are far from convinced that the forestry industry is taking a sufficiently proactive approach to eliminating the need for use of cypermethrin and has thus fallen very far short of demonstrating the ‘exceptional circumstances’ that the FSC requires before it can extend the derogation.

7. What would be the economic impact if derogations were not achieved?

While much is made of the losses in planting that the applicants attribute to *Hylobius* spp., it is not clear what levels of losses occur due to other factors. No evidence is provided in the draft application.

While the applicants put average loss of seedlings without cypermethrin protection at c 50%, there is no detailed evidence provided to justify this claim. The costs of a ban on cypermethrin use in UK forestry have been estimated at £5m per annum for replanting, but there is little evidence provided by the applicants as to how this figure has been reached.

Even if this figure is assumed correct, it is important to remember that, in the UK, the coniferous forestry sector is characterised by high-input silviculture, operated by agents and contractors, serving both private owners and the state sector.

It is clear that the application of cypermethrin, both pre- and post-planting, represents an important economic activity to those agents and contractors within the industry. In simple terms, the active promotion of low-input forestry is unlikely to be in the best financial interests of the applicants to promote.

As such, the Joint Links believe that the reliance on cypermethrin in UK forestry is being overplayed by those seeking this application and certainly does not reach the ‘exceptional circumstances’ threshold set by the FSC.

In 2001, the area of conifers in Britain being felled and restocked was forecast to increase from 10000 to 15000 ha per year by 2010²⁰. Approximately 2000 - 2500 ha is clear-felled annually in Wales. This is approximately 2% of the overall coniferous plantation cover (both private and public) of the UK felled per annum.

Coniferous rotations persist for between 35 and 75 years. It is unlikely therefore that short pre-planting fallowing of clear-fell sites - which, in addition to other methods described above, have also been shown to reduced *Hylobius* damage - for periods of up to 2 years, or even as much as 5 years, would make a significant or even measurable difference to the harvestable timber available at the end of the rotation, many decades hence.

In theory, a nationally-applied default fallowing period of 5 years (covering the duration of the derogation being sought) would therefore only reduce slightly the national standing timber crop for a

¹⁹ Draft Application form for temporary derogation – cypermethrin and alpha cypermethrin, at page 7 of 17.

²⁰ [http://www.forestry.gov.uk/pdf/fcin38.pdf/\\$file/fcin38.pdf](http://www.forestry.gov.uk/pdf/fcin38.pdf/$file/fcin38.pdf).

period equal to the duration of the following period chosen. Importantly, that reduction would only be crystallised at the end of the rotations, at which point any economic losses, if indeed they were still measurable, could be expected to be insignificant.

In Wales, the annual replanting costs (if cypermethrin were not available) are placed at only £104k per annum.²¹ If the costs are that small, the question has to be asked whether those sites, where cypermethrin use is genuinely the only option available, are really viable in any event and should not be turned over to mixed woodland or recreational use only.

Overall, the Joint Links question whether the ‘doomsday’ predictions of serious financial losses in commercial forestry if forestry is transferred to mixed species – and even the failure of restoration of Ancient Woodland sites – ring true.

The applicants claim that “*the use of alpha cypermethrin and cypermethrin is, in some cases, currently the only economically, environmentally, socially and technically feasible way of preventing this damage*”, yet the research presented by them and in earlier forestry research suggests strongly that the use of a combination of novel and alternative techniques - in the event that no derogation was granted - would not result in the financial losses predicted.

8. Conclusions

In a strikingly similar situation in 2009, the sheep-farming lobby suggested that banning of cypermethrin-based sheep dips would lead to an explosion of sheep scab and ticks in the national flock and massive economic losses to the sheep industry would result. Despite the ban on cypermethrin-based dips, alternatives have been used, flock management has improved and the doom-laden scenario predicted has not occurred. Sheep production in upland UK has continued largely unaltered across the UK.

There appears to the Joint Links to be an entrenched unwillingness to end cypermethrin use, but a refusal of the current application for derogation - or better still, a proactive decision by forestry interests not to apply – would enable the required culture change to begin.

Implementation of the full range of available alternatives and adaptation of silvicultural practice, on a site-specific basis, including alternative use of sites where control proves impossible without cypermethrin, will reduce the projected economic losses in UK forestry to a level below which a derogation is necessary.

²¹ Email from Joanne Sherwood 11th October 2013.