Full Responses to the Consultation on the Draft Action Plan for Pollinators

August 2013

Responses 21 - 40

WELSH GOVERNEMENT CONSULTATION ON THE DRAFT ACTION PLAN FOR POLLINATORS

Consultation Response Form

Your Name: Matt Sutton
Organisation: Matt Sutton Ecology
Email: mattsutton@btinternet.com

Question 1: Do you agree with our vision for pollinators in Wales?
The sentiment is of course a modern one and appears entirely anthropocentric.

Question 2: Have we identified the main areas of concern for pollinators in Wales or are there other issues that you wish to identify?
The imminent threat posed by the Asian hornet and perhaps other potential invertebrate colonists should be considered.

Question 3: Do you agree with the outcomes identified and the areas of action to achieve them?
Firstly, I see no need to differentiate between Action Areas 1 and 2. 'Wider countryside' is more usually taken to mean the countryside outside of designated sites, farmed or otherwise.

I would offer the following comments in relation to Action Area 1:

- Adding clover to leys may show limited success as agricultural clover varieties generally provide a poor nectar resource in comparison with the 'wild' white variety characteristic of semi-natural habitats. Tolerance of species such as dandelion within the field, and bramble around the margin would perhaps offer a better resource to foraging bees. The issue of organic certification of honey could be touched upon in this context – some relaxation in the criteria for certification could be sought to tackle the issue of consumers often choosing organic over local. It's primarily an issue for certification bodies, but could organic farms with bee-friendly management, eg. through choosing pollinator-friendly options within a revised Organic scheme, have their honey certificated?

- Providing small-holder grants would perhaps be less effective than provision of part-farm schemes which would be eligible to small-holders and farmers unwilling or unable to enter Glastir. I understand that the current approach to rural funding rejects this approach, but the 'Bee Scheme' piloted by CCW in Pembrokeshire (using S39 Agreements) provided an insight into how well received such a targeted scheme could be. Other local 'niche' schemes with a small number of dedicated officers have demonstrated the effectiveness of such an approach.

I would offer the following comments in relation to Action Area 2:

- Aside from the marsh fritillary and shrill carder bee, a rather small proportion of the Natura 2000 network is designed to accommodate the needs of invertebrates, let alone pollinators. Does the suggested action to undertake mapping and identification of habitats to protect pollinators represent a commitment to enlarge the Natura 2000 network and remedy this deficiency? Or does it represent a diversion of resources into further GIS modelling without corresponding action on the ground? Some clarity is needed in the relevant paragraph.

- It could be debated whether or not the role of the local authority 'Biodiversity Champions' has achieved anything of significance in relation to the farmed majority of the Welsh countryside. Perhaps some suggestions as to what could be delivered through this Action Point could be offered here.

- Best practice for pollinators on the Welsh Government woodland estate could be assisted by persuading Natural Resources Wales to be less stringent in their criteria for areas of planting within woodlands. The proportion allowed to remain unplanted is too small to provide meaningful open ground habitats which could be beneficial to pollinators. The term forest used to refer to much more open tracts of heath intergrading with wooded areas, and one would hope that the amalgamation of CCW and FC could allow such broken cover to be a feature of the Welsh forests again.

I would offer the following comments in relation to Action Area 3:

- I suggest removal of 'where appropriate' in relation to pollinator-friendly grounds maintenance, or perhaps indicate where it would be inappropriate to do so.

- The Code for Sustainable Homes 'eco-credit' is a woefully inadequate mechanism for protecting and enhancing pollinator habitat in its current form, and I'm sure that most practicing ecologists would agree that it should be overhauled.

Question 4: How could you contribute further to the areas of action identified?
My farm business specialises in the harvesting of wildflower seed for use in meadow, heathland and wetland restoration projects. I would be happy to be a supplier for any pollinator conservation initiatives in west Wales.

My ecological consultancy business is capable of providing various areas of work including habitat and species survey, provision of habitat restoration advice, training and implementation.

Question 5: Would you like to be involved in developing the actions needed to achieve the outcomes? If so, in what way?

Potentially yes, should you require consultancy input from a beekeeper/farmer/ecologist

Question 6: We have asked a number of specific questions. If you have any related issues which we have not specifically addresses, please use this space to report them.

I can suggest two further minor amendments:

- On page 2, 'what pollinators need' should refer to the widespread lesser knapweed *Centaurea nigra* rather than greater knapweed (a much more local plant of calcicolous soils). In the same sentence it may be better to promote the use of willow in 'soft engineering' riverbank restoration projects, as other more universal hedge trees such as hawthorn are also of great value to honeybees and other pollinators.

- On page 11, it would be worth mentioning that both heathlands and wetlands provide nectar late in the season, through species such as devil's bit scabious, hemp agrimony or purple loostrife. It could be noted here that the much maligned Himalayan balsam now provides an important late season honey crop, rivalling heather for importance if not flavour. This may have implications for the comment under 'Agro-chemicals' on page 12.

The issue of inter-specific competition between honey bees and wild bees may be raised by other consultees, but of course, uniting all pollinators against the 'common enemies' is the correct approach. The avoidance of high numbers of beehives in and around sites supporting populations of threatened native bees is considered prudent however.

The issue of genetic conservation of the native 'black' honeybee will no doubt be raised by others.

From: Communications [mailto:communications@wales.gsi.gov.uk]
Sent: 30 April 2013 11:52
To: BioDiversity
Subject: Draft action plan for pollinators - online form response

Page used to send this email:	/consultations/forms/pollinators-action-plan-response-form/
Name:	Robert Taylor
Organisation (if applicable):	The Merthyr Tydfil & District Naturalists Department
Email / telephone number:	rob.senception@gmail.com
Your address:	4 Somerset Close Cefn Coed Merthyr Tydfil CF48 2NY

Question 1: Do you agree with our vision for pollinators in Wales?:	Yes we do in general
Question 2: Have we identified the main areas of concern for pollinators in Wales or are there further issues you want to identify?:	The areas are all good however there are two areas which are not identified specifically and from the work we have done are significant in addressing the issues. The first is knowledge, there is a failure to recognise or taken on board the issues within public authorities. You speak to local authorities or government depts and they all nod their heads and agree but when it comes to implementation on the ground the message does not get through. It seems it is far easier not to do anything than to take positive action. The public are in general not cgnicant of the implications of the loss of pollinators therefore an education programme with the public and schools is important. Also we have lost the rural craft of bee keeping, so creating new and innovative ways of getting people involved is essential.
Question 3: Do you agree with the outcomes identified, and the areas for action to achieve them? Your comments are welcomed.:	Yes, But more education, defined solutions that individuals and groups can act on. Give Individuals, businesses, and people action plans and support that allows them to make the difference.
Question 4: How could you contribute further to the areas for action identified? How could we support you to do so?:	We are currently running a transnational project Bees & Biodiversity. This involves creating workshops with the public, working with farmers to site beehives, wildflower planting and building this into public policy. We are in the process of building an apiary of 100 hives in Merthyr run by volunteers and setting this up as a social enterprise. We are talking to the local authority about planting regimes and policy. We are working with schools on an education and the children have illustrated a book about the "Plight of the Honey Bee" (Buzz the little Honey Bee. We would like to extend and develop this project into the future and link with and help other areas learn from our experiences. The problem with the projects they are for such a short period that you just get them going and they come to an end.
Question 5: Would you like to be involved in developing the actions needed to achieve the outcomes? If so, in what way?:	We would like to be involved in delivering positive actions, helping people learn from our experience already and building on it. As part of our project we have developed a number of publications and have lots of ides to move this forward. We would like to be actively in developing the actions and in helping different areas deliver them.

Question 6: We have asked a number of specific questions. If you have any related issues which we have not specifically addressed, please use this space to report them:	I guess its still to be developed but we must develop action pathways that are supported to get people involved and allow them as individuals and organisations to make a difference. We have a whole portfolio of things that we have done and tried to do, we understand the difficulties and hopefully are finding ways top overcome them.

From: mark cheeke [mailto:markbeeproject@gmail.com]
Sent: 02 May 2013 10:59
To: BioDiversity
Subject: Consultation doc. for Pollinators

Hi, I'm getting in touch on behalf of the Merthyr Naturalists Society to make you aware of a project we are running to help put a stop to the decline of pollinators in general and the honey bee in particular.

We are in our second year of installing 100 hives in our area and training members of the community as beekeepers. We are targeting local garden and allotment groups, angling societies, housing association resident groups and schools giving talks and lectures highlighting the problem.

We are working with schools, not only to talk about decline, but do something practical. Each school has planted a "Pollen Patch" of wild flowers and will be monitoring insect activity throughout the spring and summer. They have also made individual "bug hotels" to take home and put in their gardens. We have also produced a story book called "Buzz the little honey bee" which is a story about a little girl who befriends Buzz and learns about how bees live and how she can help them. The book also contains a packet of wild flower seeds for children who read it to plant. We are also involved in community planting schemes and producing literature on bee friendly gardening.

If any of our work is of interest to you, please get in touch. Having read the consultation document, it seems we are implementing quite a lot of the content. We would be happy to feed back to you if you so wish.

The book is going to be launched on Friday May 10th at 11.00 at Merthyr Tydfil Civic Centre. I have invited Alun Davies and several interested politicians if any of your team would like to attend please get in touch. The children are very excited to see their work in print.

Regards,
Mark Cheeke (Merthyr Naturalists Society)
From: Communications [mailto:communications@wales.gsi.gov.uk]
Sent: 30 April 2013 13:07

To: BioDiversity
Subject: Draft action plan for pollinators - online form response

Page used to send this email:	/consultations/forms/pollinators-action-plan-response-form/
Name:	Confidential
Email / telephone number:	Confidential
Your address:	Confidential
Question 1: Do you agree with our vision for pollinators in Wales?:	Yes
Question 2: Have we identified the main areas of concern for pollinators in Wales or are there further issues you want to identify?:	Yes
Question 3: Do you agree with the outcomes identified, and the areas for action to achieve them? Your comments are welcomed.:	Yes
Question 6: We have asked a number of specific questions. If you have any related issues which we have not specifically addressed, please use this space to report them:	Pesticides and how they might affect pollinators, hopefully now the 2 year ban has been implemented by the EU, we will be able to learn if this makes a difference: positive or negative!

From: Alys Edwards [mailto:aedwards@wtwales.org]
Sent: 03 May 2013 17:00
To: BioDiversity
Subject: Consultation on the Draft Action Plan for Pollinators for Wales

Please find attached a response from the WBP Lowland Grassland and Heathland Ecosystem Group, to the draft Action Plan for Pollinators.

Regards,
Alys

Alys Edwards
Technical Officer
Wales Biodiversity Partnership
C/O Wildlife Trusts Wales,
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Cardiff Bay,
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Ebost/Email: aedwards@wtwales.org

www.bioamrywiaethcymru.org.uk / www.biodiversitywales.org.uk
Consultation on the Draft Action Plan for Pollinators for Wales
WBP Lowland Grassland and Heathland Ecosystem Group Response

Question 1: Do you agree with our vision for pollinators in Wales?

The Welsh Government commitment to tackling the decline in pollinator populations is to be welcomed and it is critical that this important issue is addressed as part of an integrated approach to enhancing biodiversity and promoting a more robust resilient environment.

Question 2: Have we identified the main areas of concern for pollinators in Wales or are there further issues you want to identify?

It is disappointing that the Action Agenda has few concrete actions and appears to be more a wish list with little explanation of how actions will be implemented and evaluated or how the costs of proposals will be met. Without a costed plan with well-defined actions it is difficult to see how progress will be made. In addition it is of concern that there is reliance on existing mechanisms such as agri-environment, which have to-date, not stopped the decline of pollinator populations. If this is a serious attempt to halt biodiversity loss and reverse the fortunes of pollinator populations it is likely that much more radical action is required. In particular there needs to be targets for the provision of sufficient high quality wild pollinator habitat across the landscape so that even the most agriculturally productive regions support a minimum area of flower-rich semi-natural habitat.

Question 3: Do you agree with the outcomes identified, and the areas for action to achieve them? Your comments are welcomed.

Area for Action 1: Promoting diverse and connected flowering habitats across farmland

*'**Glastir has many options for improving the conditions for pollinators**'* – are these options being adopted – what is the uptake rate?

Some Glastir options may reduce the quality of habitats for pollinators. Research shows that the maximum nitrogen application levels allowed in the Glastir options 15b and 15d (low inputs) are very likely to have a negative impact on the diversity and abundance of flowering plants (e.g. Mountford et al., 1993). Whilst it is hoped that most unimproved grassland will fall into Options 15 and 15c (no inputs), in parts of Wales there are extensive areas of semi-improved grassland, more beneficial to pollinators than improved grassland, which are likely to be placed under option 15b and 15d.

'….there is more to be done for farmland outside of schemes, or land not eligible for such schemes. This includes encouraging further diversification of farmland habitats, implementing an organic farming scheme, providing small-

holder grants, and using hedgerow buffers, trees and orchards to provide pollinator friendly habitat.

Suitable actions for pollinators such as providing buffer zones and corridors are included in the current RDP consultation.

Simple measures to improve farmland for pollinators could include the addition of clover as a nectar source, to grass leys.

Arable crops in Wales cover a small area of Wales but could provide target areas where beekeeping could be further encouraged.'

There is no indication of how any of the suggestions above will be implemented apart from by awareness raising through Farming Connect and Glastir. If these are serious suggestions a suitable incentive mechanism will be required both within Glastir and for those land holdings not taking part or falling outside the scheme. It is not credible to believe that such measures will be taken without incentive particularly if there is a cost associated

Area for Action 2: Promoting diverse and connected flowering habitats across the wider countryside

'Suggested actions include mapping and identifying the best or potential habitats for pollinators where protection is most needed,'

We already have good maps for many of the most important habitats for pollinators yet despite good data we continue to lose these sites. Flower-rich lowland grassland sites are particularly under threat despite Wales having a detailed Phase II Lowland Grassland Survey. The process of notifying the best sites as Sites of Special Scientific interest has not been completed and, as mentioned on page 18 of the Action Plan, undesignated sites continue to decline through neglect or are destroyed through gradual intensification (which is not tackled by EIA agriculture regulations).

'…supporting the Site of Importance for Nature Conservation (SINC) designation.'

How will the SINC system be supported? Many Local Authorities do not have sufficient resources to properly develop evaluate and monitor the SINC network. At present LA's are losing ecological staff so their capacity to manage the SINC system is becoming increasingly limited.

Some habitats such as semi-improved grasslands and bracken areas with a flowery ground layer are difficult to include within the SINC network as individual sites fail to meet habitat criteria, but when the total resource is considered these habitats might be of considerable value to pollinators. These habitats are vulnerable to development pressures particularly in the urban fringes. Including connectivity networks within the SINC system might help to resolve such issues but how is this to be done consistently and what support will WG give to ensure these are incorporated into LDPs?

Area for Action 3: Promoting diverse and connected flowering habitats in our towns, cities and developed areas

'Many choices for pollinators are also low cost or no cost for land managers, such as adjusting mowing regimes, or leaving areas of long grass.'

This is not necessarily true; conservation organisations and Local Authorities have tried for years to change urban management practice but much of the management of our parks, green spaces and road verges is put out to contract and it is far simpler for contractors to simply cut vegetation when it is convenient to them rather than having contracts which take into account differing cutting regimes and changing flowering periods. Experience has shown with road verges that changing management to benefit flowering species is usually complex and has a cost implication. How will WG encourage cash-strapped LA's to change management?

'Supporting the provision of parks and green space, and allotments.'

This is to be applauded but there are cost implications at a time when LAs are more likely to sell off land, how will this provision be encouraged and afforded?

Many urban green spaces support habitats such as heathlands, woodlands and grasslands, which are important in their own right as well as supporting pollinators. These sites are often undervalued, underused, neglected and vulnerable to development pressures. Even if these are designated as SINCs there is no commitment to manage such sites. What mechanism will WG introduce to ensure such sites are not just protected but managed and used appropriately?

'We as Welsh Government will continue to incorporate pollinator friendly policies across our administrative estate (our offices and specialist properties) where appropriate, through our landscaping and grounds maintenance contracts.

We will continue to encourage partners, such as Keep Wales Tidy, to carry out work on pollinators and highlight to the community groups they work with the importance of considering this aspect of their projects. We will work towards including pollinators as a consideration for related funding that we provide.'

WG must ensure that any in-house or public guidance on planting for pollinators does not encourage the planting of non-native species which are likely to become invasive, resulting in the deterioration of other habitats, loss of native species, damage to green infrastructure e.g. choking of waterways and which will ultimately becoming very costly to control.

Area for Action 4: Supporting UK action to promote healthy populations of pollinators in Wales

No specific comments

Area for Action 5: Working to raise awareness of the importance of pollinators and engage our citizens in their management

'We will promote pollinator friendly practice to farmers through Gwlad and the Farming Connect knowledge transfer programme.'

This is the critical audience as 80% of land is agricultural and agriculture has the greatest impact on wild pollinators and the habitats, which support them.

Area for Action 6: Linking together Welsh Government policies to produce beneficial actions that are good for pollinators and therefore wider ecosystem health

'The need for partnership and the integrated approach that delivering for biodiversity demands underpins all of the areas for action for pollinators, and we will seek to put in place a mechanism to advise on and progress delivery of agreed actions.'
Partnership is critical to ensure an integrated approach but funding and policies to underpin the delivery mechanisms are also essential for the delivery of agreed actions.

Area for Action 7: Building an evidence base to support future action for pollinators

We would like to see more research on the importance of semi-natural habitats such as lowland grassland and heathland for pollinators and in particular we need to have a better understanding of the habitat requirements of healthy wild pollinator populations i.e. how much habitat, in what condition and where.

There is a pressing need for more information on change in extent of grassland and other semi-natural habitats in the Wales countryside. Although current data are to a high standard and offer complete coverage, these data are becoming increasing old (the Phase 2 Lowland Grassland Survey of Wales finished in 2004 for example). Satellite imagery has so far proved unable to distinguish between different forms of grassland (e.g. trials suggest it is only about 30% accurate for lowland grasslands) and there is a need for more recent data to be brought together and gaps filled (through field survey) where necessary. This would need adequate funding.

References:
Mountford, J. O., Lakhani, K. H., Kirkham, F. W. 1993. Experimental assessment of the effects of nitrogen addition under hay-cutting and aftermath grazing on the vegetation of meadows on a Somerset peat moor. Journal of Applied Ecology 30, 321–332.

Question 4: How could you contribute further to the areas for action identified?
How could we support you to do so?

No specific comments

Question 5: Would you like to be involved in developing the actions needed to achieve the outcomes? If so, in what way?

No specific comments

Question 6: We have asked a number of specific questions. If you have any related issues which we have not specifically addressed, please use this space to report them:

Additional problems/issue and possible solutions with reference to grasslands

Problem:	*EIA is ineffective when dealing with gradual improvement of flower-rich grassland.*
Solution:	**EIA officers in WG appreciate this problem, but don't see an adequate solution**

Problem:	*Lack of current knowledge on state of semi-natural grassland in Wales (Phase 1 and 2 are old and satellite imagery poor for grasslands) – see earlier comments Action Area 7*
Solution:	**Pool together recent high quality data and fill gaps with field survey (both NE and SNH have conducted 'non-stat sites surveys' in recent years).**

Problem:	*Glastir uptake (13% currently) and targeting is poor*
Solution:	**Increase take up and target better.**

Problem:	*Glastir options AWE 15b & d harmful to semi-natural grassland*
Solution:	**Explicitly disallow use on SN grasslands**

Problem:	*Grassland restoration sites coming out of TG but not going into Glastir may be lost (e.g. farmers 'taking a holiday' from schemes)*
Solution:	**Tackle through Glastir**

Problem:	*Lack of connectivity between sites*
Solution:	**Better Glastir targeting**

Problem:	*Loss of habitat*
Solution:	**Notify pSSSIs as a priority in NRW. Improved SINC network and Glastir uptake/targeting**

Problem:	*Degradation of habitat quality*
Solution:	**Improve management of SSSI, increase Glastir uptake, fund/facilitate other schemes**

Problem:	*Increase in biocrop usage*
Solution:	**Ensure diversity of crop types at a small scale**

Problem:	*Lack of pollinator habitat within crop landscape*
Solution:	**Ensure there is habitat diversity and increase use of flower-rich field margins (e.g. Stanley & Stout, 2013)**

Problem:	*Atmospheric N deposition levels high across much of Wales*
Solution:	**Take atmospheric N levels into account when considering other N sources (agricultural mainly)**

Reference:

D.A. Stanley & J.C. Stout. 2013. Quantifying the impacts of bioenergy crops on pollinating insect abundance and diversity: a field-scale evaluation reveals taxon-specific responses Journal of Applied Ecology, 50, 335–344

Field Studies Council
Submission to:

Welsh Government
Consultation on the Draft Action Plan for pollinators for Wales
21 May 2013

About FSC:

The Field Studies Council (FSC) is a pioneering education charity committed to bringing environmental understanding to all. The FSC provides informative and enjoyable opportunities for people of all ages and abilities to discover, explore, be inspired by, and understand the national and built environment. We believe that the more we know about the environment, the more we can appreciate its needs and protect its diversity and beauty for future generations. We feel that fieldwork should be a vital element of an imaginative and contemporary education.

Established in 1943, FSC has become internationally respected for its national network of education centres and is the UK's leading provider of natural resources related field courses. It currently welcomes 145,000 visitors every year on courses to its national network of 17 Field Centres. These include groups from nearly 3,000 schools, colleges and universities. FSC is also a leading UK provider of biodiversity and ecology related training courses for adult learners, including both career development for professionals involved in ecology, natural history and landscape related disciplines and also courses for leisure learners who are interested in discovering more about the world around them. Finally, FSC is also a leading publisher in this field, publishing nearly 150,000 identification guides and related resources every year, including Welsh translations of some of the popular foldout identification charts.

FSC has four centres in Wales: Margam Discovery Centre (Port Talbot), Rhyd-y-creuau Field Centre (Conwy), Orielton Field Centre and Dale Fort Field Centre (Pembrokeshire).

All of this activity provides a substantial evidence base to inform our submission.
www.field-studies-council.org

Background

Fieldwork and outdoor learning is good for children and young people and good quality fieldwork helps to improve education standards. It helps them gain a practical understanding of the world around them, build self-confidence, test their abilities, take managed risks and develop a sense of responsibility and tolerance towards places and people. It also supports physical and emotional well-being. Fieldwork should be vital element of an imaginative and contemporary education programme. It helps all children and young people understand subjects, such as the sciences, geography and history, through real world examples and first-hand experience. It also provides hands-on experimental skills that are an essential part of science and geography work.

Furthermore, and often more importantly, outdoor learning provides an exciting and memorable experience for young people which can enthuse and inspire them, and

will help to transfer what they learn in school to their everyday lives through dealing with real world examples at first hand.

As well as being familiar with the impact of fieldwork on children and young adults we are also aware of the critical role that field experience has on adults, both professionals and leisure learners. FSC believes that fieldwork experience – and access to sites and facilities that enable this to happen – is essential for delivering a workforce with the competence, confidence and commitment to do the jobs that support natural resources management. It is also needed to develop the volunteer base which supports much of this activity.

Please find below our responses and recommendations to the consultation questions.

Question 1: Do you agree with our vision for pollinators in Wales?
Field Studies Council (FSC) welcomes and endorses the vision outlined in the draft action plan, and we look forward to working in partnership with the Welsh Government and Natural Resources Wales in its achievement.

Question 2: Have we identified the main areas of concern for pollinators in Wales or are there further issues you want to identify?
No comment.

Question 3: Do you agree with the outcomes identified, and the areas for action to achieve them? Your comments are welcomed.

- **Outcome: *"Wales' citizens are better informed and aware of the importance and management of pollinators*"**

FSC welcomes the area for action 5: *Working to raise awareness of the importance of pollinators and engage our citizens in their management*. We support the recommendation to improve information and facilities in schools but recommend that this support extends beyond school boundaries, encouraging young people and their families to explore opportunities where they can play an active and beneficial role in their local communities for instance. This could involve, for example, curriculum led practical conservation work and/or participation in making observations and producing records for local pollinators. These activities could be modelled on the OPAL project, the highly successful citizen science project which is nearing completion in England after 5 years, for which the Field Studies Council produced 240,000 education packs and easy to use identification keys (see http://www.field-studies-council.org/supporting-you/fsc-projects/current-projects/opal-open-air-laboratories.aspx). One of the national surveys – the bug count – is directly relevant to this consultation. FSC also has simple identification guides for bees; bumble bees and honey bees are obvious pollinators that appeal to children and the public. Over half of FSC's OPAL education packs were targeted at disadvantaged schools. Also, they recruited many secondary schools from urban areas which have been notoriously hard to reach through similar activities in the past. FSC research commissioned in 2007 from Cardiff University has shown that there is a particular need to develop higher quality out-of-school provision with disadvantaged secondary schools, and a community focussed pollination project could provide low-cost high-

impact intervention with (potentially) strong links to emerging education and natural resources management policy in Wales.

- **Outcome: *Wales has a joined up policy, governance and a sound evidence base for action for pollinators***

FSC greatly welcomes the recognition for the need for partnership and an integrated approach to biodiversity (area for action 6) as well as building an evidence base (area for action 7). We look forward to continuing being a valued partner in the delivery of biodiversity action within Wales.

Question 4: How could you contribute further to the areas for action identified? How could we support you to do so?

As the lead provider of outdoor learning and fieldwork in the UK, FSC can contribute through the delivery of education, training and research. As well as the OPAL project (see response to Question 3), FSC has previously run a biodiversity training project where 5,000 volunteer training days resulted in over 70,000 biological records being obtained. This type of training and engagement with a wide range of interested, knowledgeable and competent individuals would further support the establishment of baseline data and continued monitoring. We have also run more specialized taxonomic training initiatives looking at pollinators and other invertebrates (through the HLF-funded Invertebrate Challenge and currently through the DEFRA-funded Biodiversity Fellows project). We are able to draw upon tutors for our training who are regional, national and international experts.

Question 5: Would you like to be involved in developing the actions needed to achieve the outcomes? If so, in what way?
Yes. See response to Questions 3 and 4.

Question 6: We have asked a number of specific questions. If you have any related issues which we have not specifically addressed, please use this space to report them.
No comment.

This consultation response was submitted by Margam Discovery Centre, on behalf of the Field Studies Council.

For further information, or to discuss the points raised in this document, please contact:

Dr. Steve Tilling, Director of Communications: **steve@field-studies-council.org**

From: parkscountryside@rctcbc.gov.uk
Sent: 22 May 2013 11:11
To: BioDiversity
Subject: Draft Pollinator Action Plan

Llwyncastan, Library Road, Pontypridd CF37 2HA

Draft Action Plan for Pollinators

Observations from the Countryside Section Rhondda Cynon Taf CBC

The opportunity to comment on the Draft Action Plan is appreciated.

Q1: Do you agree with our vision for pollinators in Wales?

Yes. The vision is clear, but singling out pollinators or pollination services may give a misleading impression of the importance of biodiversity. Box 1 explains that pollination is just one aspect of healthy and functioning ecosystems. Actions should reflect this holistic approach and not set up a distinction between good insects and bad insects. The decline of pollinators is emblematic of unsustainable practices which 'Sustaining a Living Wales' aims to address.

Q2: Have we identified the main areas of concern for pollinators in Wales or are there further issues you want to identify?

Yes, the main issues have been identified.

Agricultural intensification: In addition to the aspects mentioned, a reduction in livestock density (especially sheep) would probably help native grass and flower populations, which support native insect populations (including pollinators). Similarly a reduction in supplementary feeding of livestock (especially imported feed) might reduce nutrient enrichment of grassland to the benefit of native flora. Traditional livestock breeds are better adapted to 'low input' conditions.

Agrochemicals: it should be noted that pests include insects (including pollinators) and weeds include food sources/habitat for pollinators.

In addition, land management, especially by public bodies, focuses on amenity and cost saving rather than biodiversity value. Wildflower planting is pointless unless management is appropriate. Where grazing is not possible, this usually involves less frequent cuts (to allow flowering and seeding, providing food for pollinators and other wildlife) and the removal of arisings. Over time, as soil fertility is reduced, grass growth declines and the native flora becomes established. In Rhondda Cynon Taff, the planting of wildflowers is not encouraged as there are plentiful local wild seed sources if the appropriate management can be maintained. Introducing seed or plants carries the risk of disease or of introducing non native/non local strains.

Q3: Do you agree with the outcomes identified, and the areas for action to achieve them? Your comments are welcome.

Yes the outcomes are appropriate, the following comments are offered on the specific actions

1. Farmland: Farm diversification to include more commercial fruit and vegetable growing would give a commercial value to pollinators. It would also support the Welsh Government's health and climate change agendas, encouraging us to eat more fruit and vegetables and to reduce food miles. Historically Wales grew more

fruit and veg, see also comments above re agricultural intensification and agrochemicals.

2. Wider countryside: There are major opportunities within the Welsh Government estate, especially forestry plantations, to restore peat bogs and restore traditional grazing management to heathland and riparian corridors. This would support native flora for native insects and also provide benefits for Welsh Government's climate change agenda including carbon storage, increased water holding capacity, reduction in flood and fire risk. There is still concern that GLASTIR funded woodland planting is still occurring on grassland sites of biodiversity importance.

3. Towns and cities: The comments relating to land management above are relevant here. Opportunities to reduce the use of pesticides, herbicides and growth retardants by public bodies would also be helpful. The focus of BREEAM on wildflower planting has not been helpful. It would be preferable to keep as much as possible of pre-existing habitat and design new developments so that the 'landscaping' can be managed appropriately for native flora. Opportunities for more fruit and vegetable growing in gardens, allotments and schools, would be a good way of raising awareness of importance of pollinators to general public and school children.

4. UK actions

5. Raising awareness: Raising awareness should focus on pollinators as an *example* of ecosystem services and how they are affected by human actions, rather than a 'stand alone' issue.

6. Joined up Government: See suggestions above. Note that introduced plants/ seed are not necessarily good for ecosystem health

7. Evidence

Q4: How could you contribute further to the areas for action identified? How could we support you to do so?

2. Wider countryside: We have been developing management options and practical knowledge of conservation grazing for Key Countryside Sites owned or managed by the Council and peatbog restoration associated with major windfarm developments. We have also been advocating the re-instatement of traditional grazing management to areas of Rhondda Cynon Taf which have suffered from grass fires. The Graig Common Llantrisant is an example of a partnership project (with the Town Trust, commoners and Natural Resources Wales) which has had significant benefits for local residents and pollinators. Numerous observations on Forest Design Plans have been offered over the years. Sites of Importance for Nature Conservation (SINC) are a planning designation and are used to ensure that biodiversity considerations are addressed in the planning process. A south Wales partnership project is progress to seek the funding required to develop management incentives for SINC in private ownership.

3. Towns and cities: Observations on planning applications including ecology and landscaping issues seek to ensure that biodiversity issues are addressed through the planning process.

4. Local Biodiversity Action Plan (LBAP) and the LBAP partnership are an important local mechanism for raising awareness of biodiversity.

From: Communications [mailto:communications@wales.gsi.gov.uk]
Sent: 22 May 2013 17:07
To: BioDiversity
Subject: Draft action plan for pollinators - online form response

Page used to send this email:	/consultations/forms/pollinators-action-plan-response-form/
Name:	Confidential
Email / telephone number:	Confidential
Your address:	Confidential
Question 1: Do you agree with our vision for pollinators in Wales?:	Yes
Question 2: Have we identified the main areas of concern for pollinators in Wales or are there further issues you want to identify?:	Much more emphasis on the duties of LAs especially on the importance of grass verges and maintaining them in the interests of pollinators - not cutting them early before flower seeds have set. Also discourage the use of flailing when cutting hedges.
Question 3: Do you agree with the outcomes identified, and the areas for action to achieve them? Your comments are welcomed.:	Yes - but more needed as above
Question 4: How could you contribute further to the areas for action identified? How could we support you to do so?:	As an individual maintaining my own smallholding organically as I do already.
Question 5: Would you like to be involved in developing the actions needed to achieve the outcomes? If so, in what way?:	No

From: Vanbergen, Adam J. [mailto:ajv@ceh.ac.uk]
Sent: 22 May 2013 15:13
To: BioDiversity
Subject: Response to Consultation document on Welsh Pollinator Action Plan

To whom it may concern,

Attached is a document detailing the response of some of the researchers (copied in here) engaged in the UK Insect Pollinators Initiative.

This should be treated as the views of the individual signatories alone, not all those funded by the IPI.

Best wishes
Adam

Dr Adam Vanbergen
Ecologist (invertebrates)
NERC Centre for Ecology & Hydrology
Bush Estate
Edinburgh
EH26 0QB
http://www.ceh.ac.uk/staffwebpages/DrAdamVanbergen.html
http://www.insectpollinatorsinitiative.net

Consultation Response Form

Your name: **Dr Katherine Baldock & Professor Jane Memmott**

Organisation (if applicable): School of Biological Sciences, University of Bristol

Your address: School of Biological Sciences, University of Bristol, Woodland Road, Bristol, BS8 1UG.

Your name: **Dr Tom Breeze & Professor Simon Potts**

Organisation (if applicable): Centre for Agri-Environmental Research, School of Agriculture, Policy & Development, University of Reading

Your name: **Dr Adam Vanbergen**

Organisation (if applicable): Science Co-ordinator of Insect Pollinators Initiative & NERC Centre for Ecology & Hydrology

Your address: NERC Centre for Ecology & Hydrology, Bush Estate, Edinburgh, EH26 0QB

Question 1: Do you agree with our vision for pollinators in Wales?

The Welsh Government is to be applauded for developing an Action Plan for Pollinators in Wales and initiating a joined-up approach among relevant stakeholders to improving conditions for pollinators in Wales. This should act as a starting-point for bringing together stakeholders, including government, NGOs and scientists to discuss and implement a realistic Action Plan for Wales and allocate appropriate funding and resources to a long-term programme.

Question 2: Have we identified the main areas of concern for pollinators in Wales or are there further issues you want to identify?

It should be made clear that underpinning several of the main areas of concern is the loss of (or potential loss of) suitable forage plants and the lack of information on suitable nesting habitats.

Forage resources are very important because pollinator populations are in all likelihood malnourished or starving in intensively farmed landscapes. Moreover such malnourished populations are likely to be more vulnerable to subsequent stressors like pesticides or diseases. Adam J Vanbergen and the Insect Pollinators Initiative (39 co-authors cited web only). 2013. Threats to an ecosystem service: pressures on pollinators. Front Ecol Environ 2013; doi:10.1890/120126 (attached with email) summarises in plain English the multiple and likely interacting threats to pollination, albeit for a global audience but much will be relevant for Wales.

Another main area of concern is the lack of knowledge about the current status of pollinator populations in Wales and which forage plants are of greatest importance. One of the key priorities for the Action Plan must be the establishment of a monitoring programme. Baseline data against which any future actions implemented to benefit pollinators can be measured against is essential in order to measure their success and to monitor the changes in Wales' insect pollinators across the timescale of the Action Plan.

The consultation doesn't mention urbanization anywhere specifically, other than very generally under a habitat loss category. There are many opportunities to conserve pollinators in urban areas in conjunction with local councils, wildlife trusts and residents. Researchers from the IPI-funded Urban Pollinators project have found local authorities and the general public to be incredibly keen to do their bit to help conserve pollinators and there is scope here for future initiatives.

Question 3: Do you agree with the outcomes identified, and the areas for action to achieve them? Your comments are welcomed.

The four Outcomes and the seven areas for action cover the range of issues important for the conservation of insect pollinators and the improvement of conditions in Wales for pollinators.

However it is not clear how these will be achieved and what the next steps in the process will be. Who will fund the research needed to collect baseline data, implement the areas for action and monitor pollinators throughout the process to assess the effect of the proposed actions on pollinator communities in Wales. Who

will be responsible for delivering the programme? There are UK-based scientists with the expertise to carry out the scientific research required but a source of funding will be needed to both establish an effective monitoring programme and implement the actions. The timeline over which the actions will be implemented also needs to be made clear.

Broken down by issue are a series of comments:

Agricultural production. Take opportunities under the Common Agricultural Policy (CAP) Pillar I to improve sustainable agriculture and the environmental quality of farmed land for bees and other biodiversity by: (i) strengthening existing cross-compliance protections for boundary features, not just hedgerows, (ii) expanding the area required for Ecological Focus Areas (EFA) to 10%, and (iii) incorporating novel land uses such as planting legumes and other cover crops within land eligible for EFA and mandatory crop diversification proposals. Develop support for alternative sustainable farming systems such as agroforestry and infield mixed cropping which can have substantial benefits to pollinators but which currently do not receive CAP single payment scheme support. Develop a system of knowledge exchange for the pollination requirements of current crop cultivars and foster stronger links between farmers, researchers, agronomists and beekeepers to reduce risks to crop growers and pollinator populations within farmed environments.

Pesticides. As part of the forthcoming National Action Plan on pesticides, commit to encouraging a sustainable long-term reduction in the use of pesticides, with quantitative targets for the reductions in the total application of all pesticide active ingredients, and encourage the uptake of alternative pest management methods including the use of natural enemies. Need to move away from prophylactic use of pesticides towards a more judicious us within an integrated pest management system.

Push for amendments to pesticide accreditation to include independent, quantifiable and cross-taxa risk assessments of their impacts, including sub-lethal effects, on a range of bees in both laboratory and field conditions, including the presence of residues within the pollen and nectar of mass-flowering crops. Improve pesticide label regulations to include more specific recommendations which account for the seasonal activity patterns and nesting habitats of a range of on-farm bee taxa, based on up-to-date ecological information, and extend these standards to non-agricultural pesticides.

Agri-Environment Schemes. Enhance the effectiveness of all Agri-Environment Schemes (AES) by setting specific long-term objectives at a range of spatial scales and develop more precise option quality and delivery monitoring schemes. Further increase funds to the Higher Level Stewardship to increase the number, extent and quality of agreements and encourage participants to collaborate and innovate within the scheme to further diversity the resilience of farming systems. Support industry led efforts to encourage the uptake and effective management of AES options that benefit pollinators, especially within the Entry Level Stewardship. Follow Statutory Agency (e.g. Natural England) recommendations on changing the points for these options if appropriate, including recognition of the full economic costs of options. Develop and encourage new AES options which provide forage and, in particular, nesting resources for bees for a range of conventional and alternative farming

systems. Support research into the benefits of current and potential AES options for pollinators, how they can be bundled together and spatially targeted in the wider landscape to maximise their benefits as part of a range of farming systems and the effectiveness of farmer self-monitoring of the performance of their AES agreements.

Habitat Conservation. Enhance protection via designation for priority habitats, particularly those that act as source habitats for pollinators, in particular lowland meadows, and develop updated and new targets as appropriate to further enhance their contribution to overall landscape habitat quality for bees. Reform Environmental Impact Assessment regulations to remove, or reduce, the thresholds for assessment free development on habitats recognised as national priorities. Improve cross-policy co-ordination to strengthen protection and restoration work for existing ecological networks, in particular designated sites, hedgerows and other boundary features, taking lessons learned from Nature Improvement Areas as appropriate. Support research into the benefits of woodland and forest habitats for pollinators, including those used commercially, and the management of these sites to optimise their benefits for pollinators (*Note: paper under review at Functional Ecology Vanbergen et al. Grazing modifies insect visitation networks and plant mating systems, examines impacts of woodland grazing and the benefits to pollinators and plants*).

Planning Policy. Provide clear guidance to local planning authorities on how to implement Green Infrastructure within the National Planning Policy Framework in order to enhance the quality of the built landscape for bees by, for example enhancing the area of wildflowers on green spaces around new developments, and increasing protection of local wildlife sites. This should be accompanied by recognition within the framework to preserve pollination and other ecosystem services for sustainable development. Revise Environmental Damage Regulations to establish objectives and maintenance plans for replacement habitat within wider ecological networks or local green infrastructure, including lessons from Biodiversity offset trials and other similar schemes. Support a dedicated network of bee and pollination service experts to advise LNPs and local authorities on effective conservation policy at local scales, especially where specific ecological expertise is lacking.

Species Conservation. Take opportunities under the Welsh Biodiversity Strategy to develop targeted, species and habitat specific conservation measures for bees, including guidelines for local authorities to develop high quality, locally tailored conservation measures that have clear systems of monitoring and accountability. Develop a systematic nationwide scheme of tools and resources to monitor the diversity, abundance and populations of bees and the pollination services they provide. Encourage local authorities to establish measures to improve habitat for bees within Local Nature Partnerships (LNPs), or other local biodiversity schemes, with appropriate indicator species. These measures should incorporate the goals of the Welsh Biodiversity Strategy and the upcoming new Red List of bees where sufficient expertise is available or, where expertise is unavailable, introduce broad targets that benefit a range of bees. Support further research into the drivers of bee declines at a range of local and national scales and the identification of bees that act as indicators of localised ecosystem health.

Bee Health. Revise the Bees Act 1980 and its associated orders specifically to include provisions for maintaining health of all bees in addition to honeybees. Revise

regulations on veterinary medicines explicitly to legalise treatments allowed in other EU countries and encourage the pharmaceutical industry to register these products and invest further in developing effective control measures, recognising the differences between hives used for commercial honey production and those used for pollination only. Develop measures and legislation to reduce the potential for pest and disease transmission between managed and wild bees, particularly in areas where priority species are present. Continue to fund dedicated research into remaining evidence gaps for: (i) honeybee and other bee diseases, (ii) preventing the arrival and spread of new pests and diseases, including emergency funds to eradicate these species as soon as they enter, (iii) improving the screening of hives and beekeeping imports, and (iv) supporting VMD efforts to further enhance beekeeper training in disease identification.

Instigate compulsory registration of honey beekeepers, and importers/users of managed bumblebee colonies, alongside a renewed commitment to monitor and manage diseases in beehives with a dedicated target for reducing the incidence of foulbrood in honeybees.

Question 4: How could you contribute further to the areas for action identified? How could we support you to do so?

With sufficient funding, our research team could apply existing pollinator sampling techniques, currently being used in the Insect Pollinators Initiative-funded project "Urban Pollinators: their Ecology and Conservation" to assess the current status of the pollinator communities present in Wales and to monitor them throughout the programme. This would contribute to "Areas for Action" 1, 2, 3 & 7.

The sampling approach of the IPI Urban Pollinators team, which studies entire communities of pollinators and the plant species (crops, wild flowers and non-native plants) on which they forage, has been used to study urban, farmland and nature reserve habitats in and around 12 UK towns and cities including Cardiff (Baldock et al. in prep; www.urbanpollinators.org). This method allows the identification of important habitats for pollinators and provides information on important forage plants. Furthermore, by examining the communities using a network approach we can examine how robust they are to environmental changes such as habitat loss or addition, species extinction or climate change. Collecting data in this way has many advantages and means that the dataset would be comparable to data collected from many other sites across the UK and therefore provide a measure of pollinator health in Wales compared to other areas of the UK. (*Baldock et al. in prep Where is the pollinator biodiversity in the UK? Comparing flower-visitor communities between urban areas, farmland and nature reserves.)*

Question 5: Would you like to be involved in developing the actions needed to achieve the outcomes? If so, in what way?

Yes. Involvement in discussions of how the Areas for Action are implemented alongside other stakeholders. Any research work would require a source of funding. One way to do this is to invite calls for research projects in the same way as the UK Insect Pollinators Initiative, distributing funds among projects that address the Areas for Action.

Involving scientists from the UK Insect Pollinators Initiative will share the knowledge of current research and allow the Welsh Action Plan to both build on and contribute to the research already underway in the UK.

Consider establishing a Welsh Insect Pollinators Initiative to bring together all stakeholders (research scientists, NGOs, governmental groups) to design an effective programme for the proposed work and allocate funding to suitable organisations. A joined up and fully-funded approach is essential for the success of the Action Plan.

Note that two separate and recent workshops have already brought together scientists, statutory agencies, government, industry, business, food producers, NGOs to discuss gaps in knowledge from science and decision making perspectives. Lessons could be learned to help shape the Action Plan?

- Dicks L.V., et al. (2012). Identifying key knowledge needs for evidence-based conservation of wild insect pollinators: a collaborative cross-sectoral exercise. Insect Conservation and Diversity, Online Early DOI: 10.1111/j.1752-4598.2012.00221.x.

- Vanbergen et al. (2012). Insect Pollinators: Linking Research and Policy. Workshop Report of UK Science and Innovation Network (Foreign and Commonwealth Office & Dept. Of Business Innovation and Skills)

Question 6: We have asked a number of specific questions. If you have any related issues which we have not specifically addressed, please use this space to report them:

Whilst managed pollinators (i.e. honeybees) contribute to crop pollination it is wild pollinators that make the greatest contribution to biodiversity and provide most of the pollination services for crops and wild flowers. We suggest therefore that the main focus of the Action Plan should be on these wild pollinators.

P2 need to be clear that insects forage on flowers for pollen as well as nectar. Also other resources such as clean water unpolluted by pesticides, slurry, or fertiliser run-off and resins from woody plants are often ignored in considering how agricultural intensification or environmental pollution affect pollinators, but the quality and quantity of these resources may also be threatened.

Not sure why the consultation refers to ‘other’ solitary bees, as the all other bees mentioned are social, not solitary. Therefore just say ‘solitary bees’. Wasps besides parasitic wasps can act as pollinators.

Hoverflies are mentioned sometimes omitted (e.g. from section 3) they will certainly be important, especially as pollinators of many wild plants. Other flies (e.g. Muscidae, Scathophagidae, Empidae) are always ignored largely on the grounds of difficulty in identification. However, these flies are hairy (often cited as one reason why bees make good pollinators because it adheres to them), numerous and highly dispersive and they may be important components of pollinator communities,

particularly in livestock dominated areas where some of them (e.g. Muscidae Scathophagidae) will also be drawn to livestock dung as larval food resources.

In evidence for decline in Section 3 does not include hoverflies. The Hoverfly Recording Scheme is not mentioned http://www.hoverfly.org.uk/, these data have been used alongside BWARS data to show declines in pollinators in UK (e.g. Biesmeijer J.C., Roberts S.P.M., Reemer M., Ohlemuller R., Edwards M., Peeters T., Schaffers A.P., Potts S.G., Kleukers R., Thomas C.D., Settele J. & Kunin W.E. (2006). Parallel declines in pollinators and insect-pollinated plants in Britain and the Netherlands. *Science*, 313, 351-354.)

The IPI website is http://www.insectpollinatorsinitiative.net The IPI is jointly funded by the Biotechnology and Biological Sciences Research Council, the Department for Environment, Food and Rural Affairs, the Natural Environment Research Council, the Scottish Government and the Wellcome Trust, under the auspices of the Living With Environmental Change programme. It is not just funded by Defra and the BBSRC as stated on Page3.

Citation 23 is incorrect it should read: Vanbergen et al. 2012. Insect Pollinators: Linking Research and Policy. Workshop Report of UK Science and Innovation Network (Foreign and Commonwealth Office & Dept. Of Business Innovation and Skills) Download from: http://www.insectpollinatorsinitiative.net

P2 add a diverse, functioning and attractive environment

From: Dafydd Jarrett [mailto:Dafydd.Jarrett@nfu.org.uk]
Sent: 24 May 2013 16:04
To: BioDiversity
Subject: Pollinators consultation response

Please find attached NFU Cymru response to above consultation.
Diolch

Consultation on the Draft Action Plan for Pollinators in Wales

I refer to the above consultation you recently issued.

In response we wish to make the following points for your consideration.

1. As an agriculture industry we fully understand the value of bees and other pollinating insects to crop and fruit production. Their continued thriving is all important to us and their value in ecosystem services including food production cannot be underestimated

2. Many NFU Cymru members in Wales are beekeepers themselves and Welsh honey is part of the important food industry in Wales. We have strongly supported the inclusion of initiatives and recognition of bees on the Glastir scheme and believe that this is the right way forward. However, this is dependent on making the Glastir scheme overall an attractive one, to encourage farmers to join it. This is the only way to ensure that the 226,134 ha, mentioned in the consultation, of land currently in Glastir is increased. Moreover we should also point out that another 3000 farms are

currently in Tir Gofal and another 3800 farms are in Tir Cynnal which should benefit pollinating insects in general

3. We cannot however agree with your statement in the consultation on agricultural intensification. The decline in the bee population is not in sequence with this at all. The last 10 years, for example, has seen a 1 million head reduction in breeding ewes in Wales and the trend is still generally downward. Furthermore, since 1990 the use of pesticides (which is much less intensive than in England anyway) has declined by 37% and fertilizer use has dropped by 40% between 1998 and 2008. How can you therefore say that there has been intensification in Wales that corresponds with a decline in pollinating insects? We should also point out that reducing grazing pressure is resulting in rank vegetation in some areas leading to an actual decline in flowering plants, some of which are important food sources for the pollinators. Also bracken is spreading due to fewer cattle on the hills and an actual decline in herbicide control which indirectly affects an important plant for bees – heather. As bracken becomes more prevalent on our heathland and heather moorland suffer as a result.

4. The point on arable crops is well made and noted. Yet you will be aware of the EU Commission, through CAP Reform, of requirement to maintain the current levels of permanent pasture in Wales which, in itself, discourages a switch back to more mixed farms. There are also management and husbandry considerations to be taken into account before switching back to a more arable based system -which is not an option anyway for many of our hill farms.

5. The consultation mentions that there is little specific work relating to Wales and we would agree with this. For example, there are bees and insects which live on our upland areas and little is known about the trend on these species or the effect of conifer afforestation on them.

6. Of the five areas of concern mentioned in the consultation paper it is our belief that the highest priority should be given to the following two as a strategy is developed:-

a) Disease prevention
b) Climate change

Neither will be easy to tackle but are probably the most important factor in the decline of pollinating insects. They must be faced head on if the strategy is to succeed.

There is no doubt in our minds that wet summers, droughts and harsh winters do have an effect not only on bees but on other insect pollinators. Furthermore the extreme weather events linked to climate change have an effect on food sources. Flowering dates of food source plants change and fluctuate and insect hatches no longer always coincide with food source availability.

The fact is that we've in recent times had record breaking cold winters, this March was the coldest on record for a long time and this spring looks to be the coldest on

record since 1979 in Wales cannot be helping pollinators and the plants they depend on in terms of winter survival

http://metofficenews.wordpress.com/2013/05/22/spring-on-track-to-be-coldest-for-30-years/

This is not to say that development of agri-environment initiatives should not go hand in hand with actions to mitigate disease and climate change. Glastir it appears is the Government's chosen way forward but we have pointed out to Rural Payment Wales' scheme designers on several occasions the value of part-farm schemes. If such schemes could be developed that specifically target benefitting pollinating insects, that are simple to administer and to access you could well have a good buy in from farmers.

The consultation specifically mentions willows as a beneficial plant and this could go hand in hand with riparian improvements under the Water Framework Directive.

So to answer the question posed in the consultation, yes the agricultural industry can help, it is in our interest to do so, but the bias in the document towards pointing the finger at agriculture needs to be corrected in the final chosen strategy.

Yours sincerely

Dafydd Jarrett
Policy Adviser
NFU Cymru

From: Lynn Ashraf [mailto:lynn.ashraf@gmail.com]
Sent: 27 May 2013 16:28
To: BioDiversity
Subject: Save our pollinators and friends

From- Lynn Ashraf, Brynhir, Cloth Hall Lane, Cefn Coed, CF48 2NT.
preferred contact method- lynn.ashraf@gmail.com

I am a member of the Merthyr Tydfil and District Naturalists. I am sure that you have received a full account of all that is happening with our bee project- so no need to repeat.

On a personal level I have always had an interest in gardening for wildlife- we moved to Merthyr 15 years ago and our target was to have a large wildlife garden. Although I absolutely agree with what your aims are with bees in mind I think it should be part of the bigger picture- the whole 'web of life.'
It's not only bees that are struggling; hedgehogs, hares and many others are in severe decline- must we ignore them because they don't directly contribute to our food chain?

I have been trying to get our council (MTCBC) to change their verge care for years largely without much success- the excuses were:-

long grass catches litter,
people don't like it because it looks untidy,
it's difficult to maintain.

We have some extremely wide verges Merthyr Tydfil that could easily incorporate wild flower strips and create corridors for ALL wildlife. We just need someone in the council with a spark of inspiration and knowledge about what's happening to our pollinators. In addition to the benefits to wildlife, we are the gateway to the National Park and this could be a great tourist attraction.

Last year I approached them with the backing of the Naturalists and we were given a two year trial to plant wild flowers on a steep bank, we chose it because it is difficult to mow. The first year was not good, not sure why but we're hoping for a better show this summer or we'll lose it to the strimmers. (We immediately had a neighbour up in arms about how untidy it would look! Thankfully she was in a minority of 1)
With the help of a housing association a group of us planted a bee friendly strip in the gardens of a block of flats about 4 years ago- it looked good (and did good) unfortunately the mowing regime is contracted out to the council. I couldn't believe my eyes a couple of weeks ago when I walked by and saw that the whole lot had been mowed/strimmed. How can anyone not recognise lavender shrubs? What can I say?

The gardens in our park and on our roundabouts etc are the usual gaudy, dated plants that look like something from a seaside town from the 1980s. And not a bee or insect in sight.

I went to one of our local schools this morning that is hoping to be receive the ‘green flag’ award. I can’t believe the amount of work that has been put into the task, it was brilliant. One particular part was their little garden where they grow vegetables and fruit. I asked the children if they enjoy eating the lettuce and strawberries. The answer was that they’re not allowed- MTCBC will not allow it for the infamous Health and Safety rule. Get a grip for goodness sake!

Nor will they allow us (the Naturalists) to have an observational bee hive in the park (with a special chimney that releases the bees way above head height) for the same reason. In some respects MTCBC is still years behind much of the UK.

On the positive side, we have a wonderful landscape architect (Tom Bramley) whose work is easily recognisable and in fitting with Merthyr’s geographical and historical position, lots of heathers etc.

I have dozens of species of wild flowers and bee friendly plants in my garden and my personal aim is to spread them wherever I can- part of that is achieved by giving trays of plants to whoever will plant them including schools. And a bit of guerrilla gardening too! But my garden is not just for bees, I have ponds, log piles, nest boxes, untidy areas, hedgehog boxes etc. etc.

I strongly feel that there is trouble with human attitudes to life, food, hygiene, easy living with minimum effort and the obsession to attain a sterile environment.

1. Our fruit and veg must be perfect- in shape and size (preferably ready cleaned and chopped.)
2 It has to be (mostly) prepacked in case others have handled it.
3 We are encouraged to use antibacterial cleaners throughout the home.
4 Our gardens have become another room.
That means easy to manage and tidy.

Acres of well manicured, weed free (whatever they are?) grass.
Acres of decking and paving- cuts down on hours of gardening.
Acres of mulch and gravel to suppress the weeds.
Spray everything that doesn’t have four legs or pretty wings.

Garden designers need to move away from exotic type planting and many are- too many flowerless plants not suited to our climate that have no benefits to our indigenous insect population.

But most important- start to use our verges- there’s acres of green desert in our countryside doing nothing, when it could instead create corridors for wildlife. Our councils need educating!

From: Sinead Lynch [mailto:sinead.lynch@bumblebeeconservation.org]
Sent: 03 June 2013 11:13
To: BioDiversity; Lucy Rothstein
Subject: RE: Consultation response - Draft Action Plan for Pollinators - 0035

Please see attached response
Kind regards
Sinead Lynch
BfE Conservation Officer (Wales)
Bumblebee Conservation Trust
www.bumblebeeconservation.org

Wales Pollinator Action Plan Consultation response

Name: Lucy Rothstein
Organisation: Bumblebee Conservation Trust (BBCT)
Role: Chief Executive Officer (CEO)
Email/telephone number: lucy.rothstein@bumblebeeconservation.org
Address: C/O Parc Slip Nature Reserve, Fountain road, Tondu, Bridgend, CF32 0EH

THE SIX QUESTIONS

Question 1: Do you agree with our vision for pollinators in Wales?
The Welsh Government commitment to producing a pollinator action plan is very much welcomed by the BBCT. It is innovative and provides an example for the remainder of the UK. BBCT believes that the plan should contain costed, measurable and realistic outcomes, as well as firm commitments to actions by the Welsh Government.

Question 2: Have we identified the main areas of concern for pollinators in Wales or are there further issues you want to identify?
We support the principle that "*… the emphasis for the Action Plan should be on providing better and more connected habitats which will support both wild and managed pollinators in farmland, the wider countryside, and in urban and developed areas*" (Page 5 of Consultation Document). BBCT agrees that the action plan should focus on habitat provision and the need for habitat creation and connectivity, and recognise that both habitat loss and land use intensification are the main factors in pollinator declines.

Question 3: Do you agree with the outcomes identified, and the areas for action to achieve them? Your comments are welcomed.
BBCT's comments on the 7 actions are included at the end.

Question 4: How could you contribute further to the areas for action identified? How could we support you to do so?
BBCT's comments on the 7 actions are included at the end.

Question 5: Would you like to be involved in developing the actions needed to achieve the outcomes? If so, in what way?
BBCT would wish to be involved in setting measurable and achievable targets. BBCT is able to advise on the conservation of bumblebees, and, on the basis of its experience in Wales, on the creation and restoration of flower-rich habitats

Question 6: We have asked a number of specific questions. If you have any related issues which we have not specifically addressed, please use this space to report them:

BBCT supports the principle of a pollinator action plan for Wales. BBCT considers that the action plan as a whole will need to specify measurable and achievable targets and outcomes. BBCT agrees with the focus on habitat management, restoration, creation and connectivity.

Implementation of the pollinator action plan will involve many people, organisation and landowners across Wales. There would be benefit in co-ordinating their efforts so as to avoid duplication and encourage synergy.

Research, data and mapping are essential for the success of the plan. BBCT supports the commitment to mapping and monitoring of important habitats across Wales, as well as to monitoring the populations of some pollinators.

BBCT also stresses the importance of a continued effort to eradicate alien invasive species, particularly Himalayan balsam (*Impatiens glandulifera*). Although this plant is considered to be a source of nectar and pollen, its continued spread is damaging to our native habitats.

Research has demonstrated that fruit set is maximised when there are several different pollinator species. BBCT supports the importance of the community of pollinator species and the plan's focus on providing habitat to support all pollinators.

THE SEVEN ACTIONS

Action 1:
Pollinators are a wide group of invertebrates with diverse lifecycles and habitat requirements – BBCT feel that managing a range of natural habitats sensitively and appropriately across the landscape is the most effective way to help protect pollinator populations. We feel that flower-rich habitats such as grasslands and heathlands are a key habitat for many pollinators, including bumblebees. However, it is also important to consider all aspects of invertebrate lifecycles, for example, many solitary bees require specific substrate/locations for nesting; many lepidopteron species require specific food plants and habitat conditions to breed, etc. Considering the predominance of grazing land in Wales, we feel that a priority for the action plan should be to identify clear and achievable targets for delivering sensitive grazing across the welsh countryside. The action plan could identify possible targets for helping landowners to achieve more sensitive grazing through schemes such as grazing partnerships, machinery rings, and farm co-ops. A conservation grazing strategy for Wales is currently being produced and we would recommend that this is referenced in the action plan.

We agree with the need for buffer zones and corridors (as identified in the consultation document) and we would add that such measures also contribute to reducing sediment run-off and flood risk.

There are some options in Glastir which could be of benefit to pollinators. Some species of pollinators are also identified as target species. We consider that options which maintain and restore existing flower-rich habitats, and allow field strips and corners to remain uncut/ungrazed for nesting and late foraging, are most beneficial for bumblebees.

The issue of uptake of Glastir by landowners is a concern. In order for the proposed outcomes of the action plan to be sufficiently met it is clear that an adequate level of uptake of Glastir across Wales will be needed. In addition, there would need to be adequate incentives to encourage uptake of relevant 'pollinator friendly' Glastir options, as well as sufficient support for landowners to ensure that they are able to fulfil the requirements of those options. In dealing with landowners who are entering into Glastir we have received comments about the lack of support that is available to landowners through Glastir.

The consultation document mentions the benefits of organic farming for pollinators. Although we support the principle of organic farming it is not clear that organic farming in itself will benefit pollinators. We would support the increased use of clover leys – clover leys are an important habitat for bumblebees as they provide vital nectar and pollen. However, we would stress the fact that clover leys should use native red clover (as opposed to agricultural variants) and the clover should be allowed to flower before it is cut.

"*Under the broad agenda of CAP reform we may consider pollinators under arrangements for Pillar 1 and/or actions taken under Pillar 2 as part of the post 2014 Rural Development Plan (RDP)"* - we would support the increase of funding into Pillar 2 to encourage more biodiversity action by landowners, and we would ask that the final action plan document contains a firm commitment to this.

Of great concern to BBCT is the continued loss of flower-rich habitat across Wales. As a matter of priority, Welsh Government must ensure that flower-rich grasslands are not lost as a result of the 'Glastir Woodland Creation' scheme – this could be achieved through ensuring officers have access to maps of all known species-rich grasslands (including SINCs and Wildlife Sites), communication with local authorities, and an adequate assessment of the existing habitat before consent for woodland planting can be given. We are also concerned about the continued risk of loss of species-rich grassland which has been restored through Tir Gofal but is now not being managed through Glastir. In these circumstances landowners will inevitably 'improve' the grassland, and these cases are not being pursued under EIA regulations or any other means even where there are clear cases of infringement. This is not only devastating for wildlife but is also a huge waste of public investment in habitat restoration.

We welcome the suggestion of smallholder grants to help landowners who are not eligible for Glastir to manage sites. It is important to ensure that this allows smallholders to maintain as well as restore valuable habitats. Please also note comments below regarding Wildlife Sites projects.

The creation and restoration of traditional orchards would also benefit pollinators, especially where the grassland within the orchard is also managed as a

meadow/pasture. Orchards can also contribute to the local and national economy through production of artisan products such as cider and perry. The action plan could also consider the benefits of promoting forest gardens and permaculture.

In terms of habitat provision on a landscape/site scale, it is beneficial to consider how habitat provision for pollinators can dovetail with habitat provision for other wildlife. For example, habitat management for pollinators in damp/wet habitat could also benefit water voles, otters, odonata, plants and breeding birds if considered appropriately.

The Bumblebee Conservation Trust has a dedicated Conservation Officer for Wales who is working to deliver bumblebee habitat in priority areas in south Wales (map attached). This work involves: engaging with landowners and land managers; providing land management advice sheets and management plans/recommendations; and working with other NGOs, Local Authorities, Government bodies and businesses.

Action 2:
BBCT strongly support the need for a network of diverse and connected flower-rich habitats across Wales. We agree that a key part of this would be to link up statutory and non-statutory sites and improve connectivity between habitats. However, at present many statutory sites are not in favourable condition, and most non-statutory sites receive no protection or beneficial management at all.

"*Suggested actions include mapping and identifying the best or potential habitats for pollinators where protection is most needed, supporting the Site of Importance for Nature Conservation (SINC) designation and promoting connectivity (linking up) between sites.*" We support this suggestion, although we would add that extensive mapping exercises have already taken place to identify priority habitats through the ecosystem groups, and there is a wealth of data that may be available from stakeholders on non-statutory sites, pollinator species populations etc.

The action plan should recognise the current relatively vulnerable position of non-statutory sites across Wales, as they receive very little protection or beneficial management. There are existing and proposed regional wildlife sites projects which could be supported in the action plan, including the proposed 'South East Wales Wildlife Sites Project' among others. The ultimate aim should be to have a functioning Wildlife Sites system across Wales which helps landowners to manage their sites by providing advice and small grants. (Please note that a main paper was taken to the WBP Steering Group meeting in July 2011 regarding the need for a Wales-wide SINC map and a Wales-wide Wildlife Sites system).

We recognise that local authorities have a huge role to play in delivering habitat for pollinators, especially in terms of connectivity. However, it is important to be realistic about what can be delivered by local authorities, and what is the best approach to helping them do this. In terms of road verge management, it must be recognised that it is not necessarily easier and cheaper for local authorities to switch to a 'meadow cut'. In many cases the road verge management is undertaken by contractors and it would require a change to the contract to amend cutting times. Raking and removal of the cut grass is also required, which can be labour intense and therefore costly.

There is also the issue of negative public perception and road safety. We believe that a useful approach would be to provide local authorities with detailed case studies from local authorities where a change in management has been successful – highlighting the challenges they faced, how they were overcome, cost implications, public perception, and what the end result was.

It is also important to consider how local authorities should be approached. We recognise that Biodiversity Champions and local authority ecological staff have a role here. However, other approaches to getting this message to 'decision makers' should be considered, for example, through WLGA.

In this section it may be beneficial to mention the important role that the Wales Biodiversity Partnership 'Ecosystem groups' could play in informing and progressing this action plan.
This year Bumblebee Conservation Trust is undertaking a mapping project which will help to identify priority areas for habitat management and restoration for Bumblebees in Wales. This project will help to focus our habitat provision work to a landscape scale.

Action 3:
We recognise the importance of making our cities, towns and villages pollinator friendly and full of flowers. The Wales in Bloom competition could encourage local authorities to do more. This could include pollinator friendly bedding plants, flower-rich road side verges, and wildflower meadows in parks and amenity areas.

The Bumblebee Conservation Trust has been very active in trying to encourage the public, community groups and local authorities to do more to help bumblebees. This includes our interactive 'Bee Kind' website app which helps people to rate their garden for 'bee friendliness' and find out how to make their garden more bee friendly. We have also produced guidance on gardening for bumblebees. We have produced a 'local authority pack' which gives advice to local authorities on what they can do for bumblebees, and also gives advice to local residents on how to lobby their local council to do more to help bumblebees.

Action 4:
"We will monitor the situation with regard to the introduction of non-native bees for commercial pollination purposes."

The Bumblebee Conservation Trust supports the view that a sustainable and integrated approach to how we manage our pollination services is urgently required. We are also aware that there is limited awareness about this issue and action being taken to improve the regulatory framework and as such believe that this is an important policy area to engage in and invest resources.

The Bumblebee Conservation Trust wants to protect native bumblebee populations whilst recognising the utility of commercial bumblebee colonies for pollination of horticultural crops. An obvious way of preventing further release of commercial bees into the UK is to ban their use, however the use of bumblebees by growers is of considerable economic importance and banning is not necessarily the best solution.

The new screening requirements for England should be extended to cover all of the UK, Europe and globally. This will ensure that producers would have no choice but to invest in screening. The Bumblebee Conservation Trust have identified that additional research is needed in order to better understand:

- The risks of hybridisation and the establishment of non-native bumblebees.
- The disease and parasite load of imported bumblebees and the risks to native bumblebees.
- More about how and in what environment the bumblebees are reared.

BBCT would like more commitment from the Welsh government, in particular harmonising legislation with England and supporting research.

Action 5:
We support the need to raise awareness of the importance of pollinators amongst the public, landowners, schools, businesses and local authorities. Please note that NGO's, local authorities, government bodies, etc. have already produced a wealth of material for engaging with these groups. The Welsh Government could commit further to supporting stakeholders to continue this work.

As mentioned above, the Bumblebee Conservation Trust is currently engaging with the public, volunteers, government bodies, community groups, schools and landowners through a variety of means. We launched our new website in 2012 which has a wealth of information about bumblebees, why they are important, and what people can do to help. This includes our 'Bee Kind' app which helps people rate their garden for bee friendliness. We also have a network of volunteers who help us to raise awareness through events, talks, walks, etc. We have produced a number of materials and leaflets for distribution, including: a bumblebee identification leaflet; 'Making space for bumblebees' gardening booklet; land management factsheets; and 'About bumblebees' factsheet. We have also produced activities for activities, and a pack for local authorities / community groups.

We believe that it is important for children to learn about ecosystems and how pollinators contribute to those ecosystems. We would ask that the Welsh Government commits to including this on the national curriculum. Also of importance is the use of school grounds in outdoor learning. For example, a project at Newport City Council called 'Biodiversity in Schools' has helped to ensure that nearly all schools in Newport have access to an adequate outdoor space and that teaching staff are supported in delivering outdoor learning.

We support the use of Gwlad and Farming Connect to engage with landowners about pollinators. We would ask that there is a more firm commitment to doing this, and further details on what will be delivered. There also needs to be a commitment to engaging with landowners in person, through Glastir and other landowner agreements. We feel that there is much more that the Welsh Government could potentially do to engage with landowners, and feel that this could be explored further. In particular, it would be useful to find out how landowners prefer to be engaged with so that this information can be targeted more effectively.

Action 7:
We support the following statements:

“We will work towards improving surveillance and monitoring of pollinators to fulfil our obligations under the Habitats Directive, and to improve our evidence base on the use of the Section 42 of the NERC Act lists.”

“We will monitor the outcomes of this action plan developing indicators around:

- Pollinator populations
- Area of pollinator friendly habitat
- Public Awareness”

However, we would ask that the final action plan should contain a commitment to defined targets. How will these targets be delivered and measured?

The Bumblebee Conservation Trust currently runs a bumblebee monitoring transect programme called ‘BeeWalk’ which is collecting data on bumblebee presence and abundance across the UK. We are delivering a number of bumblebee identification training days. We also help to run a bumblebee recording tool called ‘BeeWatch’ in partnership with the University of Aberdeen.

From: Lesley Jones [mailto:lesley.jones@keepwalestidy.org]
Sent: 28 May 2013 13:20
To: BioDiversity
Subject: Consultation response - Action Plan for Pollinators - Keep Wales Tidy

Dear Biodiversity team,

Thank you for the opportunity to respond to your consultation on the Draft Action Plan for Pollinators for Wales. Please find attached the response from Keep Wales Tidy.

Regards

Lesley

Lesley Jones

Chief Executive
Prif Weithredwr

Keep Wales Tidy/Cadwch Gymru'n Daclus
33-35 Cathedral Road, Cardiff, CF11 9HB
33-35 Heol yr Eglwys Gadeiriol, Caerdydd, CF11 9HB
Website/Safle-wê: www.keepwalestidy.org

Action Plan for Pollinators
Response by Keep Wales Tidy

Introduction and background

Keep Wales Tidy (KWT) is an independent environmental charity operating across the whole of Wales. Now in our 40th year we run a number of high profile programmes such as: Tidy Towns, Blue Flag for beaches, Green Flag for Parks Awards and Eco Schools. We have offices in Cardiff, Caernarfon and Pembroke Dock, but approximately half of our staff work from home and live in the communities they serve.

Three of our Programmes – Eco Schools, Young Reporter for the Environment (YRE) and Blue Flag awards for beaches are international programmes, owned by the Foundation for Environmental Education (FEE) and operated across many countries. This brings a strong international dimension to our work and an ability to highlight actions taken in Wales to global audiences.

Our work therefore encompasses a far wider range of measures than those associated with Local Environmental Quality issues such as litter fly-tipping and graffiti. We serve rural as well as urban and coastal communities and we value the opportunity to contribute to this important consultation document.

Consultation Questions

1. Do you agree with our Vision for pollinators in Wales?

The vision statement: “Wales has the conditions to support healthy populations...” implies an approach based exclusively on improving the physical habitats to support pollinators. Whilst KWT support this fully, we would welcome an additional element which captures the importance of raising awareness, concern and action amongst the public. This ‘people element’ would make the overall vision more sustainable and realistic. A suggested wording would be: “Wales has the conditions *and the widespread involvement of the public* to support healthy populations of wild and managed pollinators to the benefits of the people, economy and environment of Wales.”

2. Have we identified the main areas of concern for pollinators in Wales or are there further issues you want to identify?

Yes, we believe that the 5 areas of concern identified in the document provide a comprehensive list of the issues affecting pollinators in Wales. And whilst these reflect the conditions in rural and agricultural landscapes, perhaps there is an additional factor that could be included which is more aligned to urban areas - where pollution and other environmental factors have a bearing? Also, the redevelopment of brown field sites and new build will create more sterile settings for pollinators and this could be having some effect. These are speculative points, and clearly more needs to be known about the extent of the issues identified and their respective importance. The research measures identified will be vitally important.

As well as global, UK and Wales-wide scientific research programmes, KWT believes there is considerable scope to involve the Welsh public in recording changes to local biodiversity. This will not only compliment scientific approaches by providing additional information and insight, but it will also help to galvanise wider public concern and involvement. Many similar initiatives have been developed through the Biodiversity Action Plans (BAPs) and there could well be important lessons from this experience.

3. Do you agree with the outcomes identified and the areas for action to achieve them? Your comments are welcome.

Outcome 1: Wales provides diverse and connected flowering habitats to support our pollinators.

ACTION: Promoting diverse and connected flowering habitats across Wales

This is welcomed, but may be difficult to achieve in practice. Glastir is of course a voluntary scheme, and so it is difficult to promote a more integrated approach covering landscape scale areas, with the end result being possibly piecemeal in nature. Therefore possibly additional mechanisms are needed which can encourage comprehensive coverage across larger areas.

KWT is currently running 'The Long Forest' in the Brecon Beacons National Park; this is an initiative aimed at encouraging community support in researching, recording and restoring the network of hedgerows in the National Park. The project has been funded to the value of £120,000 from the Brecon Beacons Trust and the SD Fund operated by the National Park Authority. The initiative was launched in the autumn of 2012 and is due to run for nearly two years. This initiative brings together farmers/landowners, community groups, schools, NGOs such as local Wildlife Trusts, as well as local businesses willing to sponsor the work. We believe this approach has much to offer to the Action Plan and we are currently exploring with the Woodland Trust how such an approach could be rolled out across Wales.

ACTION: Promoting diverse and connected flowering habitats across wider countryside

We support the suite of measures identified under this action, involving Natural Resources Wales managed woodland, SSSIs, Protected Landscapes and so forth. However, rather than these actions being taken independently, much could be gained by running a national awareness campaign that would provide a framework to highlight what all the different stakeholders were doing.

ACTION: Promoting diverse and connected flowering habitats in our towns, cities and developed areas.

KWT is particularly keen to support this aspect of the Action Plan. Our community work through Tidy Towns (which is part-funded by the Welsh Government), as well as our role in running other international programmes, such as Eco Schools and YRE, will be important contributors to this action.

KWT has also recently taken up the management of the Green Flag for Parks awards. This includes 57 Green Flag Parks and 56 Community Parks currently. Our ambition is to grow the number of Parks receiving both awards - and at the same time to increase the public's awareness and use of these green spaces. There is a mechanism here to promote the Action Plan for Pollinators to a wider audience.

For the last two years KWT has run a short wildlife campaign called "Wild Weekend." This has attracted funding in the form of vouchers from private sector retailers such as
B&Q and Homebase. The campaign has been very popular and heavily oversubscribed. With continued support the concept could be developed further and targeted at actions to support pollinators.

Outcome 2: Wales' pollinator population are healthy

ACTION: Supporting UK action to promote healthy populations of pollinators in Wales

We support this action and welcome the recognition for UK and international coordination and joint approaches.

Outcome 3 Wales' citizens are better informed and aware of the importance and management of pollinators

We warmly welcome this outcome, and as suggested earlier feel that it should be reflected as part of the vision. The reference to the importance of the Welsh landscape to tourism is certainly relevant from an economic point of view, but more could be said in the introductory paragraph to reflect the value of pollinators to residents in Wales – reflecting issues such as enjoying the countryside, parks and gardens, but also in terms of the price of locally-produced food, etc. The increase in demand for local food growing and in particular allotments are also important factors in making citizens aware of the value of pollinators.

ACTION: Working to raise awareness of the importance of pollinators and engage our citizens in their management

We welcome the reference to Eco Schools and look forward to discussions on how this Programme can play a part in supporting the Action Plan. One immediate area for taking forward would be encouraging the planting of wild flowers in school grounds and in areas adjacent to sports fields. The work of Learning through

Landscapes (LTL), a charity promoting the more sustainable use of schools grounds, is also relevant here.

The reference to Plant for wildlife and collaboration with garden centres is highly relevant and there is considerable scope to reinvigorate this initiative and make it highly relevant to the Pollinators Action Plan. KWT would be keen to support this.

Raising awareness amongst famers and landowners is also going to be very important and perhaps utilising the best practice from current land management initiatives will contribute to this e.g. highlighting the benefits that farmers under the Pontbren initiative have enjoyed and the impact this has had on pollinators and thus their businesses. TV coverage on programmes such as Cefn Gwlad would also target welsh-speaking farmers.

There is a need to pull all these stands together and highlight:

- the problem and why it requires urgent action
- the range of initiatives already taking place on farms, parks, domestic gardens, industrial estates, alongside paths and cycle tracks and so forth
- the importance of targeted information for residents, voluntary grounds, business owners, schools and universities etc setting out what action they can take to support the Action Plan.

This can only be done by developing a coordinated national campaign that provides a framework for local action across different stakeholders and sectors.

Outcome 4 Wales has joined-up policy, governance and a sound evidence base for action for pollinators

The reference to the link between action for pollinators and the wider ecosystem approach is well made. However, the majority of the public will have little or no understanding of the eco system approach and the Welsh Government's range of actions under this agenda.

By contrast, awareness of the threat to bees and other pollinators has been covered fairly extensively by the media - and by highlighting the action the Welsh Government and others are taking through a coordinated campaign, the work on pollinators could be an effective way to explain the principles of eco systems to the public. So the pollinator Action Plan will not only contribute to wider objectives in terms of biodiversity, but if presented in a compelling way, it could be an excellent mechanism for explaining why the integrated principles embedded in the ecosystem approach are so vital to our health well being and indeed survival.

ACTION: Linking together Welsh Government policies to produce beneficial actions that are good for pollinators and therefore wider ecosystem health

We warmly welcome the inclusive approach being advocated and the need for coordinated action and we hope that KWT will be able to make a contribution to this important issue.

ACTION: Building an evidence base to support future action for pollinators

The need for underlying base line information and a deeper understanding of the issues goes without saying. We are pleased that the proposed monitoring would also reflect changes in public awareness, though we would suggest that this should go a bit further and measure the public's concerns and involvement in positive actions as well.

4. How could you contribute further to the areas for action identified? How could we support you to do so?

We have already indicated how some of our existing programmes and campaigns are either already contributing to the health of pollinators, or could be adapted and strengthened in a way that adds further benefits. These include:

- Tidy Towns
- Eco Schools
- The Long Forest
- Green Flag for Parks
- Wild Weekend
- YRE

These initiatives are part funded by Welsh Government and other public sector partners such as Natural Resources Wales, but we also work with private sector organisations and can apply to Trusts and Foundations for further support. Our work is based on encouraging and supporting voluntary action and this adds considerable value in terms of reducing costs and generating social benefits such as heath, well being and community cohesion. We would welcome discussions to explore how our existing programmes could be developed and enhanced in such a way as to feed directly into the pollinators Action Plan.

There are also other potential areas of involvement that we can put forward:

In the Republic of Ireland our sister agency, An Taisce, runs Green Campus. This is an extension of their Green Schools (equivalent to Eco Schools) Programme for Universities and Higher Education Colleges. KWT is keen to explore the possibility of establishing a similar approach in Wales i.e. an Eco Campus Programme. A key component of this would be ensuring that the pollinator Action Plan was included in the management of campus sites and sports grounds.

The Big Lottery Fund, in partnership with Kew Gardens, are currently launching a new initiative called Grow Wild, which is aimed at promoting the planting of wild flowers in deprived urban communities. This new UK-wide initiative:

- will be aimed at the 12-to-25 age range
- provide 1 million Grow Wild free seed-sowing kits in iPod-style boxes
- support 4 flagship sites, one of which will be in Wales
- fund 160 community sites
- involve 3 million people working on the project.
- and raise awareness amongst 30 million people through extensive TV coverage and outreach.

Clearly this campaign is very timely and provides a great opportunity for the pollinators Action Plan.

5. Would you like to be involved in developing the actions needed to achieve the outcomes? If so, in what way?

As indicated above, we would welcome discussions on how our work can provide further support.

Encouraging wider awareness of environmental issues and more responsible behaviour is at the heart of all our work and this principle is embedded in all of our projects and initiatives from local environmental quality issues, through to river care work, restoring hedgerows, reducing carbon footprint and encouraging more sustainable travel. Our expertise lies in developing and running environmental campaigns and we have a track record in fostering support from public, private and voluntary sectors. We work across Wales and have links with a wide range of organisations across economic, social and environmental sectors. If the concept of developing a national awareness raising campaign therefore is taken forward, KWT would be pleased to be involved and to provide support and advice.

WELSH GOVERNMENT
CONSULTATION ON THE DRAFT ACTION PLAN FOR POLLINATORS FOR WALES

Consultation Response Form on behalf of Pembrokeshire Beekeepers' Association

Your name: Paul Eades, Secretary and Apiary Manager, on behalf of Pembrokeshire Beekeepers' Association

Organisation (if applicable): Pembrokeshire Beekeepers' Association (PBKA)

Your address: Heddfan, The Gail, Llangwm, Haverfordwest, Pembrokeshire, SA62 4HJ

Question 1*: Do you agree with our vision for pollinators in Wales?*

The PBKA is in agreement with the broad thrust of its aspirations, but wonder what substantial and practical outcomes will come out of this exercise in practice. We consider that it should have a detailed and timetabled action plan with specific achievable goals, those responsible for their implementation identified and the proposed actions appropriately resourced. This should be monitored for compliance and formally reported on. Failure to have practical and meaningful targets, which are actually deliverable, will reduce the plan to little more than a talking shop of aspirations, but not fundamentally change where we are currently.

Question 2*: Have we identified the main areas of concern for pollinators in Wales or are there further issues you want to identify?*

Poor beekeeping practice is also a threat to managed bees through a lack of training, poor hygiene practice, failure to keep up to date with modern beekeeping techniques, poor husbandry and disease recognition. We need to encourage beekeepers to become more actively engaged with their local beekeeping associations, to attend training sessions and workshops, and to subscribe to Beebase. Bearing in mind that many older (and very experienced) beekeepers do not use modern IT technology for example, we wonder how many will even be aware of these draft proposals?

Question 3*: Do you agree with the outcomes identified, and the areas for action to achieve them? Your comments are welcomed.*

The PBKA is concerned that no mention appears to have been made regarding the effective provision of training with support for beekeepers and local associations, who are in the main amateurs and keep the majority of managed hives.

To put the matter into context, during the growing season a typical bee hive houses some 50,000 bees. Given that the number of hives your average amateur keeps is probably between 2 and 6, this represents a bee population in season of between 100,000 and 300,000, which can have a significant impact on local pollination simply by virtue of the numbers of pollinating insects involved. Assuming your estimated

figure of 18,294 colonies in Wales is correct; this puts the total potential number of managed bees in Wales at 914,700,000, or nearly 1 billion.

***Question 4**: How could you contribute further to the areas for action identified? How could we support you to do so?*

The PBKA already trains beekeepers and keeps them informed via practical apiary meetings, training sessions, workshops, our association website; www.pbka.info/ and our Facebook page www.facebook.com/PembsBeekeepers

We also attend local events such as the Pembrokeshire County Show, The Really Wild Food Festival, and give talks and demonstrations to various organisations such as schools, the WI, gardening clubs, etc.

The PBKA is currently developing the 'Pembrokeshire Beekeeping Centre', at Scolton Manor near Haverfordwest. We have received some £48,000 of funding for the project from Environment Wales, and the Prince's Countryside Fund. The broad outline of the project and its objectives being as follows:

1. The 'Pembrokeshire Beekeeping Centre', is being achieved as a four phase project, with the aim of becoming a centre of excellence in Pembrokeshire for beekeepers and beekeeping and comprises the following;

- Phases 1 and 2 established a working apiary in 2011/12, which has allowed safe public viewing, as well as training facilities for beekeepers.
- Phase 3 is currently under development and comprises a honey processing facility for the hygienic preparation of hive products for sale on site and an interactive audio/visual public viewing area with exhibits, information and live 'bee-cam' monitors fed from cameras in an apiary hive.
- Phase 4 is development of a second apiary, scheduled for 2014, to ensure the long term sustainability of the project.

2. Improved conservation and sustainability of honey bees and beekeeping in Pembrokeshire for the community in terms of both present and future generations with a resultant benefit on the local environment and economy.

3. Increased number of beekeepers and beehives throughout the County, plus ongoing development and support for beekeepers in Pembrokeshire, including classroom and practical training.

4. Beekeepers in Pembrokeshire achieving and maintaining higher standards of bee husbandry, including more effective and pro-active disease recognition and control.

5. Improved beekeepers' awareness of their legal obligations on bee imports and requirements on responsible storage, safe administration and recording of bee medications and other treatments

6. More effective working with government and other agencies to achieve common environmental objectives.

7. Raised public awareness of the environmental importance of bees and beekeeping which will encourage the consideration of bees and other pollinators when gardening and farming, etc, as well as reconnecting people with the countryside.

8. Promotion of the production and consumption of naturally produced British food by a traditional country craft.

9. Improved pollination around the County due to the additional numbers of beekeepers and active beehives, with a resultant positive impact on crops and the environment.

10. It is expected that the number of additional potential pollinators in the locality of Scolton Manor alone will increase by 1 million during the growing season.

11. An ongoing programme to breed queen bees best suited to local conditions, which are both hardy and disease resistant.

12. The project will be environmentally friendly with a low carbon impact.

13. Sales of honey produced will provide income for Pembrokeshire Beekeepers' Association, in order to ensure the project's long term sustainability.

14. The project is owned by Pembrokeshire Beekeepers' Association, through its Committee and members, and managed on a day to day, voluntary basis by its Apiary Manager.

15. Non-beekeeping volunteers will have the opportunity to contribute and learn what beekeeping involves, the environmental impact that bees have and to feel that they are doing something positive. It is hoped that some of these volunteers will take up the craft for themselves with all the positive benefits that beekeeping entails.

16. The project has been fully costed to ensure the project is self supporting and sustainable in the long term.

17. The PBKA has been granted long term security of tenure by the landowners Pembrokeshire County Council

18. The ongoing ability to protect and improve the health of honeybees in Pembrokeshire in line with the strategy originally launched by WAG and DEFRA in March 2009, which requires all stakeholders to work together and recognise the common purpose of improving honeybee health and sustainability. The numbers of beekeepers trained and additional colonies around the County will be measurable indicators.

In respect of support that you could provide generally, we have the following suggestions:

1. More effective and practical support for beekeepers and beekeeping associations throughout Wales, in terms of training, facilities and public awareness. Whilst the PBKA has been fortunate in securing funding, most other beekeeping associations in Wales do not have the resources to develop such a project.

2. Engaging more effectively with other organisations to ensure they are complying with their environmental responsibilities in this area, such as local authorities, agricultural organisations, etc: in respect of planting pollinator friendly plants in towns etc rather than sterile non-pollen/nectar producing plants and the effective management and preservation of habitats. Also, avoiding unnecessary hedge/grass cutting and the use of pesticides, etc; particularly during the blooming periods, in order to reduce the loss of vital forage and the poisoning of pollinators.

3. The reintroduction of professional County full time beekeeping advisers through FERA, together with more real resources for the existing bee inspector programme, which is highly valued by beekeepers, would be a real and positive benefit to beekeeping in Wales and demonstrate a real commitment to dealing with the issues.

Question 5*: Would you like to be involved in developing the actions needed to achieve the outcomes? If so, in what way?*

In addition to the actions already being undertaken as outlined above, the PBKA would be more than happy to be involved in any further consultations etc relating to the proposed plan and its implementation.

Question 6: *We have asked a number of specific questions. If you have any related issues which we have not specifically addressed, please use this space to report them:*

In respect of Governance and Infrastructure, the Welsh Beekeepers' Association is recognised as the central body representing beekeeping associations across Wales.

We are not aware that the 'National Beekeeping Centre for Wales', has a mandate to act on behalf of, or speak for, Welsh beekeepers and our understanding is that this title was self appointed without agreement at National level. We are surprised therefore to see that they have a specific mention in the draft document, which may erroneously imply by their inclusion, some level of authority.

County beekeeping associations in general do a tremendous amount of work to promote beekeeping and train new beekeepers. Most of this is dependant on the goodwill of a relatively few dedicated beekeepers, who as volunteers manage to keep going with very few resources or practical support.

Finally, we have genuine concerns as to how much impact this consultation process will actually have, given the number of responses you are likely to receive on this matter and the time needed to consider and action them in an informed manner by your July launch date.

From: Communications [mailto:communications@wales.gsi.gov.uk]
Sent: 30 May 2013 10:32
To: BioDiversity
Subject: Draft action plan for pollinators - online form response

Page used to send this email:	/consultations/forms/pollinators-action-plan-response-form/
Name:	Chrissie Bussingham
Email / telephone number:	chrissiebussingham@btinternet.com
Your address:	101 PENYMYNYDD ROAD, PENYFFORDD, NR. CHESTER,FLINTSHIRE, CH4 0LF.
Question 1: Do you agree with our vision for pollinators in Wales?:	Yes, but I feel the proposals don't go far enough.
Question 2: Have we identified the main areas of concern for pollinators in Wales or are there further issues you want to identify?:	Wildflower survival on land not contaminated by pesticides is not encouraged in Wales - we could lead the way on this at no cost to the people of Wales, please see answers below.
Question 3: Do you agree with the outcomes identified, and the areas for action to achieve them? Your comments are welcomed.:	Wales spends MILLIONS of pounds every year on cutting grass on verges and roundabouts or no good reason whatsoever - one local council here in North Wales actually starts grass cutting in FEBRUARY or as soon as the snow melts, which ever is the sooner. Areas that are not cut actually 'level out' over the growing season - visability for motorists is not impaired on roundabouts for example. Grass, and of course wild plant and flower destruction should only take place to ensure information and safety signage is visable for everyone.
Question 4: How could you contribute further to the areas for action identified? How could we support you to do so?:	I have approached my local councillors informally on this issue to no avail..... My nearest large roundabout known locally as the Penymynydd Roundabout is cut throughout the growing season but the grass is not collected so leaves large clods of wet grass which blow into the road which is yet another slippy hazard thing to be avoided by bikers and cyclists. It also looks really ugly! The surrounding areas that escape the cutting 'level out' at under 80cm and are full of wild flowers some of which are endangered species and as a bonus these areas look wonderful. When I raised these issues with my local councillor[retired farmer] whose home and fields border

	this roundabout his reply was ' grass cutting makes everywhere looks neater.' He refused to discuss the cost of 'cosmetic' grass cutting even though he was a county councillor at the time. I could not afford to instigate a 'freedom of information act ' to find out the costs of this wildflower and plant destruction so apart from lobbying to the people who control the local council budgets I have no idea what to what else to do.....
Question 5: Would you like to be involved in developing the actions needed to achieve the outcomes? If so, in what way?:	I have no idea how to help at the moment.....ideas would be welcome.
Question 6: We have asked a number of specific questions. If you have any related issues which we have not specifically addressed, please use this space to report them:	Devonshire County Council have introduced some interesting ideas on this subject as outlined on a recent Countryfile BBC television programme. Wales should be setting an example on protecting our bees and other pollinators but in this case we need to learn and catch up with this forward thinking council.

Center for Regulatory Effectiveness
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30 May 2013

Biodiversity team
Nature, landscape and outdoor recreation branch
Welsh Government
Rhodfa Padarn
Llanbadarn Fawr, Aberystwyth
SY23 3UR
biodiversity@wales.gsi.gov.uk

Re: Llywodraeth Cymru/Welsh Government: Draft Action Plan for Pollinators

Dear Biodiversity team:

Overview of the Welsh Government's Public Consultation

The Welsh Government has declared, "Bee and pollinator health has been increasingly highlighted as a cause for concern in the UK and globally." In an effort to effort to "reverse the decline in pollinator numbers," the Welsh Government will be creating an Action Plan.

As part of the Action Plan, the Government recently opened a public comment period on a draft Action Plan it is developing to prevent the decline of pollinators, namely bees. The supporting documents identify neonicotinoids as a possible factor contributing to bee health decline. More specifically, the Welsh Govenment's Consultation Document states that "[t]he use of fertilisers and pesticides has been a part of the move towards more intensive farming in Wales. There is significant concern over the potential direct effects of pesticides on managed and unmanaged pollinators, such as neonicotinoids."

The public comment period on the Wales Action Plan comes in the wake of the European Commission's decision to temporarily restrict three neonicitinoids. The Commission acted after "Member States did not reach a qualified majority – either in favour or against...a Commission proposal to restrict the use of 3 neonicotinoid insecticides." 12 EU Member States declined to support the restrictions proposed by the Commission.[1]

The Action Plan's development process, including this public consultation, provides the opportunity for Wales to independently assess the conclusions reached in:

- The Department for Environment, Food and Rural Affairs's (Defra's) Food and Environment Research Agency (fera) research which found that:

[1] http://europa.eu/rapid/press-release_IP-13-379_en.htm.

- "The [fera] study did not show that neonicotinoids used within a normal agricultural setting have a major effect on bumble bee colonies."[2]

- "The study underlines the importance of taking care in extrapolating laboratory toxicology studies to the field, as well as the great need of further studies under natural conditions."[3]

- Defra's March 2013 scientific assessment document "An assessment of key evidence about Neonicotinoids and bees," which determined:

> ***Conclusion****: While this assessment cannot exclude rare effects of neonicotinoids on bees in the field, it suggests that effects on bees do not occur under normal circumstances. This assessment also suggests that laboratory based studies demonstrating sub-lethal effects on bees from neonicotinoids did not replicate realistic conditions, but extreme scenarios. Consequently, it supports the view that the risk to bee populations from neonicotinoids, as they are currently used, is low.*[4] [Emphasis added.]

It is important to also note Defra's explanation of the deeply counterintuitive and unsupported complaints regarding neonicotinoids:

> *Insects are significant pollinators of crops like oilseed rape where yields can collapse in the absence of pollinators [notes omitted]. In the UK, neonicotinoids have been used as seed treatments on OSR for 10 years. This suggests that if pesticide use was reducing pollinator effectiveness then this would also be detrimental to crop productivity. Consequently, the claim that treatment of OSR with neonicotinoids kills pollinators is partly countered by the success of the crops themselves.*[5] [Emphasis in original.]

As we will discuss below, Defra's findings are consistent with the observation of a distinguished entemologist and bee researcher at the University of Illinois who observed that the area the university is located in has zero confirmed cases of CCD even though it is "ground zero for neonicotinoid use."

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[2] Food and Environment Research Agency, "Effects of neonicotinoid seed treatments on bumble bee colonies under field conditions," March 2013, p. 36, *available at* http://www.fera.defra.gov.uk/scienceResearch/scienceCapabilities/chemicalsEnvironment/documents/reportPS2371Mar13.pdf.

[3] Ibid.

[4] Department for Environment, Food and Rural Affairs, "An assessment of key evidence about Neonicotinoids and bees," March 2013, p. 1, *available at* https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/181841/pb13937-neonicotinoid-bees-20130326.pdf.pdf.

[5] Ibid., p. 5.

Summary of CRE Comments

About CRE

The Center for Regulatory Effectiveness (CRE), a non-governmental regulatory watchdog, fully supports the Welsh Government's announcement that it plans to develop an Action Plan to prevent the decline of bee health and other pollinators. CRE was established by former senior career officials from the White House Office of Management and Budget (OMB) who have been recognized for their contributions to science. For more information about CRE, please see here.

CRE appreciates the Welsh Government's commitment to science and transparency in public policy as evidenced by this public consultation. The CRE also appreciates the substantial impact that pollinators have on agriculture.

V. destructor: The Major Factor Underlying Colony Loss

According to the supporting documents for public consultation on the Action Plan, "the value of pollinators to UK agriculture is conservatively estimated to be £430 million per year." This is why it is necessary to direct to measures to effectively address "the major factor underlying colony loss,"[6] varroa mites (*Varroa destructor).*

A recent study unequivocally state that the *Varroa destructor* "has resulted in the death of millions of honey bee (*Apis mellifera*) colonies."[7] The study concluded, "the spread of Varroa in Hawaii has caused [deformed wing virus], originally an insect virus of low prevalence, to emerge. This association may be responsible for the death of millions of colonies worldwide wherever Varroa and [deformed wing virus] co-occur.

The findings in the above-referenced study by researchers at the University of Sheffield and other institutions are backed by the British Beekeepers Association (BBKA). BBKA chairman, Dr. David Aston stated that the research "increased our understanding of the relationships between Varroa and [this] significant bee virus…These findings underline the need for further research into Varroa…There remains a clear and urgent need for an effective, approved treatment."[8]

Recent research conducted by scientists at the Swiss Bee Research Centre in Bern, Switzerland and the USDA/Agricultural Research Service's Bee Research Laboratory in Beltsville,

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[6] United States Department of Agriculture/Agricultural Research Service, "Report on the National Stakeholders Conference on Honey Bee Health: Key Findings," *available at* http://www.ars.usda.gov/is/pr/beereport.htm?pf=1.

[7] Stephen J. Martin, et al., *Global Honey Bee Viral Landscape Altered by a Parasitic Mite*, 336 Science 1304, (June 8, 2012).

[8] Victoria Gill, *Honeybee Virus: Varroa Mite Spreads Lethal Disease*, BBC Nature, (June 7, 2012).

MD found a close link between *Varroa* levels and Deformed Wing Virus (DWV) with associated loss of colonies:

> *There was a significant positive correlation between V. destructor infestation levels and the number of workers displaying DWV clinical signs, further supporting the mite's impact on virus infections at the colony level. A logistic regression model suggests that colony size, the number of workers with wing deformities and V. destructor infestation levels constitute predictive markers for winter colony losses in this order of importance and ease of evaluation.*[9]

Research funded jointly by the Dutch Ministry of Agriculture, Nature Conservation and Food Quality and the European Union also confirmed the close relation between *V. destructor* infestation levels and colony loss. More significantly, the research demonstrates that reducing the levels of mite infestation through treatment of colonies with an acaricide improved colony survival rates over the winter. The study concluded:

> *This study contributes to theory about the multiple causes for the recent elevated colony losses in honey bees. Our study shows the correlation between long lifespan of winter bees and colony loss in spring. Moreover, we show that colonies treated earlier in the season had reduced V. destructor infestation during the development of winter bees resulting in longer bee lifespan and higher colony survival after winter.*[10]

Instead of addressing the *V. destructor* concern, the EU has been focusing on neonicotinoids as the cause. The EU recently passed a two year restriction on the use of neonicotinoids. The EU resitrictions not only fail to address the impact of *Varroa* – and thus fail to protect pollinators –but also it will be economically harmful to European farmers and agricultural production.

According to a study by the Humboldt Forum for Food and Agriculture, neonicotinoid seed treatment contributes between 5.4 billion and 6.3 billion Euros to the GDP of the EU.[11] "To put the numbers into context: the immediate potential damages to the overall EU welfare if [neonicotinoid seed treatments] were banned or their use suspended (4.5 billion EUR) are approximately as large as

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[9] Benjamin Dainat and Peter Neumann, "Clinical signs of deformed wing virus infection are predictive markers for honey bee colony losses," Journal of Invertebrate Pathology, Volume 112, Issue 3, March 2013, Pages 278–280, Abstract.

[10] Coby van Dooremalen, Lonne Gerritsen, et al, "Winter survival of individual honey bees and honey bee colonies depends on level of Varroa destructor infestation," PLoS One. 2012; 7(4): e36285, *available at* http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3338694/.

[11] Steffen Noleppa and Thomas Hahn, *The Value of Neonicotinoid Seed Treament in the European Union: A Socio-economic, Technological, and Environmental Review*, Humboldt Forum for Food and Agriculture, page 7, January 2013 available at http://www.neonicreport.com/wp-content/uploads/2013/01/HFFA%20Report.pdf.

the entire agricultural value added of some smaller EU member states, e.g. Austria or Finland." Even worse, "over a five-year period, the EU could 17 billion EUR or more."[12]

Moreover, the current research and data do not support the EU ban on neonicotinoids. In implementing the ban on neonicotinoids, the EU is relying on a report released by the European Food Safety Authority (EFSA) that has gaps in data, is biased, and fails to meet fundamental data quality standards.[13]

For the foregoing reasons, the Welsh Government needs to center its research efforts and the Action Plan on addressing the predominant cause of bee health decline, *V. destructor*.

The need for bee health regulators and researchers to focus on the role of *Varroa*, not neonicotinoids, was highlighted by a recent interview with the Director of the University of Illinois at Urbana-Champaign's Institute for Genomic Biology who is "an expert on honey bee behavior, genomics and biology."

As CRE noted above, the Institute's Director discussed bee health decline issues in an interview with the Life Sciences editor of an online university publication. In a discussion of possible synergies between "between the sublethal effects of pesticides and the effects of a pathogen, or a parasite, or poor nutrition" the Director observed,

> *Here,* [East Central Illinois] *corn and soybean agriculture use one of the most controversial classes of insecticides, the neonicotinoids. But there are no problems in this area with Colony Collapse Disorder. We're ground zero for neonicotinoid use but we have no documented cases of Colony Collapse Disorder.* [Emphasis added.]

Prior to discussing the pesticides and bee health, Institute's Director was asked about what causes CCD:

> ***What factors do scientists think contribute to CCD?***
>
> *First of all the varroa mite, a parasite of honey bees, has been the real game changer. It is not the cause of Colony Collapse Disorder but it is a huge factor. It has weakened bees by the pathogens that it harbors that it passes along to the bees and perhaps also by damage that it does directly to the bees.*

The complete interview may be found here, http://illinois.edu/lb/article/72/73513.

One issue researchers are investigating is whether there are environmental factors that may increase the susceptibility of bees to *V. destructor*. Research just published in a distinguished journal, the Proceedings of the National Academy of Sciences ("PNAS"), suggests that the common

[12] *Id*. at 18.

[13] See *DQA Alert: The EFSA Report on Neonicotinoids Does Does Not Meet the Data Quality Standards of the Data Quality Act*, available at http://www.thecre.com/oira_pd/?p=5765

bee keeping practice of feeding bees high-fructose corn syrup instead of honey is harming the ability of bees to deal with environmental stresses by damaging their immune system. The researchers identified specific compounds of interest in honey, including *p*-coumaric acid, pinocembrin, and pinobanksin 5-methyl ether, that "specifically induce detoxification genes." The researchers conclude that,

> *As a major component of pollen grains, p-coumaric acid is ubiquitous in the natural diet of honey bees and may function as a nutraceutical regulating immune and detoxification processes. The widespread apicultural use of honey substitutes, including high-fructose corn syrup, may thus compromise the ability of honey bees to cope with pesticides and pathogens and contribute to colony losses.*[14]

The central role of the *Varroa destructor* in bee health decline was highlighted in a major US government science report, discussed below, prepared by scientists at the United States Department of Agriculture ("USDA"), the United States Environmental Protection Agency ("US EPA") and Pennsylvania State University.

Any Welsh pollinator risk assessment should explicitly consider the conclusions and recommendations of a recent report by the United States National Academy of Sciences (NAS Report). The NAS Report is entitled *Assessing Risks to Endangered and Threatened Species from Pesticides*[15] and is incorporated by reference as an integral part of CRE's comments to the Welsh Government.

The NAS Report addresses U.S. regulation of pesticides under the Endangered Species Act ("ESA").[16] It should be noted that the U.S. government primarily regulates pesticides under the Federal Insecticide, Fungicide and Rodenticide Act ("FIFRA"),[17] which has a much more specific risk/benefit component than does the ESA. Currently, there are no bees on the ESA endangered and threatened lists. Consequently, the NAS Report does not specifically discuss bee risk assessments. The NAS Report does, however, reach conclusions and provide recommendations which are helpful in assessing risks to bees and other pollinators.

Of particular note, the NAS Report emphasizes the need for federal agencies to fully comply with White House's government-wide guidelines implementing the federal Data Quality Act ("DQA"). The NAS Report provides excellent guidance on assessing all pollinator risks and in

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[14] Wenfu Maoa, Mary A. Schulerb, and May R. Berenbauma, "Honey constituents up-regulate detoxification and immunity genes in the western honey bee Apis mellifera," http://www.pnas.org/content/early/2013/04/26/1303884110.

[15] A prepublication copy of the complete NAS Report is available on CRE's website here, http://thecre.com/pdf/NAS--Assessing_Risks.pdf.

[16] See, US Fish & Wildlife Service, Endangered Species Act | Overview, *available at* http://www.fws.gov/endangered/laws-policies/.

[17] See, US EPA's Overview of FIFRA, http://www.epa.gov/agriculture/lfra.html#Summary of the Federal Insecticide, Fungicide, and Rodenticide Act.

particular it provides excellent guidance in assessing sublethal risks. This report's recommendations and conclusions are discussed in detail below in the section our comments titled, "National Academy of Sciences Provides the Model for Assessing Pollinator Risks."

US Government State of Science Report on Bee Health

The USDA-published document, "Report on the National Stakeholders Conference on Honey Bee Health" was based on "the proceedings of a stakeholder conference organized and conducted by members of the National Honey Bee Health Stakeholder Conference Steering Committee." The Steering Committee consists of USDA, EPA and Pennsylvania State University scientists.[18]

The conference which produced the Report focused on three objectives, the first of which was to synthesize the state of scientific knowledge on bee health decline, "bee pests, pathogens, and nutrition, potential pesticide effects on bees, and bee biology, genetics and breeding." Other purposes of the conference were to assist in the development of Best Management Practices guides and identify priority areas for research, education and outreach.

There were two key findings from the conference, one specific to *V. destructor* and a finding about the broad scientific consensus on the multi-factor nature of bee health decline.

After reviewing research from Conference participants, the Conference concluded that:

> *Consensus is building that a complex set of stressors and pathogens is associated with CCD, and researchers are increasingly using multi-factorial approaches to studying causes of colony losses.*[19]

The primary implication from the USDA/EPA finding for the Welsh Government's development of an Action Plan to protect pollinator health is:

- To be effective, the Welsh Action Plan will need to take an integrated, science-based, multi-factor approach to protecting pollinator health.

The corollary to the above conclusion is that any simplistic plan with a focus on a "silver bullet," find-the-bad-actor-and-eliminate-it approach will fail.

Although the USDA Report highlighted the multi-factor nature of bee health decline, the document also emphasized pre-eminent role of *Varroa destructor* in the loss of colonies:

> *The parasitic mite Varroa destructor remains the single most detrimental pest of honey bees, and is closely associated with overwintering colony declines.*[20]

[18] The complete report is available at http://www.usda.gov/documents/ReportHoneyBeeHealth.pdf.

[19] USDA, "Report on the National Stakeholders Conference on Honey Bee Health," ("USDA Report") p. v.

Moreover, the Report also found that "Multiple virus species have been associated with CCD" and that "Varroa is known to cause amplified levels of viruses."[21]

USDA, on their website, summarized the Report's "Key Findings" by stating,

> *The parasitic Varroa mite is recognized as the major factor underlying colony loss in the U.S. and other countries. There is widespread resistance to the chemicals beekeepers use to control mites within the hive. New virus species have been found in bees in the U.S. and several of these have been associated with CCD. The Varroa mite is the primary factor known to increase levels of some bee viruses.*[22] [Emphasis added.]

The first detailed presentation at the Conference was a review of the "Current State of Knowledge of CCD and its Relation to Honey Bee Health" presented by researchers at USDA and the University of Maryland. The findings presented included discussion of *Varroa*:

> *The parasitic mite Varroa destructor remains the single most detrimental pest of honey bees and can magnify the role of viruses in bee health.*[23]

The Current State of Knowledge presentation and the USDA Report both discussed neonicitinoids, but in a way very different than viewing the category of compounds as being a cause of bee health decline. Instead, the federal scientists found that neonicotinoids pose far lower hazards to bees than alternative crop protection products.

> *Pesticide exposure to pollinators continues to be an area of research and concern, particularly the systemic pesticides such as neonicotinoids. Despite concerns regarding the potential hazard that systemic pesticides may represent to honey bee colonies, when pesticides are viewed in the aggregate at the national level, the frequency and quantity of residues of pyrethroids coupled with the toxicity of these insecticides to bees could pose a 3-fold greater hazard to the colony than the systemic neonicotinoids.*[24]

USDA did not even mention neonicitinoids on their Key Facts summary of the report. Instead, the researchers emphasize the need for actual exposure data in order to be able to determine whether pesticides are relevant to bee health decline.

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[20] Ibid., p. vi.

[21] Ibid.

[22] USDA, Agricultural Research Service, "Report on the National Stakeholders Conference on Honey Bee Health: Key Findings," *available at* http://www.ars.usda.gov/is/pr/beereport.htm.

[23] USDA Report, p. 6.

[24] Ibid.

> *Acute and sublethal effects of pesticides on honey bees have been increasingly documented, and are a concern but it is not clear, based on current research, whether a pesticide exposure is a major factor associated with U.S. honey bee health declines.* [sic] *The most pressing research questions relate to determining actual pesticide exposures bees receive in the field.*[25] [Emphasis added]

The Report delved into the issue of the sublethal effects of pesticides on bees and emphasized the complexity of the research and the need to understand the actual exposures of bees to pesticides,

> *...it remains a challenge to measure the effects of low-level, field-relevant exposure where it matters most: in real honey bee colonies. The social complexity of honey bees and the uncontrollable aspects of field research present substantial challenges to determining pesticide effects in whole-colonies. While experiments using whole colonies have the potential to directly address the effects of pesticides on honey production and pollination services, challenges presented by field or semi-field experiments include:*
>
> - *Many colonies are needed per treatment due to high variability between honey bee colonies.*
> - *The actual levels of exposure to pesticides that bees receive are still a big question.*[26]

From a policy standpoint, the bee health question for the Welsh Government becomes, why focus on a class of chemical that has little or nothing to do with bee health decline? A neonicitinoid-centric strategy for protecting pollinators calls to mind a quote from legendary journalist H. L. Mencken[27] who explained that "For every complex problem there is an answer that is clear, simple, and wrong."

From a science standpoint, the Welsh Government has the task of determining how to evaluate conflicting scientific data. Fortunately, federal officials have developed a set of standards for evaluating the quality of data. Unless the information under consideration by government agencies, irrespective of its source, can pass the federal data quality standards, agencies are prohibited from using or relying on the data in agency information disseminations such as reports and regulations.

The National Academy of Sciences (NAS), which was established by Congress and President Abraham Lincoln in 1863 to provide "independent, objective advice to the nation on matters related to science and technology,"[28] recently evaluated the role of the Data Quality Act standards on federal

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[25] USDA Report: Key Facts, http://www.ars.usda.gov/is/pr/beereport.htm.

[26] NAS Report, p. 18.

[27] http://en.wikipedia.org/wiki/H._L._Mencken.

[28] http://www.nasonline.org/about-nas/mission/.

evaluation of science policy research. The NAS report, discussed below, is highly relevant to the Welsh government's Public Consultation on pollinator protection and to the science policy endeavors of virtually all organizations.

National Academy of Sciences Provides Guidance on Data Quality and Sublethal Risks

On April 30, 2013, the National Academy of Sciences released a major report on assessing risks to species under the U.S. ESA lists: *Assessing Risks to Endangered and Threatened Species from Pesticides* ("NAS Report"). The NAS prepared this report at the request of the US EPA, the U.S. National Oceanic and Atmospheric Administration ("NOAA")/National Marine Fisheries Service ("NMFS"), the U.S. Fish and Wildlife Service ("FWS"), and the USDA. This NAS Report provides the model for all ecological risk assessments, including pollinator risk assessments.

The complete NAS Report is available online here: http://www.thecre.com/forum1/?p=6116.

CRE submitted written comments to the NAS during its review and report preparation. CRE's comments to the NAS are available online here: http://www.thecre.com/forum1/?p=4569.

CRE's comments briefed the NAS on the four U.S. agencies' DQA implementing Guidelines. CRE is widely recognized as the leading champion of the DQA. An article in Naval Law Review explained that the Information (Data) Quality Act "is the result of lobby efforts by Dr. James Tozzi, Multinational Business Services and the Center for Regulatory Effectiveness (CRE)."

CRE's comments explained to the NAS that it was commenting on the DQA

> *because EPA, NMFS and FWS have not adequately briefed the Committee on the Government-wide data quality protocols and standards that govern their ecological risk assessments under FIFRA and the ESA. CRE has long been a proponent of these protocols and standards, and helped establish some of them.*

We were gratified to see that the NAS Report, at page 31, acknowledges the importance of DQA Guidelines:

> *[A]ll federal agencies are expected to comply with the Office of Management and Budget (OMB) guidelines on objectivity, utility, and integrity of disseminated information. OMB (67 Fed. Reg. 8452 [2002]) describes those attributes as follows:*
>
> *'Objectivity' focuses on the extent to which information is presented in an accurate, clear, complete and unbiased manner; and, as a matter of substance, the extent to which the information is accurate, reliable and unbiased. 'Utility' refers to the usefulness of the information to the intended users. 'Integrity' refers to security, such as the protection of information from unauthorized access or revision, to ensure the information is not compromised through corruption or falsification."*

> *The Services and EPA (EPA 2002; FWS 2007) have separately published information quality guidelines (IQGs) that follow closely the government-wide OMB guidelines. Similar basic principles for achieving a scientifically credible assessment are prescribed in the IQGs from the agencies; the agencies are committed to ensuring the quality of evaluations and the transparency of information from external sources used in their disseminated assessments and actions (EPA 2003; NMFS 2005). They also recognize that a high level of transparency and scrutiny is needed for influential information that is expected to have a substantial effect on policies and decisions (EPA 2002; NMFS 2004; FWS 2007)* [citing the Agencies' DQA Guidelines].

The NAS report at page 34 provides the following additional guidance on data quality:

> ● *Given that stakeholders are aware of and can provide valuable and relevant data, the committee encourages provision for their involvement at the early stage and throughout the ERA process. Stakeholder data are expected to meet the same data relevance and quality standards as all other data.*
>
> ● *To ensure that the best data available are used, information should first be screened for relevance and then subjected to quality review.*
>
> ● *The agencies should, at a minimum, subject all information to a review based on OMB criteria of 'objectivity, utility and integrity.' Information sources that fail any of the criteria can be used at the discretion of the risk assessor, provided that their limitations are clearly described.*
>
> ● *Comparisons of all information sources with the relevance and quality attributes should be documented in the risk assessment and described in the overall characterization of uncertainties.*

In addition to data quality, the NAS report at pages 109-110 establishes the following principles for risk characterization:

> ● *Inclusion of uncertainty factors to account for lack of various data is unwarranted because there is no way to determine whether the assumptions being used substantially overestimate or underestimate the probability of adverse effect.*
>
> ● *RQs [risk quotients] are not appropriate for risk assessments or for any application in which it is desired to base a decision on the probabilities of the various possible outcomes.*
>
> ● *...established, scientifically defensible, statistical methods should be used to calculate risk as a probability to assist decision-makers' understanding of the potential consequences of their decisions.*

> ● *A number of existing probabilistic methods have been shown to be applicable and practical for ecological risk assessments that involve pesticides.*
>
> ● *The transition from concentration-ratio to probabilistic approaches should begin now, focusing on a small set of sensitive key parameters, and drawing on the considerable literature and guidance on probabilistic approaches.*

Sublethal risks are a particular concern with pollinators. With regard to these risks, the NAS report concludes and recommends at page 96:

> ● *An adverse effect should be defined by the degree to which an organism's survival or reproduction is affected; thus, assessing the effects of a pesticide on a listed species requires quantifying the effect of the pesticide on survival and reproduction of the species in the wild. Any effect that results in a change in survival or reproduction is relevant to the assessment, and any effect that does not change either outcome is irrelevant with respect to a quantitative assessment of population effects.*
>
> ● *To determine whether a pesticide is "likely to adversely affect" a listed species, a broad search should be conducted to identify information on sublethal effects of the pesticide and possible concentration-response relationships.*
>
> ●*To provide information to support a jeopardy determination, the Services [NOAA/NMFS and FWS] should either (a) show how sublethal effects change survival or reproduction and incorporate such information into the population viability analysis or (b) state that such relationships are unknown but possible and include a qualitative discussion of uncertainty in the BiOp.*

The NAS report emphasizes on pages 8 and 9 that

> *Pesticides can kill organisms but can also affect reproduction or growth or make organisms less competitive. Although EPA and the Services agree that those sublethal (less-than-lethal) effects should be considered in the assessment process, they disagree on the extent to which they can be included. To address that issue, the committee first considered how to define objectively the degree to which observed effects are adverse. Defining adversity is essential for ERA because the mere existence of an effect is not sufficient to conclude that it is adverse. The committee concluded that the only way to determine whether an effect is adverse and how adverse it might be is to assess the degree to which it affects an organism's survival and reproductive success; any effect that results in a change in either survival or reproduction is relevant to the assessment, and any effect that does not change either outcome is irrelevant with respect to a quantitative assessment of population effects…. The inability to quantify the relationship between a sublethal effect and survival or reproductive success does not mean that the sublethal effect has no influence on population persistence; but in the absence of data, the relationship remains a hypothesis that can be*

> *discussed only qualitatively with reference to the scientific literature to explain why such a hypothesis is tenable.*

Defining and assessing ecological sublethal effects are among the most important issues addressed by the NAS Report. The report explains at page 68:

> *The committee considered how to assess objectively the degree to which observed effects of pesticides on organisms are adverse. Defining that concept is essential for ecological risk assessment because even if an effect is reliably observed, that alone might not be sufficient to conclude that the effectis adverse. The committee concluded that the only reasonable way to determine whether an effect is adverse and how adverse it might be is to assess the degree to which it affects the organism's survival and reproductive success. It then is possible to extrapolate from changes in an individual organism's survival or reproductive success to estimate population effects. If an adverse effect is large enough, it might lead to extinction of the species. EPA reached a similar conclusion in its overview of the ecological risk assessment process (EPA 2004, p. 31): "If the effects on the survival and reproduction of individuals are limited, it is assumed that the risk at the population level from such effects will be of minor consequence. However, as the risk of reductions in survival and/or reproduction rates increase, the greater the potential risk to populations."*

At page 69, The NAS report

> *recommends that EPA in Step 2 (see Figure 2-1) cast a wide net and identify information about sublethal effects of a chemical. If possible, EPA's assessment should include information about responses at various chemical concentrations (a concentration-response curve) and, at a minimum, include a qualitative assessment of the relationship between sublethal effects and survival and reproduction. In Step 3 (see Figure 2-1), the Services should show how such effects change demographic measures(survival or reproduction) of a listed species and incorporate such information into the population viability analyses or should state that such relationships are unknown but possible and include aqualitative discussion in the uncertainty section of the biological opinion (BiOp). The Services [NOAA/NMFS and FWS] face thegreatest challenge in Step 3 in determining whether an observed sublethal effect will change survival or reproduction in the natural population and, if so, the magnitude of such a change in relation to the predicted exposure.*

On page 19, the Wales Action Plan states, "There are gaps in our knowledge of the status and trends of pollinator populations in Wales, and particularly in the interrelationships between impacts on them."

The Plan further states,

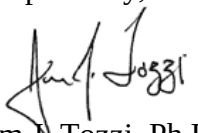
> ***Area for Action 7: Building an evidence base to support future action for pollinators.***
>
> *Although there is a large amount of research being carried out on pollinators there are many evidence gaps regarding their status and trends, the interactions between threats to pollinator populations, and mitigation methods. In Wales, we need to establish baseline data and monitor pollinator populations not least to monitor the outcomes of this plan. The value of retaining pollination services in Wales is one important area for future research. We will engage further with UK research initiatives to improve information for Wales.*

The NAS report explains how to build "an evidence base to support future action for pollinators," and on how to conduct "research initiatives to improve information for Wales." We recommend and request that Wales use the NAS Report to help protect pollinators.

Conclusion

The protection of pollinators is far too important and complex an issue for the Welsh government to accept policy measures, such as banning neonicitinoids, that are "clear, simple, and wrong." Instead, Welsh officials should evaluate all data presented to them to ensure it complies with Data Quality standards. The NAS Report also provides helpful guidance on assessing sublethal effects.

Respectfully,



Jim J. Tozzi, Ph.D.
Member, Board of Advisors

National Federation of Women's Institutes-Wales

Response to the consultation on the Draft Action Plan for Pollinators for Wales

Introduction

The National Federation of Women's Institutes (NFWI) is an educational, social, non-party political and non-sectarian organisation. It was established to ensure that women are able to take an effective part in their community, to learn together, widen their horizons, improve and develop the quality of their lives and those of their communities and together influence local, national and international affairs. The NFWI has an unrivalled reputation as a voice of reason, integrity and intelligence on issues that matter to women and their communities. The organisation has some 210,000 members in 6,500 Women's Institutes across England, Wales and the Islands. In Wales we have 16,000 members and about 500 WIs.

At NFWI's AGM in June 2009, a resolution was passed calling for more to be done to stop the decline of the honey bee:-

"Honey Bees play a vital role in the pollination of food crops and in our environment. In view of concerns about the accelerating decline in the UK honey bee population, this meeting urges HM Government to increase funding for research into Bee Health"

The SOS for Honey Bees campaign arose out of this resolution and involved raising awareness of the plight of the honey bees amongst WI members and enabling them to raise awareness amongst the public; secured action from local authorities and landowners to make green spaces bee friendly; sparked action from individuals and communities to support honey bees, including taking action in their own homes and gardens; and secured action from policymakers to ensure that honeybees featured prominently in Government funded research projects looking at pollinator decline.

1. **Do you agree with our vision for pollinators in Wales?**

NFWI-Wales warmly welcomes the Welsh Government's Draft Action Plan for Pollinators and its vision for pollinators in Wales. The decline in pollinator numbers is a major concern and action must be taken as a matter of urgency to protect both wild and managed pollinators.

We welcome a cross-governmental approach to implementing the Action Plan and integration of other strategies in supporting the Action Plan such as the Climate Change Strategy for Wales, Transport and Planning and the proposed eco-systems approach.

2. **Have we identified the main areas of concern for pollinators in Wales or are there further issues you want to identify?**

Yes, we believe that the main areas of concern for pollinators in Wales have been identified.

3. **Do you agree with the outcomes identified, and the areas for action to achieve them?**

We agree with the outcomes and areas for action and provide comments below.

Area for Action 4: Supporting UK action to promote healthy populations of pollinators in Wales

We note that the Welsh Government will work with stakeholders to monitor the use of pesticides and consider any new evidence bans introduced. NFWI is concerned about the growing body of evidence emerging on the impact that neonicotinoids has on bee health and wellbeing and welcomes the decision made by the European Commission in April to introduce a two year moratorium on their use in certain applications. We acknowledge that there are gaps in the current research available on neonicotinoids but we must bear in mind the huge impact that pollinator decline will have on our future generations. Even if restricting neonicotinoids use makes just a fraction of a difference to the decline in pollinators, we believe that it is justified to take a precautionary approach to restricting their use until the evidence base is improved.

We are delighted that the Welsh Government is leading the initiative with an Action Plan for Pollinators, but it is unfortunate that this progressive approach is not being replicated in other parts of the UK. This is a cross-border issue and as such the NFWI is calling on the UK government to implement a UK wide bee action plan to address the challenges our bee population is facing and protect these most important of pollinators in years to come.

Area for Action 5: Working to raise awareness of the importance of pollinators and engage our citizens in their management

We are pleased to note that Local Authorities across Wales have been engaging with the Planting for Pollinators initiative. As part of the WIs SOS for Honey Bees campaign, WI members called on local authorities to undertake bee-friendly planting in public spaces. We welcome the issuing of best practice guidance to Local Authorities, land managers and the public and welcome any schemes to encourage participation in pollinator friendly practice.

Area Action 7: Building an evidence base to support future action for pollinators

NFWI was delighted when the UK government announced the Insect Pollinator Initiative in 2010; a £10million funding pot dedicated to researching the important role that pollinators play, including honeybees, wild bees and solitary bees. Despite this research, our bee population remains in crisis and immediate action is needed to address the decline. It is widely accepted that the challenges our bee populations faces are multi-faceted, and there are a range of factors affecting their decline. As highlighted above, we believe that more research is needed, particularly to research further the impact of neonicotinoids on pollinator health. However, it is important that this is not done in isolation and that we continue to invest research into the other factors affecting bee decline, including how these factors interact with one another to exacerbate this decline. It is crucial that any findings identified by the research are shared so that beekeepers and the public can act on them.

4. **How could you contribute further to the areas for action identified? How could we support you to do so?**

NFWI-Wales believes that the third sector has a key contribution in supporting the delivery of the Action Plan.

NFWI-Wales would be pleased to support the implementation of the areas for action through the network of the WI. The strength of the WI is its ability to reach the heart of local communities. WIs will be able utilise their presence in local communities to raise awareness of the Action Plan, the need to protect pollinators and the actions that individuals can take such as pollinator friendly planting.

In response to the WI's SOS for Honey Bees campaign, over recent years WI members have been taking action in their local communities as outlined below:-

In October 2009 NFWI organised a Bee Aware Week which involved WIs organising action days in their local communities to raise awareness of the plight of the honey bee. As part of the Action Week, members organised promotional stands in their communities, made a variety of bee-themed produce and challenged themselves to eat food exclusively pollinated by bees for one day. For example, Friog Fairbourne & Athrog WI in Gwynedd Meirionnydd Federation organised a stall at the local food fayre and handed out flyers to make the public more aware of the problems facing the honey bee and other bees; Pencoed WI in Glamorgan made bee posts and houses; and Rhayder WI in Powys Radnor dressed as bees for their local carnival float to highlight the campaign. Henllan WI instigated a project to make Henllan village in Clwyd Denbigh, the first bee-friendly village in Wales.

NFWI developed action packs and resources for use by WI members. NFWI has also been supporting members and non-members to become beekeepers with a bee keeping course organised at the WI's educational college, Denman College in Oxfordshire.

In support of this Pollinator Action Plan, NFWI-Wales could promote the Action Plan to the membership in Wales and encourage members to consider pollinator friendly planting in their homes and community. WIs could also play a role in directing WI members and non-members to resources produced by NFWI giving guidance on bee-friendly planting, recipes and other best practice guidance for pollinators produced in response to the Pollinator Action Plan.

5. **Would you like to be involved in developing the actions needed to achieve the outcome? If so, in what way?**

NFWI-Wales would be pleased to get involved in future discussions / consultations on taking the Action Plan forward. As outlined in our response to Question 4, we would also be pleased to engage our members in supporting the implementation of some of the actions proposed in the Action Plan.