

Contribution from Butterfly Conservation Europe to the EU Debate on Common Agriculture Reform

The Effect of the Agriculture Sector on Butterflies and the Need for Reform of EU Common Agriculture Policy

Executive Summary

This paper reports on the declines in grassland butterflies across Europe and argues for reform of the EU Common Agriculture Policy to support recovery of biodiversity in line with the renewed commitment of EU Heads of State. Declines in the quantity and quality of extensively managed grasslands, due to intensification or abandonment, need to be reversed. Reforms of the CAP to ensure public money delivers public goods, which are under supplied by the market, is urgently required. A new scheme to support the sustainable management of High Nature Value farming is essential.

Paper by Sue Collins, European Policy Advisor, Butterfly Conservation Europe and Simon Spencer, Chair, European Interests Group, Butterfly Conservation

The Impacts of Agriculture on Butterflies and other Species

Introduction

Agriculture policy and practice has a profound effect on Europe's biodiversity. Farming is the land use across some 45% of European territory. The diverse ways in which farmers manage their land and other resources can either harm biodiversity or sustain it. In some cases it can nurture wildlife recovery.

The adverse effects of intensive agricultural production can, unless high standards of environmental care are exercised, include habitat loss, nitrate and phosphate pollution of water, soil erosion, pesticide damage, excessive carbon emissions, destruction of landscape features, fragmentation of habitats, loss of species diversity and irreversible losses of natural value. On the other hand, low intensity, sustainable management of high nature value farmland is essential to the survival of many threatened species, especially grassland butterflies.

The decisions of individual farmers, in response to their personal and family circumstances, their values, the state and potential of their land, the regulations affecting their operations, their costs, the public funding provided and the market conditions, each affect the outcomes for biodiversity in their area. About one third of farmland across Europe consists of extensive grasslands of varying extent and quality. Some of it is of marginal value for

food production per se but by supporting biodiversity at multiple scales it provides other important ecosystem services, like pollination, climate regulation through carbon uptake and cultural and recreational services.

Background

Prime Butterfly Areas and the Importance of Extensive Grasslands

Butterfly experts across Europe have identified 431 Prime Butterfly Areas (PBAs), distributed among 37 countries and 3 archipelagos of the European continent. They cover 21 million hectares (1.8% of the European land cover) and several habitat types. Three of these are grasslands. (PBAs of Europe, Van Swaay and Warren, Eds 2003). Some areas of PBAs are protected within the Natura 2000 network; many others, including some extensively managed grasslands are not protected. The most important PBAs for butterflies of alpine and sub-alpine grassland are found in the Alps of France, Italy, Switzerland and Austria; and the Sierra Nevada in Spain. Many of the characteristic species of these habitats are particularly threatened by predicted climate change, because of their small, high latitude ranges. (Climatic Atlas of European Butterflies 2008).

Dry, calcareous grasslands and Steppes, mainly occurring in Southern Europe and the Mediterranean region, are the most species rich habitat for butterflies in Europe. Butterfly species characteristic of humid grasslands are found in Central, Northern and Eastern Europe. Further integration of PBAs with the Natura 2000 network would be valuable. The way in which these grasslands are managed determines whether they continue to support viable populations of butterflies. Cutting frequency, grazing intensity, nectar availability nutrient status, land drainage, scrub encroachment, herbicides and pesticides and surrounding land use all affect biodiversity outcomes on these grasslands. (Van Swaay et al Eds 2009, in Grasslands of Europe).

Poor Conservation Status of Habitats linked to Agriculture

Every six years Member States are required to report on the implementation of the Habitats Directive (under Article 17) and assess the conservation status of listed habitats and species. The recent Article 17 Reports have been analysed by the EEA and show that the habitat types linked to agriculture, in general, have a worse conservation status with only 7% favourable, compared with 21% for non-agriculture habitats. There is some variation between regions, with no Member State reporting a habitat dependent on agriculture as favourable in the Atlantic region. Excluding Macronesia, which has very few habitats dependent on agriculture, the highest percentage of favourable habitats dependant on agriculture is in the Continental region with 9%, followed by the Alpine and Boreal regions which both have 7% favourable. (EEA European Biodiversity Topic Centre Article 17 Reports 2008).

There is a woeful lack of appropriate monitoring of habitat quality in the Mediterranean, despite the legal obligation of Member States to report, so conclusions about conservation status are difficult to draw for this region at

this stage. This lack of compliance with statutory obligations is of considerable concern and much more investment in systematic and high quality biodiversity monitoring is required.

Losses of Semi-Natural Grassland adversely affecting butterflies

Despite European policy commitments to maintaining the area of permanent grassland, losses are mounting up. Conversion of pasture and grassland to arable production, biofuel crops and afforestation, with loss of wildlife and landscape quality, has continued. Ploughing or fertilisation of species rich grassland has damaged biodiversity, reducing its extent significantly and damaging its capacity to recover as a habitat. In addition, fragmentation of habitats is an increasing threat to butterflies, reducing their capacity to support viable butterfly populations, or act as reservoirs to re-colonise nearby available habitat.

Ineffective Protection of High Nature Value Grassland

Under the EU Cross Compliance Regulations EU Member States are required to ensure that “land under permanent pasture is to be maintained”; however under EU legislation there is a general derogation which allows some decreases, provided they are not significant – defining significant as losses which exceeded 10% of a reference level, to be set by Member States themselves. The European Court of Auditors severely criticised the effectiveness of these arrangements in their recent Report (EU Court of Auditors 2009). They stated there was no scientific rationale for setting the 10 % figure.

Moreover, they reported that some Member States had set reference levels way below the actual extent of their grassland, as reported to Eurostat. This meant that a 10% decrease against the reference level, could in fact amount to a 30% decrease on the ground. So questions remain about the effectiveness of this device for protecting grassland of conservation value.

Declines in Grassland Quality due to Pressures of Abandonment and Intensification of Grassland

There have been serious declines in both the quantity and quality for biodiversity of semi natural grasslands across Europe. The loss of quality can be due to two different processes. One is the abandonment of grassland and hay meadows, with cessation of mowing or low intensity grazing. The other is over intensive management. This can be overgrazing with too high numbers of stock, either on individual farms or common lands; fertilisation, or ploughing and reseeded.

The Court of Auditors pointed out (Court of Auditors 2009) that the cross compliance condition on maintaining permanent grassland (which may achieve a positive environmental effect) does nothing to prevent this loss of quality happening, as the quality of the pasture is not addressed. Therefore decreases in the area of High Nature Value farmland could be ‘compensated’

by increases in lower quality grassland without breaching the condition. They noted losses of semi natural grassland in German Lander and in several other Member States, including France, Italy, Hungary, Latvia, and Slovenia.

Serious Declines of Farmland Birds and Grassland Butterflies

Monitoring of farmland birds and grassland butterflies show serious declines in abundance over the period 1990 to 2009. The losses of grassland butterflies approach 60% over this period. Furthermore butterfly populations were starting from a low base in 1990, compared with many decades ago – there were significant declines in range and species abundance in intensively farmed areas of Europe in the decades running up to 1990. By comparison, farmland birds across the EU 15 have declined by 40% over the period 1980 - 2005 (Birdlife International 2008)

Adverse effects of Nitrogen Pollution on Plants and Butterflies

Monitoring of grassland butterflies also shows that as plant diversity decreases there is a change in species composition from butterfly specialists (which have very specific habitat needs) to generalist species (which can cope with a wider variety of conditions). (Van Swaay et al, 2006). Van Dyck et al have reported that habitat specialist butterfly species, such as *L.tityrus*, are negatively affected by high nitrogen treatments (Fischer & Fiedler 2000) and increased soil nitrogen correlates with increased local extinctions of grassland butterflies in general (Ockinger et al. 2006). Considerable increases in the use of mineral nitrogen fertilisers – of the order of 35% - are predicted for new Member States in the period 2005 -2025; and phosphate and potassium use are expected to increase by about 52% and 41% respectively (EEA, European Environment Outlook, EEA 4/2005). This does not bode well for the survival of extensive butterfly populations in Central and Eastern Europe.

Losses of important Larval food plants and Nectar Sources

Planta Europa has reported that 21% of Europe's vascular plants species are classified by IUCN as threatened; 50% of Europe's vascular plant endemics are considered to be in danger of extinction and 64 have already become extinct. (Planta Europa Conservation Strategy, 2008). They consider the main factors leading to these declines to be habitat destruction; land use changes in agriculture and forestry; direct impacts by economic activities; and introduction of non-native species. Declines in the abundance and distribution of wild flowers across the landscape indicate a loss of abundance of nectar sources, which are of importance for butterfly densities (Schultz 2001; Quin et al. 2004). Reductions in the availability and density of larval food plants is also likely to critically affect the abundance of many butterflies (Thomas 2009)

Implications for other Invertebrates

Thomas has argued that what is happening to butterflies very probably holds good for many other invertebrates too (Thomas 2005, Phil Trans R Soc).

Since insects are important pollinators and a crucial part of the food chain for other species these declines are a cause for concern.

Decline in Livestock Farms and Effects on Butterflies

The EEA "IRENA" project for assessing the integration of environment into EU agriculture policy has compiled data from the EU-15 and it confirms the worrying trends observed at local and regional level. For instance, according to IRENA No.16, the share of land managed by mixed livestock farms declined from 16% in 1990 to 12% in 2000; and the EEA has noted that this trend is serious as such farms are frequently associated with high biodiversity and landscape quality. IRENA indicator No. 33 analyses agricultural impacts on Prime Butterfly Areas (PBAs) on the basis of case studies. This shows that 92% of all target butterfly species in Europe depend on agricultural habitats (extensive grasslands). Their conservation status is generally negative throughout most of the EU-15, with 43% of agriculture PBAs suffering from intensification and 47% from abandonment; with both impacts occurring simultaneously in 10% of agricultural PBAs. (EEA Indicator-based Assessment Report 2-2006)

The need for Protection, Recovery and Restoration

Intensification of land use, swathes of monocultures and loss of landscape features reduce the heterogeneity of landscapes, reducing their capacity to support viable populations of butterflies.

Restoration of more mosaics of habitat, introducing more open patches and rides in woodland and sustaining remaining semi natural grasslands could help to stem losses and could contribute to some recovery of butterfly populations.

What is the current state of EU agriculture policy in relation to biodiversity?

Under the current configuration of the EU Common Agriculture Policy (CAP), a bit less than 80% of the budget of some Euro 45 billions pa goes to Pillar One payments – mostly decoupled direct payments to farmers, related either to the area of land they own or to some historical baseline of past payments. These payments are effectively income support to farmers, subject to cross compliance conditions, which require respect of environmental legislation and avoidance of damage to e.g. landscape features.

Pillar Two includes a range of measures amongst which is payment for rural development and agri-environment measures, for delivery of public goods, which go beyond the statutory minimum. Together these measures receive about 22% of the CAP budget, (EU BAP Mid term Assessment, 2009) with the agri-environment measures, which deliver most for wildlife conservation, receiving only about a quarter of these payments.. It is not possible to determine the precise amount of CAP monies that go to supporting biodiversity outcomes, or High Nature Value farmland because of the way the figures are compiled and reported. As Birdlife International has pointed out

(Birdlife International New Challenges, New CAP, 2008), the influence agri-environment measures have on farmer decisions is dwarfed by the impact of Pillar 1 measures. Furthermore, some rural development measures can lead to loss of wildlife e.g. support to farm afforestation, can lead to trees being planted on grassland of High Nature Value, with significant loss of floristic and invertebrate diversity.

CAP Expenditure

Total planned EU-27 expenditure on the Pillar One Single Payments Scheme (SPS) during the period 2007-2013 amounts to 286 billion euros. This is more than three times larger than planned EU expenditure for Pillar Two over the same period. The largest users of SPS monies over this period are expected to be France (58 billion euros), Germany (40 billion euros), Spain (32 billion euros), UK (28 billion euros), and Italy (27 billion euros). Planned expenditure on Pillar 2 is greatest in Poland (13 billion euro), Italy, Germany and Romania (8 billion euro each) and Spain (7 billion euros). (RLG Report on CAP implementation in 27 Member States 2008?).

The need for further CAP Reform

The forthcoming reviews of the EU's budget and the Common Agriculture Policy offer an unprecedented opportunity to reform and modernise the Common Agricultural Policy (CAP).

The CAP was not designed to tackle the challenges agriculture and land management face in the 21st century: continuing biodiversity decline, water pollution and unsustainable abstraction, soil degradation, accelerating climate change and ever-increasing demand for food and energy. In spite of recent reforms that have reduced the negative impacts of the CAP, the environmental consequence of how Europe's land is managed continues to cause concern across the continent. Further reform is therefore necessary if the EU is to support sustainable agriculture and rural communities, meet its environmental goals and commitments and support the delivery of public goods.

Reforms of CAP to deliver more wildlife recovery and more sustainable farming

In 2009 Birdlife International and others proposed that the role of public intervention in land management and the expenditure of public money should be to secure public benefits. A recent report for the European Commission has also examined how agriculture can be reformed to better support the delivery of public goods (IEEP 2010). The approach advocated by Birdlife International and supported by Butterfly Conservation Europe (BCE) is to **establish a sustainable land management and rural development policy** underpinned by a legislative baseline of regulation, which requires farmers to do "no harm" to the environment. The phasing out of Pillar One subsidies and the transfer of adequate money into a sustainable farming fund to support

delivery of environmental outcomes and more sustainable rural development would be needed.

Some of the money should be used to support delivery of good management on Natura 2000 sites through targeted agri-environment schemes and Natura 2000 payments. And a new scheme to **support High Nature Value farmland is essential** for the survival of farmland butterflies and other biodiversity. The policy framework also needs to ensure that EU agriculture reduces its own greenhouse gas emissions and contributes to adaptation measures that increase habitat connectivity.

A possible new model for the EU Common Agriculture Policy

Building on the above approach a group of NGOs has proposed a new model for the CAP. This would replace current payments with 5 area based support schemes. Enrolment in the new Basic Farm Sustainability Scheme would be a condition for access to all the others. These would support the delivery of specific public goods through HNV System Support; Organic System Support; a Targeted Agri-Environment Scheme; and a Natura 2000 and Water Framework Directive Compensation Scheme. These would be accompanied by wider support measures for sustainable land management and rural development. Schemes would be modular and could be combined. Member States would establish national and regional programmes, distributing their funding allocations, within EU Guidelines and scheme objectives and rules. EU Commission oversight would ensure coherence, effectiveness and fair treatment of all farmers and land managers. (Proposal for a new CAP: EEB, Birdlife, EFNCP, IFOAM, WWF, 2009).

A possible Scheme for supporting HNV Farming and saving grassland biodiversity, including butterflies.

Keenlyside and Opperman have proposed a new farmer-centred framework of support for HNV grasslands, which recognizes and addresses the multiple pressures on farming families in marginally economic areas thereby reducing the drivers which would otherwise lead to them either abandoning or intensifying these important biodiverse areas. This framework calls for better protection of HNV grassland, through regulations preventing its conversion from permanent grassland; and ensuring farmer eligibility for area payments; specific payments to support extensive livestock farming; support for managing HNV habitats and features through agri environment and Natura 2000 payments with management plans to deliver specific biodiversity benefits; improvements in the market value of HNV products through investment in standards and quality and development of eco tourism and micro businesses; recognition and development of skills and abilities with HNV specific technical advice, training and education; and investment to secure the future of rural communities and vital services. (Keenleyside C and Opperman R. (2009) in Grasslands of Europe of High Nature Value) Such an approach, if it were to command widespread support, could help to reverse

the declines in grassland butterflies and other biodiversity as well as securing more of a future for farmers of extensive grassland

Conclusion.

EU Environment Ministers have acknowledged that the target of halting the loss of biodiversity across Europe has not been achieved. They have agreed to intensify efforts and have set a new target to “halt the loss of biodiversity and ecosystem services in the EU by 2020 and restore them in so far as feasible, and step up the EU’s contribution to averting global biodiversity loss.” This has been supported by EU Heads of Government. Reform of the Common Agriculture Policy, to redirect funding to the delivery of public goods, particularly recovery of biodiversity and landscape quality is essential to achieve these goals. For butterflies the most urgent priority is to reform agriculture policy, funding and practice to support sustainable management of High Nature Value farmland and the Prime Butterfly Areas of Europe.

Sue Collins
European Policy Advisor

Simon Spencer
Chair, European Interests Group,
Butterfly Conservation

Acknowledgements

I would like to thank:

Colleagues in Butterfly Conservation Europe (BCE) for their support, particularly Chris van Swaay and Martin Warren and other members of the BCE Board;
David Baldock, Director Institute for European Environmental Policy for helpful comments;
Cluny Keenleyside and John Dover for discussion of their useful analysis and ideas;
And colleagues in the European Habitats Forum, particularly from Birdlife International and the World Wildlife Fund.