

Briefing note 3: Biodiversity offsetting in practice



This is the third in a series of briefing notes outlining concerns and considerations related to EU proposals to offset biodiversity loss. This briefing note analyses how biodiversity offset schemes have fared so far and shows that the picture is far from rosy.

Biodiversity offsetting – a troubled track record

The USA has the oldest and most advanced offsetting legislation in the world, which specifically focuses on wetlands.¹ Despite its relatively long history, there have been few serious or systematic assessments done on whether the legislation has achieved ‘no net loss’ of wetlands.² There has also been a lack of project monitoring, particularly over the long term.³ The assessments that have taken place have raised doubts about offsets’ ability to reduce biodiversity loss on technical, social and governance grounds, as explored below.⁴

Measuring the unmeasurable

One of the main reasons for the lack of research is the inherent difficulties in measuring biodiversity (see briefing 2). Measuring biodiversity is almost impossible to do accurately and is prohibitively expensive. Some countries, such as the UK, have opted to lower costs and speed up the system by choosing a highly simplified methodology that only gives a very general view of the biological diversity of a particular site. This leads to policies such as allowing developers to offset with a different kind of biodiversity to that destroyed (e.g. replacing a wetland with a grassland), as is the current case in the UK (see briefing 2).⁵ Others use a methodology which is so complex that it obfuscates the issue. A good example of this is an offset in the North West of France, which professional ecologists have dismissed as being illogical (see case study II).⁶

Offsets lead to a net loss of biodiversity:

Given the complexity and richness of biodiversity, the difficulties with measuring it and the pressures to make the measuring time and cost efficient, it is unsurprising that most offset sites have less biodiversity than the sites that were destroyed.⁷ In Canada, for instance, in projects that offset fish habitats losses, researchers found that 63 per cent of projects failed to achieve the stated target of no net loss.⁸

CASE STUDY I: Building on a wildlife corridor

Tyneside is an area in the North of England where biodiversity offsetting was successfully used by a developer to gain permission to start building houses. The proposed development of 366 houses was originally rejected due to its proximity to a Site of Special Scientific Interest at Gosforth Park which has protection status in the UK.²⁸ The area that will be built on has been declared a wildlife corridor by conservationists who have observed the site closely. Local people use it as one of the few remaining nearby green spaces that have not already been encroached on by golf clubs and other forms of urban development.⁴⁴

Bellway Homes, the housing developer, and the Environment Bank worked together to propose offset sites that could trump local concerns, and the UK Secretary of State for Communities and Local Government, Eric Pickles, approved the project on the condition that there was enough evidence that the biodiversity offsetting would sufficiently compensate the residual impact. Whatever offset is proposed (there is currently only one estate that is interested in providing an offset), this will do nothing to mitigate the damage to local wildlife and communities.



Photo: Gosforth Park. Kaleel Zibe (www.kaleelzibe.com)

A study looking at a broad range of restoration projects around the world shows that up to two-thirds of offsets aiming to restore an ecosystem were unsuccessful. The figure was even higher in offsets that created ecosystems from scratch.¹⁰ When scientists looked at 12 of the longest established wetland mitigation areas in Ohio, USA, they found that many did not even meet the regulation's objectives.¹¹

The 'time lag' of offsets (the gap between the development occurring and the offset's benefits accruing) also means there can be a serious 'interim' loss of biodiversity that can have detrimental impacts on the wider ecosystem.¹²

The terrifying truth is that **whereas biodiversity losses are guaranteed, future gains may be realised late or not at all.**¹³

For biodiversity offsets to be credible, they need to exist in perpetuity. Though this should mean forever, on paper, this is often interpreted as 50 - 75 years.¹⁴

In reality, offsets are sometimes even guaranteed for less than a few decades: the UK's first offset is only guaranteed for 15 years! (See Case Study III)¹⁵ An area of countryside created in the UK as compensation for damage from building the Twyford Down road, was later paved over to build a car park.¹⁶ Evidence therefore shows that it is not realistic to expect that an offset will be secured in the long-term, let alone in perpetuity. In the end, this will mean net loss of biodiversity.

Equally concerning is that partial implementation and even total failure of offsets are rarely penalised. Wetland offsets in the USA, forest offsets in Brazil¹⁷ and Canadian fish habitat offsets¹⁸ have all shown that public authorities do not have the resources – nor the will - to bring penalties when offsets do not meet their requirements.¹⁹

*"If restoration as currently practiced is used to justify further degradation, global loss of wetland ecosystem function and structure will spread."*²⁰

CASE STUDY II: So excessively complicated it is unintelligible

Growing civil society opposition to biodiversity offsetting in France, is due in part to a particularly controversial offset project at Notre Dame des Landes, a small village near Nantes in the North-West of France. It was designed to help facilitate the establishment of an airport which has been in the planning stages for 40 years. The proposed airport site is both the site of a small-scale farming community, and an important wetland area, with significant biodiversity.

The developers, Vinci, have employed Biotope, a privately owned biodiversity consultancy, to devise a biodiversity offset based on habitat 'functions'. Their methodology meant that Vinci would have to offset a smaller area than the area they damaged.

It was not clear who was in charge of checking Biotope's methodology and due to considerable opposition to Biotope's proposals, the government stepped in to carry out an enquiry.²⁹ It found a number of errors in Biotope's methods, including an underestimation of the size of the impacted area and of the wealth of its biodiversity. The government described Biotope's work as "so excessively complicated it was unintelligible", the method of calculating credits was deemed suspect and the monitoring proposed was seen to be impossible.³⁰

Although the project is currently stalled, it is important to consider what would have happened if opposition had not been so vocal and organised. Local activists aim to continue to campaign until the project has been permanently revoked.



BOX 1: Biodiversity Offsetting Policies in EU Member States

Spain has been working on a law on Environmental Impact Assessments, which will see the creation of Conservation Banks to register conservation actions³¹ as environmental titles or conservation credits (granted by the Ministry of Agriculture, Food and Environment). Developers will be able to buy these conservation credits to offset the damaging effects of their projects. Financial actors will also be allowed to buy and sell them for profit. These changes come at a time when Spain is trying to speed up the approval process of industrial projects from pig farms to oil rigs and shale drilling.³²

Germany is the most advanced EU country with regards to biodiversity offsetting legislation. Since 1976, developers have had to offset actions that have a negative effect on biodiversity, nature and landscapes through offsets or by paying for the damage (though this is less common). Amendments to the 1998 Federal Building Code and the 2002 Federal Nature Conservation Act have led to the creation of 'compensation pools', which are in essence habitat banks or offsets. The majority of pools are run by municipalities to cover their own development demands, but the Federal Government is discussing legislation to create uniform standards and procedures.³³ This may lead to greater flexibility over where developers can offset biodiversity.

France has not included biodiversity offsetting in its national biodiversity plan 2011-2020 and so there is no reliance on biodiversity offsetting to fulfil French biodiversity and conservation objectives.³⁹ Nevertheless, in November 2010, the Ministry of Sustainable Development set up a national committee to improve implementation of compensatory measures and provide a standard for offsetting. In 2012, it produced a non-binding framework on a mitigation hierarchy.⁴⁰ This was followed in October 2013 by guidelines focusing on a national methodology for biodiversity offsetting.⁴¹

France has a number of pilot projects which are run by the biodiversity wing of a private bank, CDC Biodiversité.⁴² Currently the bank is setting up five sites through different restoration and conservation activities. The most advanced of these sites is situated in the Plaine de Crau near St Martin de Crau in the Camargue.⁴³



BOX 1 continued: Biodiversity Offsetting Policies in EU Member States

The United Kingdom is one of the most vocal advocates of biodiversity offsetting. The Department for Environmental and Rural Affairs (DEFRA) released a White Paper (a statement of proposed future policy) in June 2011, entitled *Natural Choice – Securing the Value of Nature* that lays out its ambition to instate biodiversity offsetting as a way to improve planning and reducing biodiversity loss.³⁴ The Paper proposed a number of two-year pilot projects, but only one offset has been agreed. Despite the failure of the pilot projects, in September 2013, the UK government released a Green Paper (a discussion document) on biodiversity offsetting with the intention of leading a broad public consultation.

Local and national media in the UK have largely reacted negatively to proposed offset schemes, with some writers branding the idea as a “*license to trash*” and “*capable of unleashing a new spirit of destruction*.”³⁵

One particular concern is the role that a private company called the Environment Bank is playing in advising the government over its offsetting policy. The Environment Bank matches developers with appropriate providers through an online Environmental Markets exchange where landowners, conservation NGOs and other stakeholders can register land where they have undertaken, or wish to undertake conservation activities. The Bank is also playing a role in developing UK offsetting policy. The Bank has placed personnel in at least one of the six offset pilot sites in order to assist planning officers.

The UK has formed an Ecosystems Market Task Force, which “*reviews the opportunities for UK business from expanding green goods, services, products, investment vehicles and markets which value and protect our natural environment*.” In its final report for the government, the Task Force made biodiversity offsetting its priority recommendation.³⁶ It says it will save developers time and money through reduced risk and uncertainty and a more streamlined planning approval process.

Offsetting can be a licence to trash:²¹

Regardless of the problems with offsets, most analysts agree they should only ever be considered if impacts on the environment are first avoided and reduced where possible. This is called the ‘mitigation hierarchy’, and a strong mitigation hierarchy is said to ensure that offsets do more good than harm.

However, there is evidence that offsetting is used to greenwash planning applications and speed them through the planning system, with no consideration for avoidance and mitigation.²² Case study I gives an example from the North of England.

The UK Government has been explicit that it believes biodiversity offsetting “*can offer a simpler, faster way through the planning system. It can be quicker and more straightforward to agree a development’s impacts and can create a ready market to supply compensation for residual damage to nature*.”²³

In France, too, development projects have increased since a habitat bank (a restored site that can be used for offsets) was set up in the area.²⁴ Case study II shows that in France an airport development that had previously stalled was given new life due to a proposed offset.



These case studies, as well as countless examples in North America show how offsets rarely apply a 'mitigation hierarchy', and more often than not, are a key factor in getting the final go-ahead for a development.⁴⁵ This means that the level of development rises, thus reducing biodiversity.

Communities lose access to nature

Offsets rarely take into consideration that nature has a proven positive impact on human well-being.²⁵ Evidence from the USA shows that offsets generally displace nature away from communities, thereby affecting people living close by.²⁶

Other countries, such as Germany, specify that offsets should be local, which raises the question 'how local is local'. Even if nature is 'displaced' by a few kilometres, this could mean it is out of reach for a specific community. UK Secretary of State for Environment, Food and Rural Affairs, Owen Paterson, is already talking of offsets being "*an hour's drive away*."²⁷ In many cases, natural sites have a social or historical importance, values that cannot be offset. Despite such arguments, strict conservationists question the importance of a local requirement as a more remote offset site might be better from a strict conservation stand point.

Conclusion

Whilst EU and Member State Governments are clearly and rightly concerned by the ongoing loss of biodiversity within the EU, biodiversity offsetting is not the solution to this problem. Experiences so far indicate that policies leading to biodiversity offsetting are more likely to lead to further biodiversity loss.

Tackling biodiversity loss requires Member States to take a critical look at the economic developments that encroach on and degrade biodiversity and come up with ways to meet housing, agriculture, transport, energy and commerce needs without compromising nature.

Local development plans must be geared to help achieve this and should be elaborated in partnership with, not in opposition to, local communities, which would help ensure that developments are in the interest of citizens and not those of big business.

Nature is a common good that all share rights to and have responsibility over. To be effective, any policy to protect biodiversity must take these considerations into account.

Case Study III: The UK's first offset

The first UK offset involves the creation of a meadow on a chalk escarpment in Oxfordshire, with the aim of offsetting the destruction of meadowlands containing, according to the local council ecologist "a relatively diverse species assemblage" in nearby Southmoor.³⁷

Taylor Wimpey, a housebuilder, will construct a 98 home estate on the Southmoor site. To offset this with a new meadow - covering 2.2 hectare - has reportedly cost Taylor Wimpey £51,000. The most obvious problem is that the offset area will only be 'managed' for 15 years, making it impossible to ensure its long-term viability. The Environment Bank, which acted as broker, defended the 15 year period saying that as a trusted NGO had agreed to undertake the project, "*we feel there is minimal risk the habitat would not be managed for longer*."³⁸

This seems to indicate a rather cavalier approach to environmental planning. If the long term management of the site is not certain, biodiversity is likely to be lost. This poses serious questions about the integrity of future offsetting schemes in the UK.



END NOTES

1. Initially incorporated into compensatory mitigation laws for wetlands in the 1970s. http://water.epa.gov/lawsregs/guidance/wetlands/wetland-smitigation_index.cfm
2. See Government Accountability Office report. Available at <http://www.gao.gov/products/GAO-05-898>
3. <http://www.nap.edu/openbook.php?isbn=0309074320>. According to this article, 63% of the banks were inadequately monitored. Lack of centralised information about banks and their credits, hence the difficulties in monitoring them, high transaction costs, and the risk of credits being sold twice.
4. http://www.ceeweb.org/wp-content/uploads/2011/12/Critical-review-of-biodiversity-offsets_for-IEEP_Final.pdf
5. In the UK, the Environment Minister has boasted that with their measuring methods, site surveys only take 20 minutes, something that was swiftly criticised by a UK parliamentary committee. See <http://www.publications.parliament.uk/pa/cm201314/cmselect/cmenvaud/750/750.pdf>
6. http://www.developpement-durable.gouv.fr/IMG/pdf/Rapport_college_experts.pdf
7. There are a number of case studies in the 2001 report by the National Research Council that show that offsetting sites have not reached a satisfactory level of equivalency. Available at <http://www.nap.edu/openbook.php?isbn=0309074320>
8. Quigley, J.T., Harper, D.J., 2006. Effectiveness of fish habitat compensation in Canada in achieving no net loss. *Environ. Manage.* 37, 351–366. Available at <http://www.ncbi.nlm.nih.gov/pubmed/16456631>
9. Hilderbrand, R. H., A. C. Watts, and A. M. Randle 2005. The myths of restoration ecology. *Ecology and Society* 10(1): 19. Available at: <http://www.ecologyandsociety.org/vol10/iss1/art19/>
10. Suding, K.N., 2011. Toward an era of restoration in ecology: successes, failures and opportunities ahead. *Annu. Rev. Ecol. Evol. Syst.* 42, 465–487. Available at: http://nature.berkeley.edu/sudinglab/wp/wp-content/uploads/2012/09/Suding_2011_AREES.pdf
11. Mack, J.J. and M. Micacchion. 2006. An ecological assessment of Ohio mitigation banks: vegetation, amphibians, hydrology and soils. Ohio EPA technical report WET/2006-1. Available at: http://www.epa.state.oh.us/Portals/35/wetlands/Bank_Report_Ohio_Final.pdf
12. http://ec.europa.eu/environment/enveco/taxation/pdf/Habitat_banking_Report.pdf
13. Bekessy, S., Wintle, B., Lindenmayer, D.B., McCarthy, M., Colyvan, M. & Burgman, M. (2010) The biodiversity bank cannot be a lending bank. *Conservation Letters*, 3, 151–158. Available at: <http://onlinelibrary.wiley.com/doi/10.1111/j.1755-263X.2010.00110.x/abstract>
14. Lipton, J., Le Jeune, K., Calewaert, J.B. & Ozdemiroglu, E. (2008) Toolkit for Performing Resource Equivalency Analysis to Assess and Scale Environmental Damage in the European Union. REMEDE (Resource Equivalency Methods for Assessing Environmental Damage in the EU) toolkit. etfec, London, UK. Available at: http://www.envliability.eu/docs/D13MainToolkit_and_Annexes/REMEDE_D13_Toolkit_310708.pdf
15. http://www.earthtrust.org.uk/about-us/news/Latest-news/13-09-18/UK_s_first_biodiversity_offset_to_restore_vital_habitat_in_Vale_of_White_Horse_District.aspx
16. <http://www.independent.co.uk/news/second-battle-of-twyford-down-looms-over-plan-for-car-park-1104427.html>
17. Hirakuri, S.R. (2003) Can law save the forest? Lessons from Finland and Brazil. Centre for International Forestry Research, City, Q3 Indonesia. Available at: http://www.cifor.org/publications/pdf_files/Books/Law.pdf
18. Quigley, J.T. & Harper, D.J. (2006a) Compliance with Canada's Fisheries Act: a field audit of habitat compensation projects. *Environmental Management*, 37, 336–350. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/16456632>
19. <http://onlinelibrary.wiley.com/doi/10.1111/j.1755-263X.2009.00061.x/abstract>
20. Moreno-Mateos, D., Power, M., Comi'n, F., Yockteng, R., (2012) 'Structural and Functional Loss in Restored Wetland Ecosystems' *Plos Biology* 10(1). Available at: <http://www.plosbiology.org/article/info%3Adoi%2F10.1371%2Fjournal.pbio.1001247;jsessionid=59324FA4023116AB61A3B9D4B12A6B56>.
21. Bull, J., Suttle, K.B., Gordon, A., Singh, N. J., Milner-Gulland, E.J. (2013) 'Biodiversity offsets in theory and practice' *Oryx*.(0) 0, 1-12. Available at: http://navinderjsingh.weebly.com/uploads/1/1/2/2/11224342/bull_et_al_2013_oryx.pdf
22. Hough and Robertson. Mitigation under Section 404 of the Clean Water Act: where it comes from, what it means. *Wetlands Ecol Manage* (2009) 17:15–33. Available at: <http://link.springer.com/article/10.1007/s11273-008-9093-7>. See also Clare, S., Krogman, N., Foote, L; & Lemphers, N. (2011): Where is the avoidance in the implementation of wetland law and policy? *Wetlands Ecology and Management*. Available at: <http://link.springer.com/article/10.1007%2Fs11273-011-9209-3>
23. https://consult.defra.gov.uk/biodiversity/biodiversity_offsetting
24. A habitat bank is both a site that is restored for its biodiversity in advance of being needed as an offset, i.e. an ex-ante offset. A habitat bank can also be a trading platform where landowners register their land as offsets. For more information about habitat banking, see briefing no.2, available at <http://www.fern.org/biodiversity-offsetting>
25. <http://www.bbc.co.uk/news/science-environment-25682368>
26. J.E. Salzman (with J.B. Ruhl), The Effects of Wetland Mitigation Banking on People, National Wetlands Newsletter no. 28 (2006). Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=878331
27. <http://www.thetimes.co.uk/tto/environment/article3965473.ece>
28. A Site of Special Scientific Interest is a status the UK gives to areas that have specific wildlife or geological interest. There are over 4,100 SSSIs in the UK. Some SSSIs are also Special Areas of Conservation (SACs) and as such protected under the EU Habitats Directive.
29. http://www.developpement-durable.gouv.fr/IMG/pdf/2012-11-30_-_Comite_expertise_scientifique_loi_sur_l_eau_ND_Landes.pdf



END NOTES CONTINUED

30. http://www.developpement-durable.gouv.fr/IMG/pdf/Rapport_college_experts.pdf
31. <http://www.lamoncloa.gob.es/ConsejodeMinistros/Enlaces/190413EvaluacionAmbiental.htm>
32. <http://www.businessweek.com/news/2013-12-09/spain-alters-environment-law-to-push-through-industrial-projects>
33. http://www.bmu.de/service/publikationen/downloads/details/artikel/entwurf-verordnung-ueber-die-kompensation-von-eingriffen-in-natur-und-landschaft-bundeskompensationsverordnung-bkompv-1/?tx_ttnews%5BbackPid%5D=933
34. <http://www.official-documents.gov.uk/document/cm80/8082/8082.pdf>
35. <http://www.theguardian.com/environment/georgemonbiot/2012/dec/07/biodiversity-offsetting-unleash-wildlife-destruction>
36. <http://www.defra.gov.uk/ecosystem-markets/>
37. <http://democratic.whitehorsedc.gov.uk/documents/s16351/P12-V2653-FUL%20-%20Land%20off%20Draycott%20Road%20Southmoor%20REPORT.pdf>
38. <http://www.endsreport.com/40461/uks-first-bio-offset-sale-to-go-ahead>
39. http://www.developpement-durable.gouv.fr/IMG/pdf/SNB_03-08-2012.pdf
40. <http://www.developpement-durable.gouv.fr/IMG/pdf/doctrineERC-vpost-COPIL6mars2012vdef-2.pdf>
41. http://www.developpement-durable.gouv.fr/IMG/pdf/Ref_-_Lignes_directrices-2.pdf
42. <http://www.cdc-biodiversite.fr/>
43. FERN visited this project in September 2013. The information regarding this project are observations made and knowledge gained during this field research.
44. <http://saveourwoods.co.uk/articles/nppf/biodiversity-offsetting-permits-previously-rejected-housing-development/>
45. Clare, S., Krogman, N., Foote, L; & Lemphers, N. (2011): Where is the avoidance in the implementation of wetland law and policy? Wetlands Ecology and Management. Available at: <http://link.springer.com/article/10.1007%2Fs11273-011-9209-3>



Before...



After?

Published by FERN, the campaigning NGO for greater environmental and social justice, with a focus on forests and forest peoples' rights in the policies and practices of the EU.

1C Fosseyway Business Centre
Stratford Road
Moreton-in-Marsh, Gloucestershire
GL56 9NQ UK
t +44 (0)1608 652 895
f +44 (0)1608 652 878

26 rue d'Edimbourg
B-1050 Brussels
Belgium
t +32-2-8944690
f + 32-2-8944610
e info@fern.org

For more briefing notes from the biodiversity offsets campaign: visit www.fern.org/campaign/biodiversity-offsetting

Editor: Keiran Cooke

This is the third in a series of briefing notes that assesses EU policy to achieve 'No Net Loss' of biodiversity. The briefings show that biodiversity is inherently site specific and fundamental to human existence. In most cases, damage to biodiversity cannot, in the lives of a community, be compensated for. Nature is a common good that we all share rights to and have responsibility over. To be effective, any policy to protect biodiversity must also take these considerations into account.

For more information please contact Hannah Mowat: hannah@fern.org

