Briefing note 2:
What is biodiversity offsetting and why is it problematic?

Biodiversity is essential to the health of people and the planet and yet European Union (EU) targets to halt the loss of biodiversity by 2010 have been missed. In an attempt to remedy the situation, the EU is reworking its biodiversity strategy and biodiversity offsetting is expected to play a key role in it.

This briefing outlines what biodiversity offsetting is and why it likely to cause more problems than it solves. It is part of a series of briefings looking at biodiversity offsetting.

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The theory

As part of its Biodiversity Strategy to 2020 the EU is planning the 2015 launch of a no net loss initiative (NNLI) that enshrines the idea of 'biodiversity offsetting' as part of the solution to biodiversity loss. The initiative is, in essence, seen as a way of maintaining biodiversity levels while, at the same time, allowing development — guaranteeing that, overall, there will be no net loss of biodiversity. The destruction of one habitat would be 'offset' by the creation of another. In a mathematical sense this could be expressed by -1+1=0.

Clearly, this is an attractive proposition for EU planners who have to grapple with the often conflicting aims of providing for more housing and infrastructure development while at the same time conserving Europe's wildlife and landscapes.

As part of the 2020 plans, the EU has commissioned various studies on the offsetting process: it has also set up a working group which has been focusing on how such schemes could be implemented and whether new regulations are needed.

Central to the idea of biodiversity offsetting are pricing mechanisms and the workings of the financial market. The theory is that by putting a price on ecosystems, developers will be disinclined to contemplate using a site which involves high biodiversity compensation costs. If, despite such costs, work goes ahead on the site, the developer will have to provide money for conservation: at a time when public spending is constantly being squeezed, this is clearly an attractive proposition.

Biodiversity offsetting — involving pricing ecosystems and the trading or restoration of various sites — can be a complex business. A system of 'habitat banking' is proposed to facilitate the process, wherein specialised companies will trade credits for beneficial biodiversity activities to offset any debit accruing from activities that have caused environmental damage.

Such companies or banks might also trade in a futures market, offering amounts of credits to offset future destruction of ecosystems and of biodiversity. The Environment Bank is a private UK company involved in biodiversity offsetting. At present it is concentrating its activities on the UK, but hopes to expand them. It states that: "Biodiversity or 'habitat banking' is an economic strategy which allows conservation actions such as creation, restoration or enhancements intended to compensate and mitigate for the unavoidable impact to biodiversity caused by development projects, to ensure no net loss of biodiversity".[1]

Biodiversity offsetting requires the measuring of biodiversity in 'biodiversity units' so that biodiversity levels in one place can be compared to biodiversity levels in another place. As briefing note 1 explained,[2] bio-diverse ecosystems are highly complex and place specific, this makes them, by definition, irreplaceable. To justify offsetting, a number of simplifications must therefore be made to make biodiversity in one place more comparable with biodiversity in another place.

The practice

The first step in offsetting biodiversity is to calculate the damage that a development (road, house, quarry, pipeline etc.) will have, by measuring the amount of biodiversity that would be destroyed. Since measuring biodiversity is complex, simplified methodologies are proposed such as measuring the number of hectares lost.[3] These simple methods of using single metrics such as 'area of habitat' to represent biodiversity losses and gains have, however, been widely discredited as they do not take the 'condition' of the site into account.[4] Pilot biodiversity offsetting, such as is happening in the UK therefore currently requires offsetters to measure the size of the site, assess the condition and consider its distinctiveness. The combination of these data then gives the number of 'biodiversity units' per hectare.

The simple formula used in the UK is: biodiversity units = habitat area x habitat condition. This method gives no detail about the location of the biodiversity,

nor the type of habitat. This calculation produces, however, a uniform unit, meaning that a wetland in Cumbria could be replaced with a grassland in Somerset.

The second step is to find an estimated equivalent number of 'biodiversity units' produced on another site. Restoration or creation can be done by specialised companies, NGOs or developers themselves. The act of buying these biodiversity units is called 'offsetting'.

To make the process of finding an offset quicker and easier for the developer, there are proposals to develop 'environment banks', where 'biodiversity units' can be bought and sold more easily.

What is habitat banking?

As mentioned above, in order to fulfil offset obligations, developers may restore land themselves, or buy land from an offset provider. An environment or habitat bank is a place where people can buy or sell biodiversity offsets. The EU describes a habitat bank as: "a market where the credits from actions with beneficial biodiversity outcomes can be purchased to offset the debit from environmental damage. Credits can be produced in advance of, and without ex-ante links to, the debits they compensate for, and stored over time."

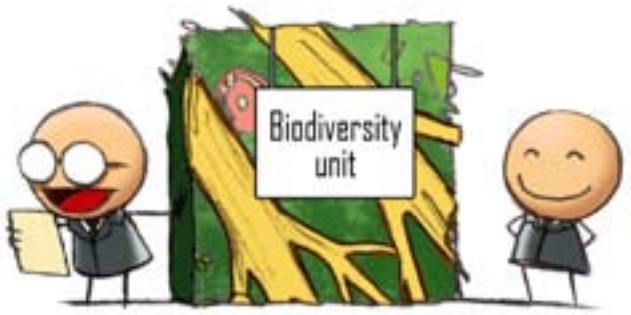
Habitat banking enables offsetting to happen more easily and cheaply. It puts developers in need of biodiversity units in touch with offset developers and in the process, makes biodiversity one step further removed from the ground, alienating it from its original location.

The scale of the bank determines the reach (municipal, national or regional). It can enable smaller or greater geographical flexibility over where the offsetting occurs by tailoring purchases to suit developers' needs.

In order to confuse things further the term habitat bank is also used as a synonym for an area which is restored in advance of being sold as an offset.

The three types of offset

Averted loss: When destroying a certain habitat, developers buy or lease land that has similar biological conditions and commit to ensuring that this land will not be destroyed.
Restoration offset: Developers restore a piece of land similar to that being destroyed in an attempt to achieve the same biodiversity values as those lost.
Creation offset: Developers create a habitat similar to that which will be lost. This can be from an entirely different habitat, such as the conversion of grassland to woodland or wetland.



State of play in the EU

In response to the declining levels of biodiversity described in briefing note 1, the EU has set out six targets in its Biodiversity Strategy for 2020.[7] The strategy aims to both reverse biodiversity loss in the EU and at the same time stem its loss worldwide. In order to halt biodiversity loss by 2020, the strategy says a number of steps must be taken. These include the full implementation of existing EU nature legislation, greater use of green infrastructure, and more incentives for farmers and forest owners to preserve biodiversity.

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The strategy includes a proposal for the initiative to ensure no net loss of biodiversity and ecosystem services by 2015 (the NNLI),[8] and suggests the European Commission investigates three possible options in order to achieve no net loss:[9]

1. A decision-making framework to ensure biodiversity degradation is avoided wherever possible.
2. An EU non-binding framework providing guidance on biodiversity offset policies.
3. An EU legal framework making biodiversity offsetting mandatory.

Although the impact assessment proposed several options for reducing biodiversity loss, all attention since 2010 has been on biodiversity offsetting. The European Commission remains vague as to its exact plans, but they have commissioned several studies to explore the potential use of offsetting and 'habitat banking' in the EU.[10]

The first report 'The use of market based instruments for biodiversity protection – the case of habitat banking' came out in 2010.[11] Striking recommendations included the need to alter existing environmental directives such as the Habitats Directive and the Environmental Liability Directive[12] and to ensure consistency of offsetting legislation across Member States in order to "enable trades across political boundaries… [which] might facilitate the development of an EU wide scheme that coherently implements Habitat Banking across Member States, allowing for systematic EU wide trading of credits."[13]

The second report, released in January 2013 explored the "potential demand for and supply of habitat banking in the EU and appropriate design elements for a habitat banking scheme."[14]

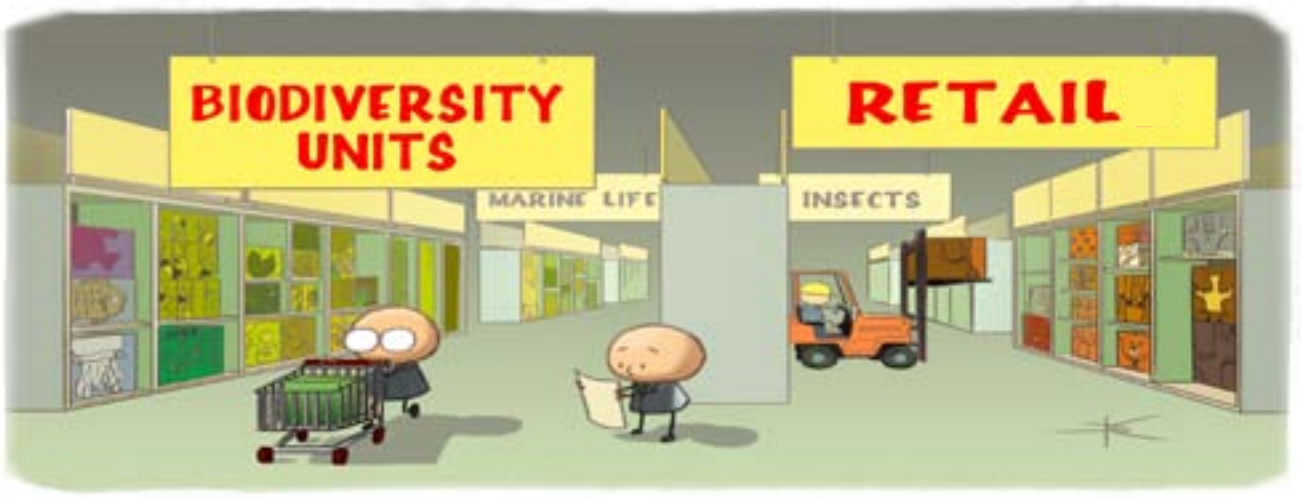
The third report, not yet out at time of writing will look at different policy options on no net loss for the EU.

In order to explore the principles of the NNLI, the European Commission brought together a Working Group of 'stakeholders' to discuss options.[15] Though the group was to look at all policy options, the frame of inquiry was narrow, focusing on how to implement biodiversity offsetting and examining how habitat banking could work in the EU. The final recommendations reveal the group was divided over their support for biodiversity offsetting.[16] The European Commission has asked the Institute for European Environmental Policy (IEEP) to produce a report on policy options for no net loss.[17]

Problems

1. On first impressions, the NNLI appears to be a positive commitment, but its implication that biodiversity loss does not need to be reversed but kept stable is worrying. It also oversimplifies a complex issue. For example: if you have 10 hectares (ha) of forest, cut down eight ha but plant another eight, there will be — perhaps in 25 years time — no 'net' loss, but it does not take into consideration the spatial or temporal importance of biodiversity.

   Biodiversity's complexity and interconnectedness make implementing biodiversity offsetting schemes problematic. To be credible, large amounts of data have to be gathered and analysed on various sites. This might include information on flora and fauna, as well as data on soil types, local climate conditions and other factors. The difficult business of valuing or pricing then has to be undertaken. All this demands a high level of expertise – and would involve considerable expenditure. In these circumstances the developer would have considerable power and influence over the process and it would be in their best interest to see the assessment and valuation work done as quickly as possible. This might mean the environmental impact of a project might be underestimated, as was the case in the north-west of France at Notre Dame des Landes (see briefing note 3).[18]



2. Those involved in biodiversity offsetting talk in terms of targets for replaced biodiversity rather than of certainties. The trouble is that if the target is not achieved, an area's biodiversity is lost, never to be regained.
3. Strong governance is vital in biodiversity offsetting: once a scheme is implemented, it has to be properly — and independently — monitored. This has to be carried out over the whole lifetime of a scheme, which could stretch over a number of years. Given the different governance regimes within the EU — and the fact that expertise and the necessary manpower is likely to be lacking in many areas — such monitoring is likely to be less than comprehensive.
4. To date, biodiversity offsetting has focused only on the bartering or swapping of various sites of biodiversity: it has not attempted to deal with the considerable social value biodiversity provides to communities on a recreational, spiritual and cultural level. People are attached to the land that makes up their neighbourhood: they might enjoy walking or meeting friends or gain some form of mental wellbeing from the area. They don't want to give that land up or be told it has been swapped and they have to go several kilometres away to find an equivalent site.
5. Biodiversity offsetting also ignores the other benefits nature provides to a community such as flood mitigation, groundwater recharge, clean air and pollination. Losing such services not only has a big environmental and social impact on a community, it can also have negative economic consequences, bringing down the value of nearby housing and generally lessening the attractiveness of the neighbourhood.
6. Then there is the overarching question of whether the market and finance can, in fact, act as a regulator – and a force for good – in matters of the environment. Again, when it comes to offsetting, the track record is not good. FERN's briefing EU ETS myth busting: Why it can't be reformed and shouldn't be replicated shows that the world's most comprehensive offsetting scheme to date, the EU's Emissions Trading Scheme (ETS) has been, so far, a dismal failure.[19]

Conclusion

Few nature lovers would argue with the idea of 'no net loss' of biodiversity. After all, the phrase implies that the natural world will be conserved. While biodiversity offsetting – seen as a key instrument in ensuring 'no net loss' - might mean ecosystems are lost in one area, they will be restored or conserved in another and the balance of nature will be maintained. What could be wrong with that? If only life was that simple. No net loss and biodiversity offsetting might sound like worthy concepts, but in reality they are hollow, simplistic slogans which seriously underplay the variety and richness of the natural world.

The fact is that biodiversity and ecosystems are complex. Their lifecycles are dynamic, constantly changing and full of hierarchies and levels of organisation that are extraordinarily difficult to quantify, let alone to put a price on. It is impossible to reduce biodiversity and its multiple components into a system of credits or currencies as envisaged in the offsetting system.

Nor can individual parts of nature be readily interchanged. For example, a developer might wish to trade credits or offset the destruction of a wetland area full of aquatic flora and fauna with a forested stretch of land containing important tree species. These diverse elements cannot be balanced against each other, swapped and interchanged.

Regulating environmental protection - through price driven, market based instruments such as biodiversity offsetting - will signal the start of a paradigm shift way from enforceable environmental legislation.

END NOTES

1. http://www.environmentbank.com/docs/Habitat-Banking-in-the-UK-The-Environment-Bank-Ltd.pdf
2. www.fern.org/biodiversityoffsettingbriefing1
3. http://forest-trends.org/documents/files/doc_578.pdf
4. TEEB (The Economics of Ecosystems and Biodiversity) (2010) TEEB for local and regional policymakers report. www.teebweb.org [accessed XX month Year].
5. Defra 2012, 'Biodiversity Offsetting Pilots Technical Paper: the metric for the biodiversity offsetting pilot in England.'
6. http://ec.europa.eu/environment/enveco/pdf/eftec_habitat_technical_report.pdf
7. TARGET 1 Fully implement the Birds and Habitats Directives; TARGET 2 Maintain and restore ecosystems and their services; TARGET 3 Increase the contribution of agriculture and forestry to biodiversity; TARGET 4 Ensure the sustainable use of fisheries resources; TARGET 5 Combat Invasive Alien Species; TARGET 6 Step-up action to tackle the global biodiversity crisis.
8. contained in Target 2 of the EU biodiversity strategy to 2020,
9. P. 46 http://ec.europa.eu/environment/nature/biodiversity/comm2006/pdf/2020/1_EN_impact_assesment_part1_v4.pdf
10. The main consultancies involved are eftec, IEEP, ICF GHK and a number of individuals from other consultancies such as Kerry Ten Kate from BBOP, Jo Treweek from Treweek Environmental Consulting (TEC)and Jon Ekstrom from The Biodiversity Consultancy.
11. http://ec.europa.eu/environment/enveco/pdf/eftec_habitat_technical_report.pdf
12. Ibid. p. 119 and p.127
13. Ibid. p. 250
14. http://ec.europa.eu/environment/enveco/taxation/pdf/Habitat_banking_Report.pdf
15. All documents and presentations that were produced and circulated in this working group can be found on the EU document sharing space: https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp
16. Reference
17. Due to be released in 2014.
18. www.fern.org/biodiversityoffsettingbriefing3
19. http://www.fern.org/EUETSmythbusting

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

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This is the second 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.

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