habitat banks

Peter Jones reviews the academic literature about habitat banking in England and offers some insights into its ability to restore lost habitat on a like-for-like basis

As of February 2024, developers in England have been required to deliver biodiversity net gain (BNG) of at least 10% on all new qualifying schemes. This requirement has thrown habitat banks into sharp relief, and they are attracting a lot of attention from a number of consultancies. Habitat banks are defined by Natural England as:

> *'sites where habitat is created in advance, prior to any loss occurring. This habitat will need to be secured and managed long-term.'* [1]

'An alternative definition is provided by RPS, part of Tetra Tech, a global consulting and engineering services company:

> *'creating habitat banks is a conservation strategy designed to mitigate the negative impacts of development and land use changes on wildlife and ecosystems'.* [2]

Although habitat banking is attracting plenty of positive attention it also has its critics. Wensink,[3] for example, argued that the development of habitat banking is largely driven by what is attractive to business. I outline here the academic literature on habitat banks in order to review habitat banking in England, as promoted by Environment Bank (one of its major players) and to offer some wider reflective conclusions.[4]

Biodiversity net gain, habitat banks and measurement

The Environment Act 2021 (the 2021 Act) made provision for plans and policies designed to improve the natural environment, and more specifically to improve air quality, water quality and biodiversity, to increase recycling, and to reduce plastic waste. More specifically, the 2021 Act introduced the delivery of mandatory BNG under planning legislation. For Natural England, BNG:

> *'is an approach to development, land and marine management that leaves biodiversity in a measurably better state than before the development took place'.*[1]

Further, Natural England argued:

> *'biodiversity net gain offers a new route for development of homes, businesses and infrastructure to play its part in enabling nature to thrive, and to deliver nature-based solutions to climate change, water and air quality, and flood risks. It can also help level up access to nature and provide accessible green space on the doorstep of new homes and further afield.'* [1]

'Off-site habitat replacement should be ecologically equivalent to the habitat lost'

In practical terms BNG is essentially about habitat creation, which can be achieved both on- and off-site, as part of the development process. On-site habitat creation is the restoration of biodiversity on the site where development is taking place, and often provides high quality greenspaces, such as parks and playing fields, and blue spaces, such as ponds and accessible canals, for the people who live within the development. Off-site habitat creation involves habitat banking on areas of land where environmental restoration is being undertaken to compensate for habitat destruction caused by development elsewhere.

The focus is upon leaving biodiversity in a measurably better state after development than before it. This illustrates the importance of measurement. The statutory biodiversity metric[5] is the mandatory method of measuring biodiversity for BNG in England. It uses changes in the extent and

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Developers can choose to replace lost habitat on-site, off-site or both

quality of habitats as a proxy for nature. BNG is measured in standardised biodiversity units, and the statutory biodiversity metric measures the biodiversity value of habitats. The metric calculates the number of units a habitat contains before development takes place, and the number of units needed to replace the units of habitat lost and to achieve a 10% BNG, via the creation or enhancement of habitat. The calculations generally consider the habitat's size, type, condition, strategic significance, the difficulties likely to be encountered in habitat creation or enhancement, the time scale, and distance from the habitat lost.

Literature review

The concept of habitat banking may have its origins in the 1980s, where wetland mitigation banking in the United States of America (USA) allowed developers impacting on wetlands to fund the creation or enhancement of wetlands in another location.[6] More recently, in exploring whether habitat banking could work in the UK, it was argued that environmental policy support for habitat banking had grown rapidly, that it is an 'incredibly flexible tool', and that it had 'brought disparate parties together, including landowners, biologists, consultants, planners, and developers'.[7] More specifically, the same research outlined a wide range of advantages of habitat banking, including offering a mechanism to integrate conservation into the investment plans of companies, providing a significant new source of finance for biodiversity and landscape conservation, and facilitating better relationships between developers, local communities, environmentalists, and other stakeholders.

'A key issue with on-site habitat banking is the limitation it presents in terms of size'

It has further been argued that habitat banking and tradeable development rights had gained currency as a method of achieving no net loss of biodiversity, and of reconciling nature conservation with economic development goals.[8] The authors argued that both habitat banking and tradeable development rights had the potential to contribute to biodiversity conservation objectives and attain cost effective solutions with positive social impacts on local communities and landowners. However, a number of theoretical and operational challenges, such as the equivalence of offsets, the continuance of planning regulations, monitoring, and the time lags between restoration and the resulting conservation benefits, were identified. It was

concluded that the performance of habitat banking and tradeable development rights hinged on how they were integrated into the biodiversity conservation policy mix.

In the Netherlands, the conditions under which habitat banking can help to improve biodiversity, nature conservation and sustainable development were analysed.[9] The results revealed that habitat banking contributes to solving the problems for nature and biodiversity, as well as achieving sustainable development. That said, habitat banking was seen to be particularly effective in the domain of voluntary nature conservation, in bottom-up pilot projects, where a wide range of owners and users were involved, and in the context of participatory decision making. That said, the authors argued that in order to realise the added value of habitat banking, further research was required to collect and analyse empirical data from appropriate stakeholders.

'The metric calculates the number of units a habitat contains before development takes place, and the number of units needed to replace the units of habitat lost and to achieve a 10% BNG'

After recognising that habitat banking had gained traction as a means to compensate for the unavoidable environmental impacts of development projects, other researchers used semi-structured interviews and participant observation to analyse the development of habitat banking policy in Spain.[10] Here the authors suggested that habitat banking had been a controversial policy instrument and that it had encountered both opposition and acclaim in most places where it had been implemented. The process of habitat banking was considered opaque and non-inclusive, and to be driven by a small constituency of actors who sought to create investment opportunities for biodiversity conservation on private land, and that it was grounded on a false social consensus which concealed alternative understandings of how environmental impacts should be addressed.

Returning to the USA, other findings suggest that although habitat banking has been widely accepted and implemented, especially for the protection of freshwater ecosystems, its potential adequacy had not been formally quantified in the context of its underlying framework and policies.[11] The authors used a gap analysis approach to test the current adequacy and future potential of habitat banking across over 2,500 freshwater biodiversity hotspots in the USA. The results revealed that the highest conservation urgency was assigned to states in the South West, with high levels of species imperilment, and that federal land ownership was identified as a driver for low habitat bank density in the western states. The authors also looked to determine if priority indicators could be identified to direct future habitat banking efforts to strengthen its role in preserving freshwater habitat and diversity in the USA.

Environment Bank: a major player in the provision of habitat banks

Environment Bank, part of the Gresham House British Sustainable Infrastructure Fund portfolio, says it tries to provide real asset-based solutions to environmental and societal challenges. Environment Bank claims to have over 2,400 hectares of habitat creation underway, and describes itself as 'England's largest provider of off-site biodiversity units'.[12]

The company explains:

'Our habitat bank model is simple; it involves leasing land, typically low-yielding, from which we co-create a habitat bank. We are looking for a minimum of 20 hectares, but in some areas of the country, we consider a minimum of 10. We raise biodiversity units for developers and take all liability for unit delivery. Our farmers and landowners retain ownership and management of the land, and receive tax-efficient annual payments, usually between £20,000 and £60,000 per year, and in some cases substantially more. Payments are secure for 30 years – providing a consistent and reliable income.' [13]

Environment Bank goes on to claim that:

'our habitat banks are not only fulfilling BNG legislation but working alongside local planning authorities they are also supporting local nature recovery strategies, sustainable house building, economic growth, job creation, and the cultivation of thousands of acres of diverse green space for communities to enjoy'.[14]

The company typically looks to contract the management of the habitat bank back to the landowner.

In reviewing the respective merits of on-site and off-site habitat banking, the company argues that a key issue with on-site habitat banking is the limitation it presents in terms of size, in that such sites offer minimal value to biodiversity, because the available areas are often small and fragmented, and that genuine biodiversity is in the delivery of nature restoration at scale.[15] Further, it suggests that:

'large commercial warehouses, logistics parks and similar, have very limited space for even great landscaping, unless they acquire additional land,

which is very unlikely. To truly achieve biodiversity restoration, the sites on which habitats are created should be large.' [15]

'The focus is upon leaving biodiversity in a measurably better state after development than before it'

In addressing funding, the company emphasises that creating a habitat bank is an expensive business, and can be 'a risk to undertake on your own without guaranteed unit sales (especially when planning applications can take many years, often without approval)', but claims 'our model is different'.[13]

Here, Environment Bank claims that its use of demand analysis and a portfolio of development clients allows it to create habitat banks aligned to demand, and along with secured funding, enables it to have confidence in its delivery and to forward fund all its creation costs, including infrastructure, training, and legal fees. Further, Environment Bank claims that its ecologists handle habitat design and the monitoring of biodiversity enhancement, thus enabling the client to focus upon land management activities.

Habitat banks generally embrace a range of habitat types. By way of an illustration, Environment Bank provides some examples of the characteristics of its habitat bank portfolio across England.[16] The Heighington Habitat Bank,[17] for example, covers almost 20 hectares of arable hand and pasture some eight kilometres north of Darlington in County

Horwich Habitat Bank

Durham. The land includes lowland meadows and ponds, and Environment Bank claims to be establishing new priority habitats, including natural ponds and wildflower grasslands, and creating greater connectivity for the native wildlife.

The company claims that its proposed habitat enhancements will complement existing hedgerows, that it will support a range of bird species, including skylarks, lapwing, grey partridge and yellowhammer; that they will improve the landscape's resilience against flooding, and improve soil health. Further, Environment Bank reported establishing an ecological baseline and claimed that the company had undertaken a thorough assessment of the site's vegetation, wildlife, geology, hydrology, soil chemistry, management history, and landscape connectivity, in order to determine the best possible habitats to establish, and to ensure that their proposed habitat enhancements would be deliverable.

Environment Bank's Hoscar Habitat Bank in rural West Lancashire,[18] had been used for arable farming for some 70 years, but now the focus is on creating rich wildflower grassland and enhancing wet woodland and ditches. Further, the company claims that the site is in close proximity to the Wildfowl and Wetlands Trust centre at Martin Mere, and that it will provide a shelter for a range of wildlife, including both overwintering and breeding birds. At the same time, public access will be facilitated by the public footpaths along the site's northern and western boundary, and the company claims that the local community will be able to enjoy the wildlife and the greenspace.

The Whitby Habitat Bank,[19] on the urban fringe of the eponymous town, covers some 15 hectares of land around the village of Ruswarp. The site is within the floodplain of the River Esk, and the focus is upon transforming the existing grazing land to develop an area of wildflower meadows, native mixed scrub and ponds and to increase species diversity, to include otters, salmon, eels and water voles.

'Development of habitat banking is largely driven by what is attractive to business'

The Witchampton Habitat Bank[20] covers 36 hectares on a rural estate in Dorset, and is part of a section of land with floodplain grazing along the corridor of the River Allan, while the site also embraces the Dorset ecological network and the Cranbourne Chase and West Wiltshire Downs Areas of Outstanding Natural Beauty. Here the focus is upon creating and enhancing habitats, including the transformation of existing grasslands and arable land into a mosaic of wetter meadows to support a diverse mix of species.

Reflective conclusions

In the face of continuing development pressure, particularly for new housing, habitat banking is likely to attract increasing attention from local authority planners, developers, and communities, but three reflective conclusions merit brief attention. Firstly, whilst there are arguments about the equivalence of habitat gains and losses, and while the promoters and providers of habitat banks often argue that the creation of new off-site habitat can deliver a greater range of benefits than on-site habitat creation, this may not always be the case, and arguably needs to be justified on a case by case basis. Certainly, habitat creation must be appropriate to the ecology of the off-site location, off-site habitat replacement should be ecologically equivalent to the habitat lost, and there may be problems with what are deemed 'quality habitats'.

At the same time, Harris and Sullivan[21] argue that off-site habitat creation reinforces the idea that people and nature inhabit different spaces, and that nature inhabits a separate world, which is fragile and in need of protection. Here Harris and Sullivan claim that:

> *'habitat banking will serve only to entrench this separation, further retarding the emergence of ecologically sustainable settlements'.*

Secondly, habitat banking puts the commodification of nature, namely how nature is given a value and made exchangeable through market mechanisms, into the spotlight. In many ways, habitat banking can be seen to provide a politically sanctioned and institutionally legitimated mechanism which facilitates development, whilst effectively taking many planning concerns about biodiversity loss out of what in the past has often been a contested development process. Habitat banking may increase development costs, but in one way or another, these costs these will usually be passed on to the end user and will generate financial benefits for the owners of land where habitat banks are created. More generally, there are a wide range of questions, about whether nature can be effectively turned into a commodity; about the pricing mechanisms; about undermining the moral and ethical arguments for conservation, and about the consequences of commodification upon nature.

Thirdly, there are deeper and more radical arguments, rooted in Marxist political economy, that the loss of biodiversity is rooted in the workings of the capitalist system, and the only genuine solution must be grounded in systemic change and the shift to a new global economic model which looks to prioritise nature and the welfare of the planet. This clearly has radical implications that extend far beyond the realms of planning and development within England, and currently it seems very unlikely to commend itself to those holding the reins of

political and economic power. However, if the dire consequences predicted as the outcome of continuing reductions in biodiversity and the loss of nature, do materialise, possibly sooner rather than later, then alternative economic and social systems, may begin to look increasingly attractive.

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Notes

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Editor's Note

The author would like to make clear that he has no connection with Environment Bank, nor any other conflict of interest in relation to the content of this article.