

Impact Assessment Outlook Journal

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Perspectives on net gain in EIA

Thought pieces from UK practice



Guest Editor
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Perspectives on net gain in EIA

I am delighted to be able to bring to you a selection of articles on the theme of Net Gain, that amongst other things explore how an ecosystem services approach can help EIA embrace developments in this area. This is a subject that challenges us to innovate and develop our practice in order to produce work and projects that have multiple benefits. I hope you will find, in these articles, the same motivation to learn more that they prompted in me.

Net Gain

In March 2019 the Government confirmed that the forthcoming Environmental Bill will mandate 'biodiversity net gain' with on-site measures given priority above habitat creation elsewhere. Biodiversity net gain is an approach to development that leaves biodiversity in a better state than before the project. While the National Planning Policy Framework already includes a requirement for the identification and pursuit of opportunities for securing measurable net gains in biodiversity, this voluntary approach is unevenly delivered and the costs of habitat mitigation are not evenly borne.

Evolution from offsetting

To understand the evolution from offsetting we can dig back through the QMark archives to explore some of the challenges that offsetting has faced and how the approach has developed from 'no net loss' to 'net gain' as a consequence of the Lawton review¹ (2010) which quite simply stated that offset efforts needed to be "more, bigger, better and joined". In their articles Brookes and Davis discuss the pros and cons of biodiversity offsetting and an international case study to explore these themes.

1 <https://www.gov.uk/government/news/making-space-for-nature-a-review-of-englands-wildlife-sites-published-today>

Environmental Net Gain: A role for ecosystem services and natural capital

Environmental net gain goes beyond biodiversity net gain to deliver wider benefits above the environmental impact of the proposed development², such as flood risk and landscape value. In her article, Truman uses flood risk and air quality to explain what environmental net gain looks like in practice for EIA. Recognising that we have some way to go as a profession to make this 'business as usual' the next two articles by Wansbury & Haines and Paginton present a case for the integration of ecosystem services into EIA – a vehicle through which environmental net gain could develop some consistency in language and style.

I wanted to wrap up this edition by raising a challenge to us all: 'how can ecosystem services present a way to unlock funding for projects by identifying and demonstrating the multitude of benefits that a project delivers?'. This is a topic that is close to my heart and a question I work on nearly every day: How do we deliver projects that deliver positive social, environmental and economic impacts? In short, how do we as EIA professionals help to deliver sustainability? We need to have the freedom to try new approaches without the fear of failure and to share our successes (and failures!) with confidence – no one has all the answers yet but by sharing best practice we can advance practice together.

Biodiversity Net Gain in practice: Defra Metric 2.0

The metric uses habitat as a proxy for biodiversity, which is converted into measurable 'biodiversity units' according to the area of each type of habitat. The metric scores different habitat types (e.g. woodland, grassland) according to their relative biodiversity value and adjusts this according to the condition and location of the habitat. The metric can be used to calculate and audit the losses and gains in biodiversity from actions such as development.³

2 <https://cieem.net/i-am/current-projects/biodiversity-net-gain/>

3 <https://deframedia.blog.gov.uk/2019/03/13/government-to-mandate-biodiversity-net-gain/>



Biodiversity offsetting, how to use a sharp tool and avoid a blunt instrument

You only have to google 'Biodiversity offsets' to be bombarded with a myriad of definitions derived from a host of non-governmental agencies, private consultancies and government. Essentially, a biodiversity offset is a tool to demonstrate that a development project can be implemented in a manner that results in no net loss or a net gain of biodiversity. The business and biodiversity offsets programme (BBOP¹) defines biodiversity offsets as

"measurable conservation outcomes of actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken".

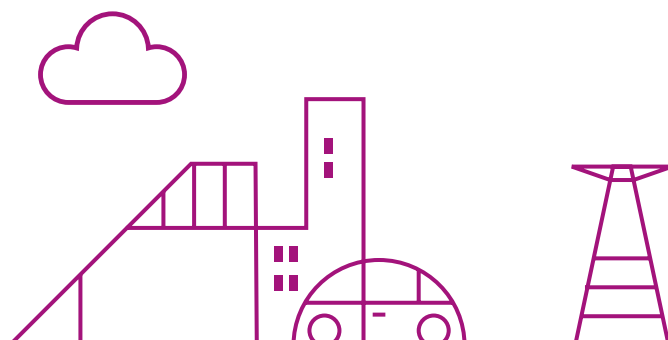
Biodiversity offsetting is not designed to replace the functionality of the mitigation hierarchy at the site level which tells us to avoid, minimize and rehabilitate and/or restore habitats as a priority. Offsetting should be complementary to traditional mitigation strategies within the EIA process. So, what are the benefits and what are the risks?

Potential benefits include:

- Improved clarity and conservation awareness for developers;
- Places value on nature, introducing incentives for conservation;
- Increased reliability and funding of long-term conservation projects;
- Flexibility to 'trade up' and create larger conservation networks;
- Diversified income streams for landowners and land managers;
- Strengthened conservation partnerships; and
- Enhanced public support for conservation and developers.

However, Biodiversity offsets are considered controversial by some. Critics argue that financially graded compensation schemes are not effective conservation strategies.

¹ http://bbop.forest-trends.org/pages/biodiversity_offsets



Moreover, it is argued, they can even be counterproductive if implemented hastily or in the absence of a proper legislative and regulatory framework. Other concerns include:

- **Perverse incentives** - lowering the threshold of acceptance of conservation outcomes could inadvertently give developers a 'licence to destroy';
- **Additionality** – it may be hard to show that offsets result in outcomes that wouldn't otherwise happen e.g. double counting of offsets against what may already be committed in terms of habitat creation in congruence with other government or developer commitments e.g. section 106 agreements;
- **Displacement of impact** - if not chosen properly, offsets could simply displace impacts that would have happened anyway, for example, if you create a protected area to offset the impacts of a mine, those who were previously harming biodiversity in the area (e.g. illegal timber operations or poaching) move to another location and have the same impact there;
- **Restoration difficulties** - some habitats, like grasslands and heathlands, can be difficult to restore in terms of the time and technical skills required, others, such as ancient woodland, are impossible to recreate within human timescales; and

- **Definition and valuation of biodiversity** - unlike carbon credits, biodiversity measurements cannot easily be based on a single, quantifiable unit. Defining and quantifying biodiversity losses and gains always involves a subjective element, as at present, measuring every component of biodiversity is not achievable and knowledge of biodiversity is incomplete (e.g. at the microbial and genetic level). Other crucial issues may also be overlooked, such as the effects of habitat fragmentation on dispersal, ecosystem function, and the loss of genetic diversity, as well as social views on the definition and value of biodiversity.

The UK Government has sought to mitigate the risks of implementing Biodiversity offsets by commissioning the 'Making Space for Nature' (Lawton Review²). This has set out a number of principles for biodiversity offsetting, and the Department for Environment Food and Rural Affairs (DEFRA) has encompassed the findings of the Lawton review into the pilot strategy on offsetting (DEFRA, 2013³). This study assessed six projects and aimed to evaluate the application of offsetting in the voluntary pilot areas. The project goals were steered by the Lawton review and sought to:

- Help to use resources more effectively to deliver greater benefits for biodiversity; and
- Streamline the process of agreeing compensation for biodiversity loss as required by planning policy, in a cost effective way.

² <https://www.gov.uk/government/news/making-space-for-nature-a-review-of-englands-wildlife-sites-published-today>

³ <https://www.gov.uk/government/collections/biodiversityoffsetting>



One of the most salient take home messages from the Lawton review was that offsets should be 'bigger', 'better', and more 'joined up'.

If we understand the principal aspirations of offsetting then we must also address the risks of offsetting previously alluded to.

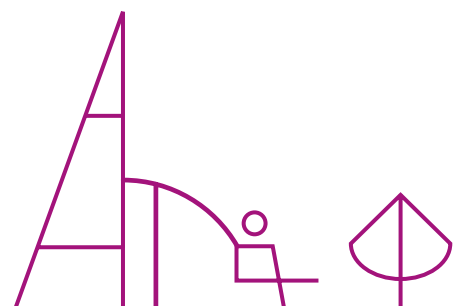
The Cross Sector Biodiversity Initiative (CSBI) Timeline Tool, (December 2013⁴) provides guidance on the timing of offsetting delivery in order to minimize the risks of mitigation failure. Essentially, professional judgment will always play a pivotal role in evaluating risk of mitigation failure. The greater the level of uncertainty on an offsetting project (technical, financial, or regulatory) the sooner the project should be implemented. As such, a reactive approach and possible switch to 'plan B' can be taken. The IUCN Draft Biodiversity Offsets Policy⁵ (2015) goes even further for offsetting, by suggesting that on the ground offset gains should be demonstrated before construction impact occurs. Delivering 'bigger', 'better', and more 'joined up' habitats for biodiversity gain is clearly a positive aspiration. Biodiversity offsetting is here to stay; and appears to have strong political backing. Bespoke 'project by project' offsetting strategy will be a key driver as a 'one size fits all' approach is likely to be a blunt instrument.



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⁴ <https://www.icmm.com/csbi>

⁵ http://www.iucn.org/about/work/programmes/business/bbp_work/collaborative_platforms/www_iucn_org_offsets/



Offsetting within Victoria, Australia and its application to the UK Biodiversity Offsetting Scheme

Introduction

Biodiversity offsetting has been implemented in over 25 countries worldwide, including Europe, the United States and Australia and entails providing conservation gains, such as replacement habitat to compensate for residual losses. It is currently a topic of much debate in England with the establishment of offsetting pilots in 2012 and the Defra consultation paper in September 2013¹. Within Australia, Victoria is at the forefront of implementing offset schemes and many lessons can be learnt and applied to the UK. The purpose of this review is to summarise some of the key successes and failures and set out some recommendations the UK could potentially adopt.

Background

Victoria's offsetting scheme was legally introduced in 1989. Its current policy objective is to ensure 'no net loss in the contribution made by native vegetation to Victoria's biodiversity'². The scheme sets in place a mitigation hierarchy whereby a developer has to demonstrate how they will avoid native vegetation removal, minimise impact through design and only then, once vegetation clearance is permitted, provide an offset to compensate for losses. This process requires sourcing vegetation of similar quality to that removed and securing those offsets in perpetuity through on-title legal agreements, prior to development.

¹ Defra (2013), Biodiversity Offsetting in England, Green Paper.

² Victorian Government (2013), Reforms to Victoria's native vegetation permitted clearing regulations - Amendments to the Victoria Planning Provisions.



Independent body to govern offsets

Victoria has an independent body³ who develop policies and guidelines, place planning conditions on permits, approve offset management plans (OMP) and monitor offsets secured on-title through a register. Their role has been essential given the complexities in understanding the offsetting process, which has in the past resulted in inconsistencies in its application. Recommendation: The UK should have a national independent organisation who governs offsets.

Agreement mechanisms and timeframes

Defra's Green Paper⁴ discusses the opportunity of using conservation covenants and enforceable management agreements to secure offsets. Currently within Victoria, there are different types of legal agreements available to protect offsets in perpetuity⁵. These agreements must accompany an OMP to ensure the sites condition is maintained and/or improved over time. The key issues with this mechanism have been the lengthy timeframes and costs associated with getting agreements finalised, with some taking several years. Recommendation: Clear processes, responsibilities, costs and timeframes need to be agreed to reduce undue burden on parties involved.

Monitoring and compliance

Defra has discussed the option of Local Authorities using existing mechanisms in the planning system to enforce requirements to provide compensation, such as planning obligations under Section 106 of the Town and Country Planning Act 1990⁶. A similar process is already in place in Victoria, however the lack of resources within Local Government to monitor compliance of legal agreements and OMP has resulted in it being difficult to measure the overall success of offsets. There has been limited guidance provided on how to enforce this compliance or by whom. DEPI is currently developing enforcement and compliance strategies to help address this issue⁷. Recommendation: Adequate funding must be allocated to ensure offset sites are regularly audited and comply with agreements to ensure biodiversity objectives are achieved.

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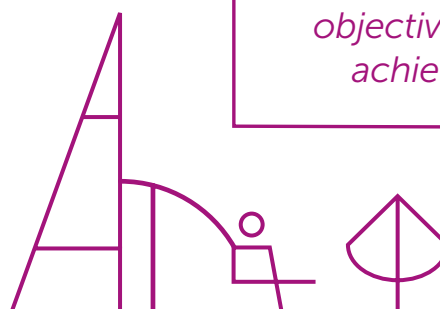
³ Department of Environment and Primary Industries

⁴ Defra (2013), Biodiversity Offsetting in England, Green Paper.

⁵ Bushbroker through a Section 69 agreement under the Conservation Forest and Land Act 1987, a covenant with Trust for Nature under the Victorian Conservation Trust Act 1972 or an agreement between Council and landowners through a Section 173 agreement under the Planning and Environment Act 1981.

⁶ Defra (2012), Biodiversity Offset Pilot, Information note for Local Authorities.

⁷ <http://www.depi.vic.gov.au/environment-and-wildlife/biodiversity/native-vegetation/native-vegetation-permitted-clearing-regulations/reforms-to-victorias-native-vegetation-permitted-clearing-regulations>. Accessed December 2013.



Creation of offset banks

Defra's Green Paper discusses the creation of larger markets to encourage competition, bring in offset providers and drive costs down. In Victoria, even with a mandatory offsetting scheme, it has taken many years to establish adequate offset banks as demand has clearly outstripped supply, leading to exorbitant prices developers pay for offsets⁸.

A majority of the offset sites provided are from private landowners/farmers who register interest through different schemes⁹. The Defra Green Paper discusses the option of using a public sector trust fund where developers pay into a fund and incremental payments are then given to offset providers to meet management costs. The option of integrating offsets into existing environmental stewardship schemes may also help stimulate interest among private landowners/farmers. Recommendation: To establish a long-term viable offset market in the UK, several mechanisms should be further explored and developed.

Offset size and location

IEMA's factsheet¹⁰ states that offsets may work best among Local Authorities working together at a county level or in a catchment area. In Victoria, offsetting for small scale development has resulted in a patchwork of offset sites being secured, rather than establishing larger offset sites to sustain biodiversity links, enhance ecological networks and reduce habitat fragmentation. It is evident that more management costs are associated with smaller offset sites due to more disturbance on the edge of habitats. Recently a strategic assessment in Victoria resulted in large habitats of similar quality being secured as offsets¹¹. Recommendation: Investigate options to identify and establish offset sites earlier based on predicted future development, however given the constraints of available land and the growing economy; allow some flexibility in the size, location and significance/quality of offset sites established.



⁸ <http://www.depi.vic.gov.au/environment-and-wildlife/biodiversity/native-vegetation/native-vegetation-permitted-clearing-regulations/native-vegetation-offsets/bushbroker/price-history-fees-and-services>. Accessed November 2013.

⁹ BushBroker, Trust for Nature, Local Government or other brokers.

¹⁰ IEMA (2011), Biodiversity Offset Factsheet.

¹¹ <http://www.depi.vic.gov.au/environment-and-wildlife/biodiversity/melbourne-strategic-assessment>. Accessed November 2013.

Quantifying Environmental Net Gain

In January 2018, the Government released its 25 Year Environmental Plan with the goal of shaping a new generation to leave the environment in a better state than we found it. Through this plan, the concept of environmental net gain (ENG) has become a discussion point. In December 2018, Defra published a consultation paper to discuss the implementation of a mandatory 'biodiversity net gain' (BNG) in future developments; and in the Spring Statement 2019¹, the Chancellor of the Exchequer confirmed that BNG in future developments will be mandated as a part of the next Environmental Bill. Both documents also discussed the next steps to more broadly mandate ENG into future developments.

This article looks at ENG in practice using two technical topics as examples and also discusses potential challenges in implementing ENG more broadly.

Using an established method as an example for quantifying a net gain, BNG assessments use various metrics, such as the Defra metric or local authority specific, to quantify the biodiversity value pre- and post-development. As a part of these assessments, additional mitigation measures can then be implemented into a development to ensure it provides a BNG. Alternatively, the developer can pay a fee to offset the net loss as part of a Section 106 agreement.

So how can environmental practitioners bring in other technical topics, such as air quality and flood risk/drainage into this ENG 'scoring system'?

ENG in Air Quality Assessments

In London, there has been a shift in policy via the draft New London Plan (dNLP) to drive ENG in air quality, encouraging the move from Air Quality Neutral (AQN) assessments to Air Quality Positive (AQP) assessments. For an AQN assessment, the development must meet relevant emission benchmarks as detailed in the AQN Guidance².

Where the development cannot meet the emission benchmarks, additional mitigation may be required on- or off-site, to mitigate any negative air quality impacts. The dNLP Policy 'SI1- Improving Air Quality' stipulates that developments in areas such as Opportunity Areas or those large enough to require an EIA are to propose methods to achieve AQP, and at least be AQN. However, the dNLP is yet to be adopted and currently, there is no detailed approach or guidance to show how developments are to quantify or achieve AQP. AQP assessments are not yet practiced widely.

Whilst there are methods available to provide an air quality net gain for a development (e.g. using low or zero-emission heating and energy; providing 'carlite' developments fewer car parking; or provision of walking/cycling infrastructure), there is no existing method of quantifying these 'gains' nor any benchmarks to compare to.

¹ <https://www.gov.uk/government/speeches/spring-statement-2019-philip-hammonds-speech>

² Air Quality Consultants and Environ, April 2014, Air Quality Neutral Planning Support Update: GLA 80371

ENG in flood risk

In the assessment of flood risk, an ENG could be seen as improving the resilience of developments to risks of flooding. Sustainable drainage systems (SuDS) such as permeable surfaces, storage tanks and ponds reduce the risk of surface water flooding by reducing peak flows and storm volumes and also improve water quality.

Implementation of SuDS are encouraged through the National Planning Policy Framework (NPPF). However, to ensure a long-lasting ENG to the development is provided, ongoing maintenance for SuDS must be mandated. The use of SuDS is interlinked with BNG as the infrastructure provides opportunities for ecological habitat creation; providing an example for how two environmental topics can provide an ENG simultaneously.

Potential Challenges

However, there are many challenges associated with providing an ENG for a development across more than one technical topic. For example, an air quality net gain may not exactly align with a BNG. Using 'living walls' that incorporate grasses and flowers to purify the external air would not be considered a natural BNG as it would utilise ornamental and non-native species. It could be considered that these 'units' counteract each other and therefore neither contribute towards an ENG?

Quantifying the ENG delivery in developments needs to be in line with newly established national targets applicable for various development types. Once the assessor knows what the 'environmental unit' would be, it can then be understood how many units are required for the development to meet the targets. Assessments should be a robust, holistic assessment of environmental net gain of a site, rather than emphasis on one aspect. This approach would require a cross-collaboration across technical areas and development expertise to ensure a total ENG is achieved.

In summary, an ENG across different technical topics within a development can certainly be achieved (e.g. use of SuDS and BNG).

Policy is changing to reflect the move into large developments providing an ENG, but further guidance, benchmarks and mechanisms to achieve a net gain in topics needs to be published for environmental assessments to be able to accurately quantify the number of 'units' required to deliver an ENG.

Assessments should be a robust, holistic assessment of environmental net gain of a site, rather than emphasis on one aspect.



High Time to bring Ecosystem Services into Environmental Impact Assessment

The European Commission adopted a proposal for a new EIA Directive in October 2012, with the amended Directive expected in 2014. One of the changes recommended in this proposal is to explicitly consider biodiversity and ecosystem services. This will keep EIAs aligned with the work of the UN CBD and EU and UK policies on biodiversity. Where environmental impacts occur, demonstrating the effect on people is being championed (by organisations such as the UN) as the best way to halt biodiversity loss and ensure sustainable management of our environment. The benefits that people obtain from the natural environment are called 'ecosystem services'. Examples are climate regulation, food, recreation opportunities and even oxygen production.

It will not be a simple process to bring Ecosystem Services into EIA. However, other related decision-making tools have already adopted considerations of ecosystem services. On an international stage this includes Environmental and Social Impact Assessments conducted under the International Finance Corporation's (IFC) Performance Standards¹. In the UK, the Government's Green Book – the official guide for undertaking policy appraisal – requires environmental impacts to be considered through an ecosystem service lens.²

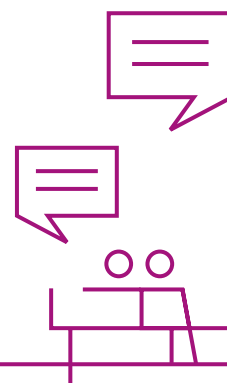
It is important that any introduction of Ecosystem Services into EIA avoids double counting of impacts. There is possible ambiguity over impacts on Ecosystem Services and ecological receptors. 'Biodiversity', the variety of living species, is often used as the title for Environmental Statement chapters on ecological receptors, including designated sites, protected and notable species. Biodiversity is one of the factors of the natural environment that forms a key part of any ecosystem, and therefore contributes to ecosystem services. An EIA manager could speculate whether Ecosystem Services could simply replace Biodiversity as a receptor in EIA? This approach must be avoided.

The contribution biodiversity makes to Ecosystem Services is genuine, but protecting Ecosystem Services will not in turn automatically protect biodiversity (Anderson et al 2009³).

¹ International Finance Corporation Performance Standards - link

² HM Treasury (2012). Accounting for Environmental Impacts. Supplementary Guidance.

³ Anderson, B. J., Armsworth, P. R., Eigenbrod, F., Thomas, C. D., Gillings, S., Heinemeyer, A., Roy, D. B. and Gaston, K. J. (2009). Spatial covariance between biodiversity and other ecosystem service priorities. *Journal of Applied Ecology*, 46: 888–896. doi: 10.1111/j.1365-2664.2009.01666.x



The complexities have been explored in Atkins and Metroeconomica's study for the Department of Transport "Applying an Ecosystem Services Framework to Transport Appraisal". The study reviewed WebTAG, the Department of Transport's Web-based Transport Analysis Guidance. Environmental impacts are one of the four categories of impact currently assessed within WebTAG, which also assesses economic, social and public accounts impacts. While WebTAG does not constitute formal EIA, it provides qualitative scoring of beneficial and adverse environmental impacts in a similar style to EIA.

The WebTAG review found gaps in research, and gaps in practitioners' understanding that mean it will take time to bring Ecosystem Services into WebTAG, or other EIA systems. The study found a great variation in the depth of understanding of the concepts surrounding Ecosystem Services amongst WebTAG users. It also found variation in the way they perceived and defined individual Ecosystem Services. It is likely that the introduction of the Ecosystem Services concept will run into similar issues. It is likely to take time for a consistency of approach to be established for EIA. In the short term this may lead to issues around the quality and consistency of analyses and the presentation of information to decision makers, which may hamper the efficiency and effectiveness of the EIA process.

WebTAG includes consideration of environmental impacts across a set of resources, but the Ecosystem Services approach includes a more formal relationship between natural capital and the services it provides.

WebTAG already covers some topics described in the Green Book Guidance on ecosystem services, despite the current absence of an explicit ecosystem services framework. However, some, such as pollination, are not. The key distinction is that an ecosystem services approach focuses on the services provided by the environment, resulting in a more comprehensive framework that better integrates the environmental, economic and social, and allows for the possibility of a wider range of impacts being monetised for the purposes of cost-benefit analysis. These issues are likely to hold true for EIA.



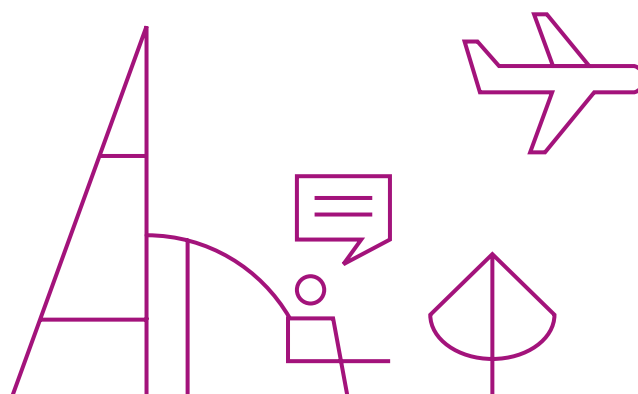
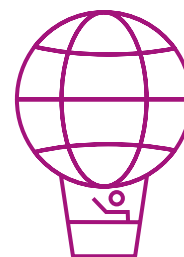
The contribution biodiversity makes to Ecosystem Services is genuine, but protecting Ecosystem Services will not in turn automatically protect biodiversity



The study provided recommendations for creating a simple, qualitative screening framework, which would be designed for use early in a WebTAG assessment to identify the degree to which Ecosystem Services may be affected by the project, and therefore whether they require detailed assessment. In this way, WebTAG users could make relatively simple changes to assessments. These would allow screening of potential impacts on Ecosystem Services, without wasted time and expense assessing impacts that would not influence decision making. It would allow consideration of Ecosystem Services that are currently missed by WebTAG, such as pollination. While WebTAG is a different system from EIA, the parallels between the WebTAG environmental impacts category and formal EIA mean that lessons for one system can be learnt and applied to the other.

Over the next few years, Ecosystem Services will gain prominence in EIA and other assessments that influence policy and project decisions. It is crucial that practitioners and industry begin to engage and understand the concepts now so we can make effective changes, so that impacts on them are considered without duplicating existing assessments or entailing excessive costs. When a revised Directive is formally adopted it will be too late to start. It is time for this to begin now.

Since this article was published in 2013, the policy drivers for thinking about ecosystem services have continued to evolve. The term 'ecosystem services' was not included in the final version of the revised EIA Directive. However, UK policy and decision making are increasingly recognising the need to maintain our natural capital, as demonstrated by the most recent changes to the Treasury Green Book⁴ and the theme of natural capital that appears throughout the Defra 25 year environment plan⁵. Essentially, natural capital is the stock of natural 'assets' like plants, animals, water and soil, whereas ecosystem services refers to the flow of benefits this stock provides to people.



⁴ <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

⁵ <https://www.gov.uk/government/publications/25-year-environment-plan>

Ecosystem Services and their role in Environmental Assessment

What are ecosystem services?

Ecosystem services are the benefits people and communities obtain from different ecosystems. The services they provide underpin and contribute to our health and wellbeing. The term gained international recognition through the research carried out as part of the United Nations Millennium Ecosystems Assessment initiated in 2001. This four year study (2001-2005) "assessed the consequences of ecosystem change for human well-being and the scientific basis for action needed to enhance the conservation and sustainable use of those systems and their contribution to human well-being" (Millennium Assessment, 2005).

The assessment categorises ecosystem services into 4 groups with examples:

- Provisioning – food, fuel, wood, fibre;
- Regulating – climate regulation, flood regulation, disease regulation;
- Cultural – Aesthetic, spiritual, educational, recreational; and
- Supporting nutrient cycle, soil formation, primary production, crop pollination.

Following the Millennium Assessments ground breaking research, the concept of ecosystem services, our understanding of the interaction and functions of ecosystems and human wellbeing has continued to gain momentum. The UK National Ecosystem Assessment (UK NEA) first commenced in 2009 to provide an analysis of

the UK's natural environment in terms of the benefits it provides to society and continuing economic prosperity, with inputs from government, academic, NGO and private sector institutions. In June 2011 the UK Government published its 'Synthesis of Key Findings' for the UK National Ecosystem Assessment. The study assessed different ecosystem services, identifying their importance to human wellbeing and the direction of change of the service following human influence. It identified that some services were being delivered well whilst others were declining. A follow-on report (UK NEAFO) was subsequently published in June 2014 to provide updated information and tools to help decision makers across all sectors understand the wider value of our ecosystems and the services they provide. The UK NEAFO (June 2014) provides further advice and information on which methodologies, models, tools and indicators are best for a given situation and how they should be used.



Why integrate Ecosystem Services into Environmental Assessments?

In terms of development planning there are different mechanisms that are used to assess environmental impacts. For example, Strategic Environmental Assessment and Sustainability Appraisal are typically associated with assessing environmental impacts of development plans whilst Environmental Impact Assessment is applied to development proposals that are likely to lead to significant environmental impacts. Whether at a strategic scale or at a local scale, ecosystem services have an important role within environmental assessments.

Ecosystem Services can provide a holistic approach to understanding the natural environment, the benefits that are provided and their interactions. Many services and the benefits we obtain from ecosystems are being degraded and lost through unsympathetic development.

To continue to benefit from the services ecosystems provide it is imperative that key services are supported, and where there is a declining service, action is taken to reverse this. For this to be realised, ecosystem services need to be considered where a decision on development is taken. A key mechanism that will help achieve this goal will be the use of environmental assessments of development and its forward planning.

What are the key benefits?

1. An ecosystem service approach will provide a greater degree of integration between different subject areas and biophysical and socioeconomic issues;
2. It will promote greater understanding of ecosystems and their services at a range of scale from strategic to local;
3. A greater understanding of ecosystems will support more effective impact prediction and allow a more targeted approach to requirements for intervention and mitigation;
4. Facilitate closer co-operation between different stakeholders to promote cross disciplinary integration.

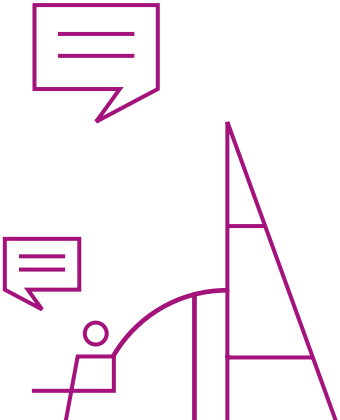


What are the key challenges?

1. The term ecosystem services has gained recognition but is not fully understood by practitioners;
2. A key part of any environmental assessment is the preparation of a detailed baseline. Despite studies into ecosystem services, preparing a detailed baseline remains difficult due to:
 - a. Uncertainty as to how to collect ecosystem service baseline data;
 - b. Uncertainty in identifying services functions and their actual and perceived value;
 - c. Many environmental assessments need to be completed in set timeframes, specifically in relation to EIA. Conducting an ecosystem service baseline can be perceived to be too onerous and time consuming;
3. Quantifying the value of ecosystem services has been the topic of recent studies. Birmingham City Council has completed an economic valuation of the ecosystem services provided by its green infrastructure. However, there are still knowledge gaps and limitations concerning how an economic value is reached.

Next stages

In order to further promote the incorporation of ecosystem services into environmental assessments, more research needs to be conducted into preparing ecosystem service baseline assessments. It would be particularly useful if local authorities followed in the footsteps of Birmingham City Council to prepare a borough or district wide assessment of ecosystem services as a basis for further studies. A local authority wide ecosystem service baseline would help provide information for and direct smaller scale assessments that would be typical of development scale. There has been a UK wide ecosystem service assessment, but now regional and local assessments are required. Individual parcels of land and habitats form part of ecosystems that in turn form part of larger ecosystems. Detailed baselines at a range of scales will facilitate the formation of key aims and objectives for ecosystem services to guide development and its planning. Without detailed baselines it is difficult for environmental assessments to positively incorporate ecosystem services.



Ecosystem Services can provide a holistic approach to understanding the natural environment, the benefits that are provided and their interactions. Many services and the benefits we obtain from ecosystems are being degraded and lost through unsympathetic development.

Do you make effective use of ALL of IEMA's IA member resources?

IEMA's website contains a treasure trove of IA related content, as well as information about IEMA's volunteer network groups, from regional groups, through UK impact assessment to ESIA across international finance. But not everyone makes the most of this free member content, including:

- Future events and webinars.
- Recordings of past webinars, with over 24 hours' worth of IA content.
- IA Guidance & advice: From Effective NTS, through climate (GHG and Adaptation), health, influencing design and delivery, to forthcoming documents on material assets and major accidents & disasters.
- The Proportionate EIA Strategy.
- Over 400 EIA articles and 200 case studies related to EIA, developed by Q Mark registrants in recent years.
- Individual and Organisational recognition specific to EIA, through the EIA Register and EIA Quality Mark schemes respectively.

Contact details to engage with the steering group members for the:

- IA Network
- GESA Group (Global Environmental & Social Assessment)
- Geographic/Regional Groups

www.iema.net



Summary

Emma Magee - Guest Editor

I hope this journal edition has inspired you and challenged you to think differently about the future of assessing project impacts. From the recent past of offsetting through to biodiversity net gain of the present, the development of ideas, partnerships and case studies will help us to continue to develop professionally on the future challenge of environmental net gain. This is not a small change, this is a monumental leap in how we think about project impacts for developers, consultants and regulators alike and will require expertise and collaboration from sectors we have not previously had so much to do with. However, this is not an insurmountable change. We have trail blazers forging a new path, tools and methodologies to help us and political will to make this a reality. And in truth, we need it to, because our environment, society and economy depend on development taking a significantly different trajectory to that which we have been accustomed to in the past.

The IA Outlook Journal will return in 2020 featuring:

- **Perspectives upon flexibility in EIA**
- **Edited by Clare Richmond, EIA Officer at London Borough of Tower Hamlets and member of the IEMA Impact Assessment Steering Group**

Interested in Contributing?

A key role of the IA Outlook Journal is to enhance the readership and thus impact of articles produced by registrants to the EIA Quality Mark scheme. However, the IA Network Steering Group is keen to see the Journal also provide opportunities for all members who have a useful perspective to share in relation to IA.

As such, once the relaunched Journal has bedded a little in 2019, the intention is to begin highlighting future themes for the Journal on these pages and on IEMA's website, with a date by which any member can contribute an article. All articles submitted will be reviewed for quality, by a small panel from the Steering Group, and all accepted articles will be passed to the relevant issue's Guest Editor for consideration. Any articles that don't make the Guest Editor's selection for inclusion in the relevant Journal issue will be made available as additional resources online.

Articles in IA Outlook must be approximately 800 words in length and provide a perspective on the theme of the issue they are seeking to be included within. Articles will generally be written by a single author and must avoid being directly advertorial of the services provided by the author's organisation.

The Role of the Guest Editor

The initial IA Outlook Guest Editors will be selected from the IA Network Steering Group; however, as the publication becomes more established, we would like to expand this to enable others the opportunity to take the helm.

To help members get a feel for what is involved in the Guest Editor role, they are responsible for:

- Helping define the core theme that runs through that issue of IA Outlook;
- Selecting five or six perspectives articles/ case studies to be included;
- Producing a short Guest Editorial at the front end of their issue, which introduces that edition's theme and presents a narrative across the selected articles and their subject matter, and;
- Provide a summary to draw the issue to a close and provide any concluding remarks on the theme.

If you feel you would make a good Guest Editor - on a specific theme – please contact IEMA's Head of Policy and Practice, **Spencer Clubb** (E: s.clubb@iema.net).

Acknowledgements

IEMA's Impact Assessment Network (IA Network)

Steering Group is a group of 15 members that volunteer their time to provide direction to the institute's activities in the field. The Steering Group members play a vital role in ensuring good practice case studies, webinars and guidance are developed and shared across the UK EIA community.

Emma Magee has acted as the guest editor for this edition of the new IA Outlook Journal. We recognise and appreciate her contribution. We also offer thanks to the editors and reviewers of this edition: **Spencer Clubb, Thomas Clayton and Charlotte Lodge (IEMA)**, plus members of the IA Network Steering Group in producing this issue of the IA Outlook Journal. We would like to thank the authors of the articles in this third edition of Impact Assessment Outlook: **Freddy Brookes, Lynnell Davis, Madeleine Truman, Claire Wansbury, Rupert Haines and Kara Paginton**. Alongside the authors we would also like to thank the EIA Quality Mark registrant organisations, who both gave the authors time and encouragement to write the articles and allowed their publication in this IEMA IA Network publication, they are: **Golder Associates, Aecom, Ramboll, Atkins and Pegasus Group**.

IEMA's EIA Quality Mark - a scheme operated by the Institute allowing organisations (both developers and consultancies) that lead the co-ordination of statutory EIAs in the UK to make a commitment to excellence in their EIA activities and have this commitment independently reviewed. The EIA Quality Mark is a voluntary scheme, with organisations free to choose whether they are ready to operate to its seven EIA Commitments: EIA Management; EIA Team Capabilities; EIA Regulatory Compliance; EIA Context & Influence; EIA Content; EIA Presentation; and Improving EIA practice.

Perspectives on net gain in EIA

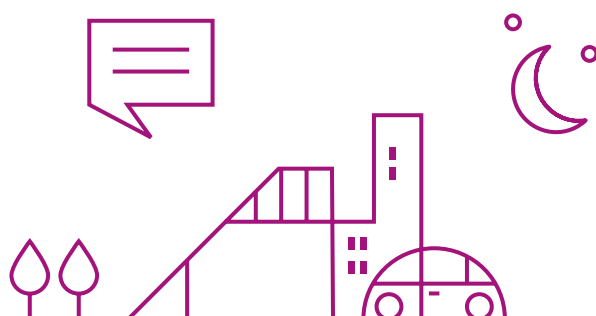
Thought pieces from UK practice

This fourth edition of the re-launched Impact Assessment Outlook Journal provides a series of thought pieces on the evolution of net gain and how it relates to EIA. In this edition, the Guest Editor (Emma Magee) has selected five articles produced by EIA professionals from respected organisations registered to IEMA's EIA Quality Mark scheme. The result is a thought-provoking quick read across different aspects of UK practice exploring different aspects of net gain and EIA.

About the Guest Editor: Emma Magee Senior Environmental Project Manager

Emma is a Senior Project Manager at the Environment Agency. Based in Exeter but working across Somerset, Devon and Cornwall, she is an EIA specialist working on Environment Agency flood defence schemes, helping to create better places for people and wildlife, and support sustainable development.

Emma has a background in biology and ecology and is a Chartered Environmentalist so it is no small surprise that she is a passionate advocate for the natural environment. With over nine years' experience in the environment sector Emma has a wealth of experience from her time at an environmental NGO, a sustainability consultancy and as an in-house safety and environment manager. Emma has been a member of the IEMA Impact Assessment Steering Group for one year and is an active member of the IEMA community..



About IEMA

IEMA is the professional body for everyone working in environment and sustainability. We're committed to supporting, encouraging and improving the confidence and performance, profile and recognition of all these professionals. We do this by providing resources and tools, research and knowledge sharing along with high quality formal training and qualifications to meet the real world needs of members from their first steps on the career ladder, right to the very top.

We believe that together we can change perceptions and attitudes about the relevance and vital importance of sustainability as a progressive force for good. Together we're transforming the world to sustainability.

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