Department
for Environment
Food & Rural Affairs

Net gain

Summary of responses and government response

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Contents

Introduction and context

The consultation was launched in December 2018 and ran for 10 weeks. It was supported by a consultation document, a consultation impact assessment and a link to a Natural England technical note on the process of updating the Defra Biodiversity Metric[1].

The consultation document first set out the objectives of an effective net gain policy for the environment, development and local communities: to enable us to build the houses, commercial premises and local infrastructure we need and at the same time improve our environment by more than compensating for biodiversity loss where it cannot be avoided or mitigated.

The second part of the consultation described what is meant by "biodiversity net gain" and "environmental net gain". It explained how biodiversity net gain is currently set out in planning policy, how it works in practice, and how a mandatory biodiversity net gain policy could benefit communities and developers as well as the environment. It set out the ambition, over time, to identify an effective broader environmental net gain approach which could deliver sustainable development which can be granted planning permission with less delay and greater local acceptance.

The third part of the consultation sought views on whether to mandate biodiversity net gain, and how a mandatory approach might be implemented most effectively. This part of the consultation included 45 questions which asked for views on specific elements of proposals including the most appropriate scope, measurement approach, delivery mechanism and monitoring mechanisms. Respondents were also asked for their views on how to better integrate species into a biodiversity net gain approach and how to move from net gain for biodiversity to an approach which also encourages the delivery of broader environmental net gains.

[1]These documents can be accessed on the consultation Citizen Space page: https://consult.defra.gov.uk/land-use/net-gain/.

Respondents

A total of 470 responses were received during the consultation period. The majority of these were submitted via the online portal, CitizenSpace (440). 30 emails were received and 3 letters, all duplicates of responses submitted by email or on CitizenSpace, were also received.

This response draws on analysis of the consultation responses completed by Defra, an external consultancy and by the Ministry of Housing, Communities and Local Government (MHCLG).

We are grateful to everyone who took the time to respond and share their experience, views and suggestions. The response that follows highlights the main issues raised but is not an exhaustive commentary on every response received. All responses were considered in the development of policy and this government response.

Stakeholder events

Defra held a stakeholder workshop supported by MHCLG officials, and a series of events with sector groups and individual organisations. Attendees were invited to discuss proposals with Defra officials and each other, ask questions and share their experiences, views and suggestions. Attendees of workshops and meetings included local planning authorities, non-governmental organisations, developers, consultancies, professional institutes, academics and wider industry.

Breakdown of respondents

There was a broad sectoral distribution of respondents. The largest respondent group was planning authorities and their representatives followed by other miscellaneous businesses, groups and organisations. Other large groups of respondents included conservation organisations, members of the public, consultancies, those working in, or with experience of, the development sector and land agency. No campaign responses were received in response to the consultation.

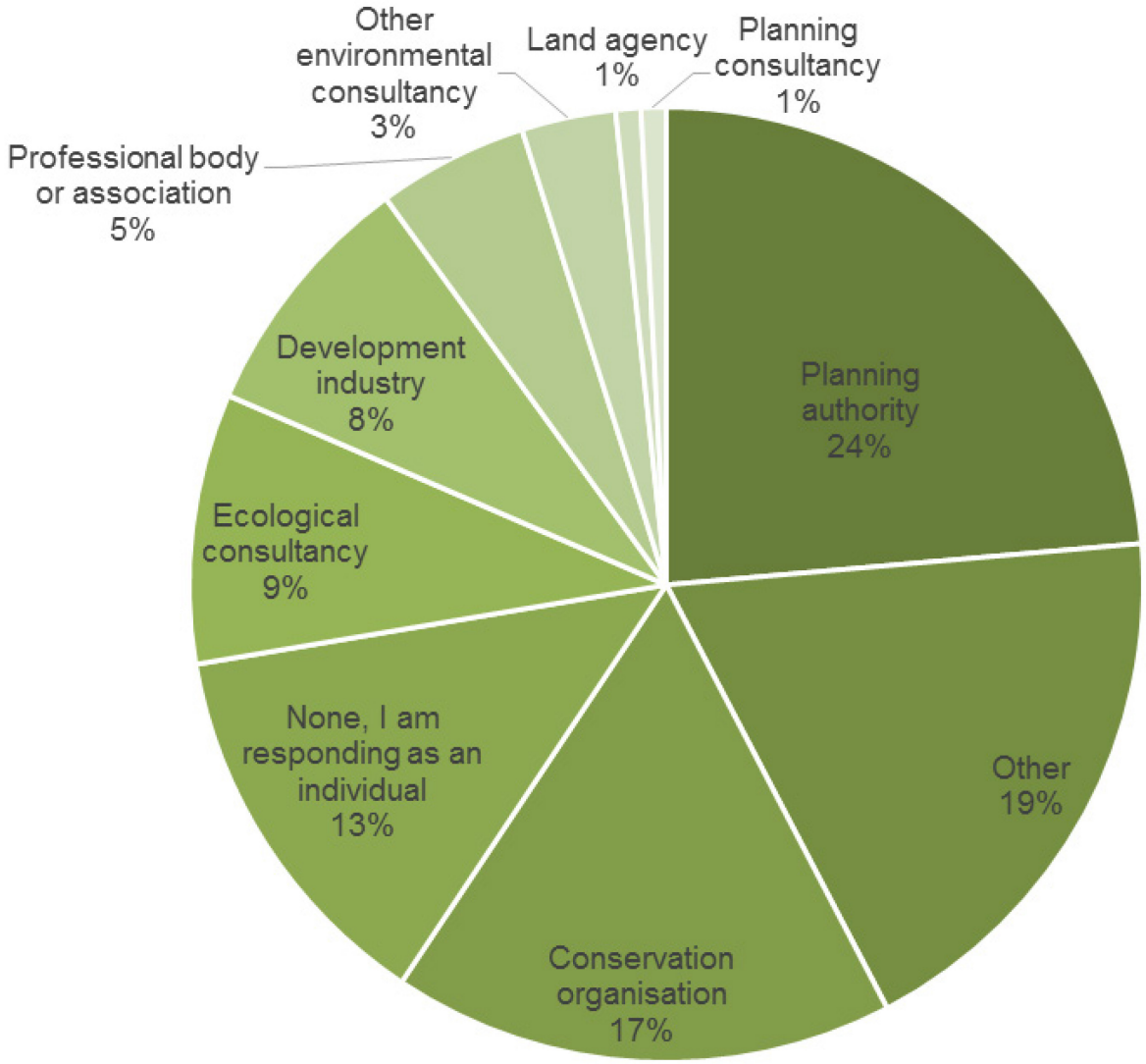

Figure 1: Approximate breakdown of respondents to the net gain consultation by reported or assigned type of organisation.

A significant number of responses, particularly from the development and conservation sectors were from large organisations or membership bodies. The indicative response numbers cited throughout this summary of responses is unlikely, therefore, to present a robustly representative sample of stakeholder views without the supporting narrative.

A full list of organisations which responded to the consultation is provided at Annex A.

Government response

Part 1: Scope

We asked whether biodiversity net gain should be made a mandatory requirement for new development. Early analysis of responses told us that, whilst specific concerns remained, a mandatory approach could bring significant benefits for development, the environment and society. We also heard that the net gain approach must be environmentally robust and clear in what is required of the development sector to achieve these potential benefits. At Spring Statement this year, **government announced it would mandate net gains for biodiversity in the Environment Bill**.

Development types

We asked whether the proposed mandatory approach to biodiversity net gain should apply to all development within the planning system or whether certain types of development should be exempted. The majority of respondents including several development industry respondents thought exempting broad categories of development to be unnecessary. **Government will not, therefore, introduce broad exemptions from delivering biodiversity net gain, beyond those exemptions already proposed for permitted development and householder applications such as extensions, and will instead introduce narrow exemptions for the most constrained types of development.**

Government will do more work to address viability concerns raised at consultation to ensure that net gain does not prevent, delay or reduce housebuilding. Exemptions will be set out in secondary legislation and are described below. In line with current practice, sites which do not contain habitats to start with (e.g. those entirely comprising buildings and sealed surfaces) will not be required to deliver compensatory habitats through biodiversity net gain, but would often be required to incorporate some green infrastructure through wider planning policy.

Government welcomes the willingness to contribute to environmental enhancement shown by some developers of smaller sites and their representatives, at consultation and in subsequent engagement, and notes the concerns about potential process burdens that they raised. **Government intends, therefore, to keep small sites in scope of the mandatory net gain approach, but will actively consider whether minor residential developments should be subject to longer transition arrangements or a lower net gain requirement than other types of development. Government will also consider exemptions for development of specific ownership types which may be disproportionately impacted through these changes, such as residential self-build.** In response to concerns about potential process burdens, **government will introduce**

process simplifications for minor development[2], as proposed at consultation, and work to ensure that smaller developments do not face additional new survey requirements.

Concerns raised about the cost sensitivity of the redevelopment of post-industrial developed land will be addressed by a **targeted exemption for brownfield sites that meet a number of criteria including that they (i) do not contain priority habitats and (ii) face genuine difficulties in delivering viable development.** Government will continue to work with all sectors to minimise burdens on planning authorities and businesses in ways that will not disproportionately compromise environmental outcomes, and will continue to listen to the development and planning sectors as mandatory biodiversity net gain is implemented so that any unexpected impacts of net gain policy can be identified and addressed promptly.

We asked whether 10% biodiversity gain would be a suitable level for a mandatory requirement. A significant majority of respondents supported the mandatory approach, with respondents arguing for both a higher and a lower percentage figure. On balance, we believe requiring 10% gain strikes the right balance between ambition, certainty in achieving environmental outcomes, and deliverability and costs for developers. **Legislation will therefore require development to achieve a 10% net gain for biodiversity.** In line with consultation responses, legislation will work with the grain of the planning system to achieve the desired environmental outcomes without adding unnecessary process.

Consultation proposals for a mandatory requirement did not include nationally significant infrastructure or marine projects. Whilst many respondents told us that these types of development should be in scope of the mandatory requirement, following careful consideration the government believes that further work and engagement with industry and conservation bodies is required to establish approaches to biodiversity net gain for both marine and nationally significant infrastructure projects, which can have fundamentally different characteristics to other development types. Government will continue to work on exploring potential net gain approaches for these types of development, but **nationally significant infrastructure and net gain for marine development[3] will remain out of scope of the mandatory requirement in the Environment Bill**.

The dynamic nature of marine ecosystems means that defining metrics for marine net gain will be challenging and will require much further work before a mandatory approach can be considered. To accelerate progress on marine net gain, we have sought the views of the

[2] Minor development being defined (i) for residential: where the number of dwellings to be provided is between one and nine inclusive on a site having an area of less than one hectare, or where the number of dwellings to be provided is not known, a site area of less than 0.5 hectares; (ii) For non-residential: where the floor space to be created is less than 1,000 square metres OR where the site area is less than one hectare.

[3] Marine development meaning development under the Marine and Coastal Access Act 2009.

Natural Capital Committee on defining and implementing any such approach and will continue to discuss net gain with marine sector representatives.

Habitats and the mitigation hierarchy

Consultation responses expressed strong support for the proposal that mandatory net gain should not weaken the existing legal and policy protections for protected sites, protected species or irreplaceable habitat[4]. **Government will therefore keep irreplaceable habitat sites out of scope of the net gain requirement and consider the best approach for net gain where development affects statutory protected sites.** Development affecting irreplaceable and protected habitats is already subject to bespoke but robust avoidance, mitigation and compensation requirements. These requirements are typically stronger than the requirements of the mandatory biodiversity net gain approach.

Biodiversity net gain tools and guidance will reinforce and support adherence to the mitigation hierarchy which is already well established in planning policy. **Government will improve environmental mapping[5] so that biodiversity impacts can be better avoided in the first instance.** We also received support for our proposed approach to introducing a "spatial hierarchy" to incentivise on site and local compensation where appropriate. Government intends to deliver this through the design of the biodiversity metric as well as policy and guidance.

The consultation document and consultation responses acknowledged the risk that a stronger requirement for biodiversity net gain could encourage landowners to degrade habitats before applying for planning permission**. Government will address concerns about net gain driving habitat degradation prior to applications through suitable provisions in legislation.** Decision makers will be supported with clear guidance on using appropriate baseline data.

We heard general support for allowing for adjustments to reflect local wildlife site designations but also concerns that a higher requirement might risk confusing the net gain requirement with parallel policy and legal protections for protected sites and species. Furthermore, these sites will typically contain wildlife-rich habitats that will already be valued highly when assessed with the biodiversity metric. **Government will therefore not mandate any specific higher net gain requirement for locally designated sites which will remain subject to the ambitious 10% national requirement, and will instead continue to allow local authorities to set bespoke planning policy and conditions relating to these sites.**

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[4] The National Planning Policy Framework defines irreplaceable habitat as "Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen." (p.68-9, National Planning Policy Framework); The Conservation of Habitats and Species Regulations 2017.]

[5] See detail on Local Nature Recovery Strategies in 'Delivering Biodiversity Outcomes' (p.9).

Species and wider environmental net gain

Government's position, supported by consultation responses, is that district-level licensing will improve great crested newt conservation, reduce costs and delays for developers, and better enable local authorities to realise their development goals. **Government has decided, however, not to mandate district-level licensing at the current time.** We will explore ways to support Natural England as it continues to roll out the scheme throughout England, which will give local authorities across the country the opportunity to see how district-level licensing works in practice. We therefore consider it more appropriate to wait and assess the success of voluntary approaches rather than mandating at the current time. We will continue to explore how the district-licensing approach could be adapted and expanded to cover other species.

The Natural Capital Committee (NCC) has recommended[6] that government should aim to go further than biodiversity net gain and introduce a system of natural capital, or wider environmental, net gain. This view was echoed by many respondents at consultation, though was balanced by concerns about rushing to implementation before the planning system has adapted to biodiversity net gain, and risks of creating perverse incentives such as incentivising the cheapest enhancements in ecosystem services.

To accelerate progress towards answering these questions, **government has asked the NCC to advise on the potential shape and application of environmental net gain policy.** Approaches are being explored that could enable decision makers and developers to consider the wider impacts of built development. This includes Natural England's eco-metric approach, developed by a team led by Oxford University, which incorporates natural capital assets and ecosystem services including flood protection, water quality, carbon storage, air quality, erosion control, access to nature and pollination.

To achieve more immediate natural capital benefits, the biodiversity metric and wider policy have been designed to encourage elements of development design that will deliver wider environmental gains, such as sustainable drainage systems and green roofs.

We have also committed to explore natural capital thinking throughout our approach to the Oxford-Cambridge Arc. This includes providing £1.2 million, with funding from Highways England, to develop local natural capital planning in the Arc with key partners.

[6] Natural Capital Committee, Advice to government on net environmental gain (May 2019). https://www.gov.uk/government/publications/natural-capital-committee-advice-to-government-on-net-environmental-

Part 2: Measuring biodiversity

In response to broad support at consultation, government will use the Defra Biodiversity metric to measure changes to biodiversity under net gain requirements established in the Environment Bill. An updated version of the biodiversity metric will be published for comment and review this year, alongside a new spreadsheet-based tool which will establish a standard format and automate some of the required calculations. This updated metric will include new, clearer, habitat condition assessment guidance and the range of other improvements set out alongside the consultation[7]. Together these will address many of the issues with existing biodiversity metrics raised by respondents at consultation. Government will invite representatives of stakeholder groups to test this "beta" version and then introduce another updated version when the transition period commences which will underpin the mandatory requirement. Government will use the upcoming metric update, and future updates, to address comments and feedback received from developers, local authorities, NGOs and other respondents at consultation and after their use of the updated metric in practice.

After the updated metric is released at the start of the transition period, government will continue to update the metric regularly but infrequently, supported by stakeholder engagement or informal consultations. This will allow us to address concerns and accommodate technical improvements over time, while avoiding making frequent changes that could undermine process stability and certainty for those using the metric. A timeline of planned updates will be made publicly available, and government will work with professional associations to make sure that sufficient high-quality metric training is available to those who will need to use it.

Government will address concerns about process burdens for small sites by following a similar approach to BREEAM[8] in allowing a simplified assessment for sites of fewer than 10 residential units or an area of less than 0.5 hectares for other types of development (unless priority or protected habitats are present). This simplified assessment will not include a condition assessment, so users will only need to state what habitats are present and the area that these habitats occupy to define their baseline for net gain. As well as allowing for this simplified assessment, government will also continue to work to ensure that small developments are not burdened by new survey requirements through net gain, and will issue guidance on the importance of proportionality in the approach.

[7] This document can be accessed via the consultation Citizen Space page: https://consult.defra.gov.uk/land-use/net-gain/.

[8] As described in BRE Global, GN36 BREEAM, CEEQUAL and HQM Ecology Calculation Methodology – Route 2 (Accessed July 2019). https://www.bregroup.com/brebreeam/wp-content/uploads/sites/3/2018/06/GN36-v0.0-BREEAM-CEEQUAL-HQM-Ecology-Calculation-Methodology-Route-2.pdf

In recognition of the support we heard for good practice principles[9] and existing industry leadership, government intends to adapt some of these principles from industry practice into guidance for net gain, including the 'like for like' principle. Government will therefore set out in policy and guidance that when highly distinctive habitats (as defined by the metric, usually priority habitats) are lost, they should be compensated for in a scheme that will create the same type of habitat.

As proposed in the consultation, legislation will require development to deliver 10% net gains for biodiversity. Consultation respondents offered mixed opinions on this level, with many recognising that the practical consequences of any rate will depend on the quality of delivery, the metric and other policy details. We maintain the view that 10% strikes the right balance between government ambition for development and the pressing need to reverse environmental decline. As stated in the consultation, the 10% will be a mandatory national requirement, but should not be viewed as a cap on the aspirations of developers that want to voluntarily go further or do so in the course of designing proposals to meet other local planning policies.

At consultation, we asked whether it would be appropriate to allow certain types of sites to use off-site compensation without fully considering on-site options for enhancement. We heard general opposition to this suggestion as the consultation proposals described it and concerns that this approach would undermine the mitigation hierarchy. **Government does not intend therefore to exclude any development from the application of the mitigation hierarchy, or from the incentives for delivering any necessary compensation on site or locally. Government will instead use guidance to stress the need for planning authorities to continue to be proportionate in their application of planning policy.** This should mean that sites without reasonable opportunities to achieve net gain through on-site habitat delivery will not face risks of delay through rigid or prescriptive requirements. Not introducing this element of consultation proposals will also help to make sure that government does not create any potential loopholes, or undermine existing policy and legal protections, that could allow for "licences to trash" habitats.

Work will continue to develop better baseline maps of habitats at a national level, which will ensure improved environmental mapping is available locally[10]. Government will not recommend that these baseline maps are used in place of site-level assessments, which will still be needed for wider environmental requirements and for a robust biodiversity net gain assessment. Instead, it will enable these maps to be used in cases of disputed baselines, primarily where alleged habitat degradation before development causes disagreement between planning authorities, communities and developers about what the baseline habitat state should be. Guidance will clarify the assumptions that decision makers should consider in these circumstances.

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[9] CIEEM, CIRIA, IEMA, 2016. Biodiversity Net Gain: Good practice principles for development. https://cieem.net/wp-content/uploads/2019/02/Biodiversity-Net-Gain-Principles.pdf

[10] See detail on Local Nature Recovery Strategies in 'Delivering Biodiversity Outcomes' (p.9).

Part 3: Delivering biodiversity outcomes

Consultation revealed strong support for habitat opportunity maps to guide provision of compensatory habitat so that it delivers the greatest benefit. **In the Environment Bill, government will introduce new duties to support better spatial planning for nature through the creation of Local Nature Recovery Strategies (LNRSs).** The intention is that the whole of England will be covered by LNRSs with no gaps or overlaps. Each LNRS will include a statement of biodiversity priorities for the area covered by the strategy and a local habitat map that identifies opportunities for recovering or enhancing biodiversity.

National government will provide data, guidance and support but each LNRS will be produced locally, with a relevant public body appointed as the responsible authority by the Secretary of State. This will achieve the best combination of local ownership and knowledge and national consistency and strategy which consultation responses supported. LNRSs will be produced collaboratively with input from a broad range of partners. The intention is that LNRSs will encourage the consideration of the wider benefits of habitats (e.g. carbon sequestration and flood mitigation) and promote greater connectivity between areas of habitat. Our intention is that LNRSs will also be a tool to support delivery of existing duties on local and public authorities to protect and enhance biodiversity[11]; putting biodiversity net gain at the heart of a more strategic approach to nature recovery.

We envisage that LNRSs will inform the town and country planning process by providing an important source of evidence to support plan-making, and underpinning actions local planning authorities or neighbourhood planning groups choose to take to protect and enhance biodiversity in their areas. It will continue to be the case that the development plan itself is the principal document at the heart of the planning system, and that planning decisions must be taken in line with the development plan unless material considerations indicate otherwise.

Ongoing maintenance will be required for habitats to ensure they reach condition and deliver net biodiversity gains. There was strong support for a minimum period of maintenance, with a significant number of responses calling for longer minimum periods or ‘in perpetuity’ arrangements. **Government will require net gain outcomes, through habitat creation or enhancement as part of delivering mandatory biodiversity net gain, to be maintained for a minimum of 30 years, and will encourage longer term protection where this is acceptable to the landowner.** It is our intention to allow for flexibility and adaptability in management over this timeframe where appropriate, so long as proposed habitats are delivered. In practice, a thirty year minimum can sometimes amount to funding in perpetuity if the funds for 30 years are invested prudently. The intention is that landowners would in theory be free to change the use of land set aside for

[11] Planning policy on protecting and enhancing biodiversity can be found in paragraphs 170 and 174 of the National Planning Policy Framework. Section 40 of the Natural Environment and Rural Communities Act (2006) requires that all public authorities have regard, so far as is consistent with the proper exercise of their functions, to the purpose of conserving biodiversity

habitat improvement after the 30-year maintenance period, but that the target habitat condition of the improvement scheme is applied as the biodiversity baseline for any future development.

It is government's intention that the use of the metric in biodiversity net gain, along with clearly mapped strategic priorities for nature will, together, contribute to the growth of a vibrant and fluid market in habitat creation. By internalising biodiversity costs and benefits, we will create powerful rational incentives to avoid the most biodiverse sites for development and to invest in our natural environment in a way that supports economic growth directly through environmental enhancement.

Conservation covenants

Following a separate consultation on the subject[12], **government will legislate for conservation covenants in the Environment Bill.** Legislation will provide for the creation, monitoring and enforcement, modification and discharge of conservation covenants. Conservation covenants are private, voluntary agreements that can secure long-term conservation and environmental benefits, with obvious potential application for net gain. The agreements will be with a "responsible body", such as a conservation charity or government body. They will be capable of binding not only the initial landowner but also subsequent landowners. We will continue to engage with stakeholders to understand how conservation covenants can best support lasting benefits for biodiversity.

[12] Defra ran a consultation on conservation covenants from February to March 2019 to supplement the Law Commission consultation on the same subject in 2013. The government response to the 2019 consultation, which details government's proposals on conservation covenants can be found on Gov.uk. The Law Commission report on the 2013 report can be found at https://www.lawcom.gov.uk/project/conservation-covenants/.

Part 4: Calculating and delivering net gain compensation

In recognition of respondents' preference for the local collection and spending of net gain compensation, as well as concerns about the potential bureaucracy inherent in a new charging scheme, **government will not introduce a new tariff on loss of biodiversity**. Government will set a requirement to achieve biodiversity net gain. The risk that the market supply of habitat creation will not meet demand will be addressed by government's plan to provide a supply of statutory biodiversity units into the compensation market. By not instating a rigid tariff mechanism, government will make it easier for local authorities, landowners and organisations to set up habitat compensation schemes locally where they wish to do so, and will still provide a last-resort supply of units from government where this is not the case.

Revenue from the sale of statutory biodiversity units will, where possible, be invested directly into pre-determined local habitat creation projects, and government will design the system to discourage any long-term pooling of revenue. Projects for investment will be selected on the basis of their additionality, their long-term environmental benefits and their contribution to strategic ecological networks. Investment will be made transparently and a public record of government habitat creation projects maintained for transparency and audit purposes.

Government will apply its principles for setting a tariff rate, which were set out in the net gain consultation, in setting the standard cost of statutory biodiversity units. We will also consider the administrative costs of delivering habitat compensation schemes and the interaction between habitat creation costs for net gain and government payment for environmental land management. Whilst government still considers the consultation's proposed range for the cost of a biodiversity unit broadly appropriate, some respondents raised concerns that it was too low and would stifle habitat creation markets, and some that it was too high. Several respondents asked for further evidence and work to refine this cost per unit, so government will undertake a review of the rate and further stakeholder engagement on this subject before announcing a specific cost per statutory biodiversity unit.

Part 5: Delivering net gain in the planning system

Local authority leadership

Government recognises the pressure that many local planning authorities (LPAs) are under to balance their various policy, legal and funding requirements. **Government is working to quantify any additional burdens on local authorities as a result of biodiversity net gain, and will work with local authorities and professional organisations to make sure that planning authorities have access to the right training, ecological expertise and systems required to deliver biodiversity net gain.** Proposals are designed to support local planning authorities achieve positive environmental outcomes in the long term and more broadly than net gain. Specifically, we expect the following outcomes to flow from a mandatory biodiversity net gain requirement.

- developers undertaking more mitigation and compensation planning before submitting applications, reporting environmental impacts more clearly and transparently, and submitting fewer inappropriate applications (i.e. those that would show a clear net loss for biodiversity)
- potential for local planning authorities to offer (paid-for) habitat compensation brokering and advice
- Local Nature Recovery Strategies will help planning authorities identify strategic investments in local habitats

It is also recognised, however, that any changes to the planning system will create challenges in the short term. To manage this, **government will continue to engage with local planning authorities and the LGA throughout and after the transition period to establish and address further risks and opportunities in this policy area. The net additional cost of new burdens placed on local authorities through biodiversity net gain will be assessed and funded.** We will work with industry bodies such as the Chartered Institute of Ecology and Environmental Management (CIEEM), the Institute of Environmental Management and Assessment (IEMA), the Royal Town Planning Institute (RTPI) and others to make sure that training, expertise and systems which are fully compatible with government policy are made available. We will also work to make sure that advice services are in place which could, for example, be provided through Natural England and Environment Agency area teams. The introduction of a mandatory policy would be accompanied by clear guidance, drafted after further engagement with local planning authorities and developers. Government intends to follow, in many respects, existing industry guidance such as that recently published by CIEEM, CIRIA and IEMA[13].

[13] Baker, J, Hoskin, R, Butterworth, T. CIRIA Biodiversity net gain. Good practice principles for development. https://www.ciria.org/News/CIRIA_news2/Guidance_for_Biodiversity_Net_Gain.aspx

Delivery of net gain compensation

Alongside the arguments for investment in national habitat priorities, government recognises the strong case for a local focus for net gain compensation. The intention is for local authorities to be able to leverage local expertise and knowledge to deliver on local biodiversity priorities.

The Environment Bill will make provision for local decision makers to agree biodiversity net gain plans with developers. Where offsite compensation is required, local authorities will be able to review developers' plans to deliver compensation through local habitat creation projects. Where suitable local projects are not available, there will be the option for investment in nationally strategic habitats through a government offering of biodiversity units. **Government will make provision for these 'statutory biodiversity units' in the Environment Bill.**

Local spending should be transparent. **Government will establish a publicly available habitat register of compensatory habitat sites that is regularly updated.** This register will show where habitat is being created, how much and of what type, as well as what development it is offsetting.

The policy intention is to leverage local knowledge and expertise, including Local Nature Partnerships to create, advise on, and/or broker local habitat investment opportunities. There is also a potential role for local organisations such as environmental records centres in helping to monitor how net gain is delivering on local habitat priorities. Government will work with the relevant organisations to identify and resolve any potential issues around conflict of interest ahead of implementation.

Impact on developers

Responses were clear on the opportunities net gain offers developers including reduced risks of unexpected costs and delays, a level playing field nationally, and greener and more desirable developments. Proposals described above for statutory biodiversity units will provide a recourse for developers and local planning authorities where local habitat compensation schemes are not available, preventing delays to development. Spatial environmental mapping will help developers to locate their sites strategically to avoid biodiverse sites that would be difficult to achieve net gain on.

However, government acknowledges the need for clarity, consistency and simplicity and good guidance to help developers design net gain into their processes in the early stages of development. **Government commits to:**

- **continue to engage with the industry to address concerns, identify and address risks and communicate opportunities offered by net gain**
- **publish practical guidance which makes it clear to developers what will be required and when, and how requirements interact with other environmental considerations including district-level licensing**

Integrating net gain and wider environmental planning

Respondents suggested a range of processes and objectives which might integrate with a future wider environmental net gain approach, but there was little consensus. Factors listed in the consultation as potential components of an environmental net gain approach were frequently suggested. These included sustainable drainage systems, recreation access, sustainable construction materials and the resource efficiency of development. Stakeholder engagement and alignment or integration with Strategic Environmental Assessment and Environmental Impact Assessment reporting were also mentioned. **In developing biodiversity net gain for delivery government will explore opportunities to align net gain with other processes in environmental planning, and will continue to engage with stakeholders around this question.**

Disproportionate effects on particular types of development

Respondents did not typically suggest that any particular development types would be disproportionately impacted by a mandatory biodiversity net gain requirement, however in developing proposals government will continue to give consideration to the examples in response to this question, such as public service and infrastructure development, development in low viability areas and minerals sites. Concerns raised about the cost sensitivity of the redevelopment of post-industrial developed land will be addressed through a targeted exemption for brownfield sites that would otherwise face difficulties in delivering viable development and do not contain priority habitats.

Transition

There was strong support for a notice period and clear deadlines. Support for a transition period longer than a year was balanced by concern that too protracted a transition may pose risks to effective implementation and biodiversity outcomes. **Government will make provision in the Environment Bill to set a transition period of two years**.[14] It will work with stakeholders on the specifics of transition, including accounting for sites with outline planning permission, and will provide clear and timely guidance to support those involved understand what will be required of them and when.

Appeals and dispute resolution

In response to significant support among respondents for the existing dispute resolution process, government proposes appeals be determined through the existing planning appeal process. We will ensure that Planning Inspectorate staff are supported in applying the biodiversity net gain requirement through appropriate training and guidance. This

[14] 2 years from the Bill receiving royal assent.

should result in robust decisions which can establish consistency and avoid delays to planning decisions.

While the policy intention is that the metric will help avoid disputes, it is acknowledged that some issues are likely to be worked out through implementation. Government does not intend to make provision in legislation for dispute resolution or appeals, but will work with the planning system to make sure it is properly resourced to deliver what is needed. This will include training and guidance.

Part 6: Monitoring and evaluation

Many responses were clear that robust monitoring, for an appropriate length of time, would be key to ensuring effective delivery of net gain. There was strong support for local authorities being required to provide information on habitat losses and gains, but we also heard that those responsible for monitoring, whether local authorities or national bodies, will need the right funding and expertise in place to ensure they can deliver. We heard that data collection and reporting mechanisms should be straightforward and consistent across all local authorities, and that there would be advantages to aligning monitoring with existing local authority processes.

Planning application data is routinely published by local authorities and will provide a first level of data about how new developments will achieve biodiversity net gain. More generally, government is looking at local authority and wider public authority reporting on biodiversity. Government will work with local authorities to make sure that any reporting mechanisms align with existing processes as far as possible, and that guidance and support are available.

Conservation covenants, which government will legislate for in the Environment Bill, offer an alternative way to secure habitats in the long term. Where habitats are secured by conservation covenants, responsibility for monitoring and enforcement would sit with the organisation that holds the covenant.

Respondents wanted monitoring to be transparent. They wanted to know who would be responsible for monitoring, and they wanted data on habitat losses and gains to be made public to build public confidence in the policy. In line with suggestions for a public register, and in addition to wider work looking at reporting on biodiversity impacts, **government will make provision in legislation for a public register of habitat improvement sites.** This register will, as a minimum, detail the location of compensation sites, how many units and of what habitat types are created, and the planning reference of the development to which the units relate. This will help avoid accidental, or fraudulent, double counting. Habitat providers will be required to update the register for their offset sites when agreements are made with developers. We are exploring how best to deliver a register in a way that is proportionate, can be assured for accuracy, could extended to cover on-site habitat delivery, and aligns as far as possible with existing local authority mechanisms.

Government intends to include habitats created through the sale of statutory biodiversity units in this register.

Respondents recognised that habitat data collected in monitoring net gain could help build a picture of existing habitats in an area, as well as opportunities for habitat enhancement and creation. As described above[15], **the Environment Bill will legislate for Local Nature Recovery Strategies which will detail existing areas of high biodiversity value as well as those areas where habitat creation or restoration would add most value.**

Respondents suggested a range of technology and other innovative mechanisms which could support monitoring and delivery of net gain, including opportunities to engage the public, and tools for data collection, analysis and publication. Government will continue to explore what technological or other innovative mechanisms could facilitate the delivery and monitoring (at a local and national scale) of biodiversity net gain both now and in the future as technologies develop, and will provide clear guidance to support implementation. We recognise the opportunities remote sensing offers, but acknowledge that it is likely to be most effective when maps are validated through activities such as local habitat surveys.

In addition to the opportunities offered by new technologies, government will continue to explore opportunities to align net gain reporting with information on other measures, including species and wider ecosystem services. Government does not propose to introduce new enforcement mechanisms for net gain; enforcement will be through the planning system.

Many respondents shared views that this policy will not achieve its potential benefits if it becomes a box-ticking exercise. Therefore, government will work with stakeholders including local authorities, environmental record centres, developers and conservation organisations to design the public register of delivered habitats in a way that allows them to be tracked and monitored over time. Government will make clear the criteria which compensatory habitats need to meet to be considered legitimate sources of biodiversity units. Clear net gain assessments that detail what habitats should be present on site, and the special net gain planning condition attached to the land, will encourage compliance in the first instance, while also supporting enforcement where necessary. We will explore methods of making these assessments and compensation site registers accessible for local communities so that they can see the benefits delivered by net gain and raise their concerns when promised enhancements have not been delivered.

[15] See detail on Local Nature Recovery Strategies in ‘Delivering Biodiversity Outcomes’ (p.9).

Summary of responses

Part 1: Scope

What development should be in scope of a net gain policy?

Question 1: Should biodiversity net gain be mandated for all housing, commercial and other development within the scope of the Town and County Planning Act?

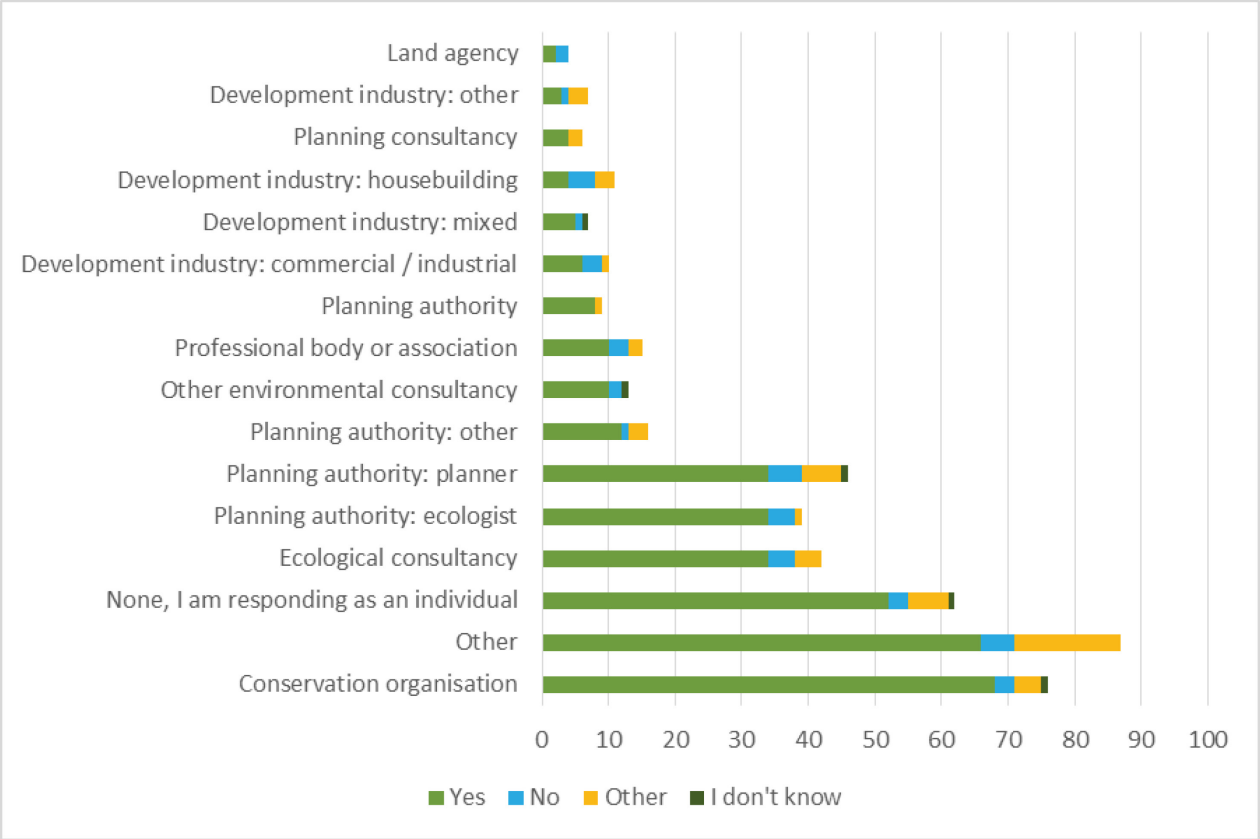

Figure 2: Number of responses to question 1 by sector and answer indicated

451 respondents answered this question. A large majority of the 451 (78%) stated that biodiversity net gain should be mandated for development within scope of the Town and Country Planning Act. A mandatory approach received notably less support from the development and land agency sectors. The majority of respondents in these sectors, including the Home Builders Federation (HBF), did not select “Yes” and instead stated their preference for a more flexible policy-led, or voluntary, approach to net gain. Respondents who supported a mandatory requirement stressed the need to support biodiversity and the benefits that wildlife and ecosystems provide to residents and wider

society. Some respondents said that the existing, policy-based approach, creates inconsistent requirements for developers and local planning authorities to negotiate. They suggested that a mandatory requirement could create a 'level playing field' which provides simplicity and associated time- and cost-savings benefits. The Environmental Industries Commission explained that, "By mandating biodiversity net gain, and setting out a nationally applicable net gain metric, varying approaches across local authorities would become more standardised, which in turn creates a simpler process for business."

A significant number of respondents used this question to comment on the proposed scope of the requirement. For example, The Wildlife Trusts stated, "Yes, biodiversity net gain should be mandated for all development within the scope of the Town and Country Planning Act (TCP Act) … However, in order to be successful and to align with the commitment of the 25 Year Environment Plan to 'embed an environmental net gain principle for development, including housing and infrastructure', biodiversity net gain must be mandated for all developments, not just those within the scope of the TCP Act."

9% of respondents answered "No". Some objected to the concept of biodiversity net gain. Some thought the concept sound but stated that it should be delivered through planning policy or voluntary measures. Third-party certification schemes were mentioned in this context, including the Considerate Construction Scheme. A significant number of respondents appear to have selected "No" on the basis of an objection to the proposed scope of a mandatory requirement rather than the mandatory requirement itself (i.e. objecting to all development under the Town and Country Planning Act being in scope). Others objected to the application of net gain to protected sites. Other concerns included the potential for the policy to increase incentives to degrade habitats ahead of planning applications, limited local planning authority resourcing to assess and monitor proposals, financial costs to developers, the availability of compensation sites and the risk of undermining the mitigation hierarchy. The Royal Town Planning Institute (RTPI) raised concerns about the risk of undermining the role of planning: "Firstly, it is important that proposals to mandate biodiversity net gain (BNG) do not devalue the wider purpose of planning. There is a perception among some quarters that the role of planning should be to create a land market where all constraints are 'priced in' at the outset, providing certainty to landowners and developers, and enabling them to move through the system in a uniform way regardless of location. However, the real value of planning lies in place-leadership."

Taylor Wimpey selected "No" and expressed concern that biodiversity was being elevated above other planning considerations: "It is not clear why biodiversity should be made mandatory and hence elevated above other important social and environmental priorities. We therefore cannot support the mandatory aspect of the consultation."

The House Builders Association, representing typically smaller development organisations, selected "Yes" but advised that, "There should however be efforts made to simplify certain sized/type of sites so that smaller house builders are not subject to long delays and costly assessments."

Broader issues raised by respondents in answering this question included the need for any mandatory requirement to be robust and appropriately enforced. Some respondents were concerned that the proposals outlined in the consultation were not clear with regard to: submissions made under General Permitted Development, Review of Old Mineral Permissions (ROMPs), sites which are already purchased or in development, alterations under Section 73 Variation of Planning Conditions (specifically with regard to mineral sites) and applications for change of use following site restoration (also specifically with regard to mineral sites). Stakeholders who attended consultation events and meetings raised potential complexities related to multi-stage sites with multiple developers. Subsequent discussions suggest that this challenge can be overcome through collaboration within the sector, but stakeholders maintained the view that an inflexible net gain requirement could create complexity for multi-stage sites.

A small number of respondents highlighted the exclusion of nationally significant infrastructure projects (NSIPs) and marine development from the consultation, and stated that both should be in scope given their size and potential for causing environmental impacts.

Concerns raised about viability for certain types of development are addressed in the summaries of responses for the following questions which addressed the scope of the requirement.

Question 2: What other actions could government take to support the delivery of biodiversity net gain?

404 respondents answered this open question. Responses covered a wide range of themes. Particularly popular suggestions to support delivery were the provision of more resources, including ecologists, for local planning authorities, and training and accreditation schemes.

Specifically, respondents suggested:

- greater in-house ecological expertise in local planning authorities
- stronger and clearer spatial strategies to guide compensatory habitat creation and enable developers to contribute effectively to local environmental restoration
- involving Local Environmental Record Centres in net gain processes, strategies and monitoring
- accreditation schemes for consultants and planners so that developers and decision makers can be confident of the information and plans submitted to them
- significant penalties for failure to achieve net gain, but acknowledgement that developers would not be able to accept liabilities indefinitely and should not be penalised where they are not at fault
- legal mechanisms to provide assurance that created habitats will endure
- incentives for developers and landowners to actively participate in net gain and pursue ambitious targets

- updating planning practice guidance to better explain and support biodiversity net gain including good practice principles, detailed guidance and standards
- a simpler approach for smaller schemes
- improved integration of the mitigation hierarchy into the planning system
- inclusion of nest boxes and other wildlife measures into housing developments
- a transition period of longer than one year to allow for proper preparation such as training and compensation strategy planning
- increased flexibility in the Design Manual for Roads and Bridges

Higher level comments on the biodiversity net gain approach recommended that further work is done to:

- integrate biodiversity net gain into natural capital approaches that might bring development closer to a position of achieving wider environmental net gains
- align biodiversity net gain with water and flooding measures such as sustainable drainage systems
- share net gain knowledge between marine and terrestrial planning regimes to support net gain in the marine planning regime

Question 3: Should there be any specific exemptions to any mandatory biodiversity net gain requirement (planning policies on net gain would still apply) for the following types of development? And why?

437 respondents answered this question. The text preceding this question in the consultation document outlined government's intention to exclude permitted development from the mandatory requirement. It also clarified that exemption from a new mandatory requirement would not mean exemption from existing planning policy on biodiversity net gain and wider environmental planning policy.

The document and response form gave respondents five options of further exemptions to select from:

- house extensions
- small sites
- all brownfield sites
- some brownfield sites
- other

Respondents were allowed to select several options within these. Of those who selected "Other", two dominant themes emerged in responses, which were also counted as new options in the analysis:

- permitted development
- no exemptions

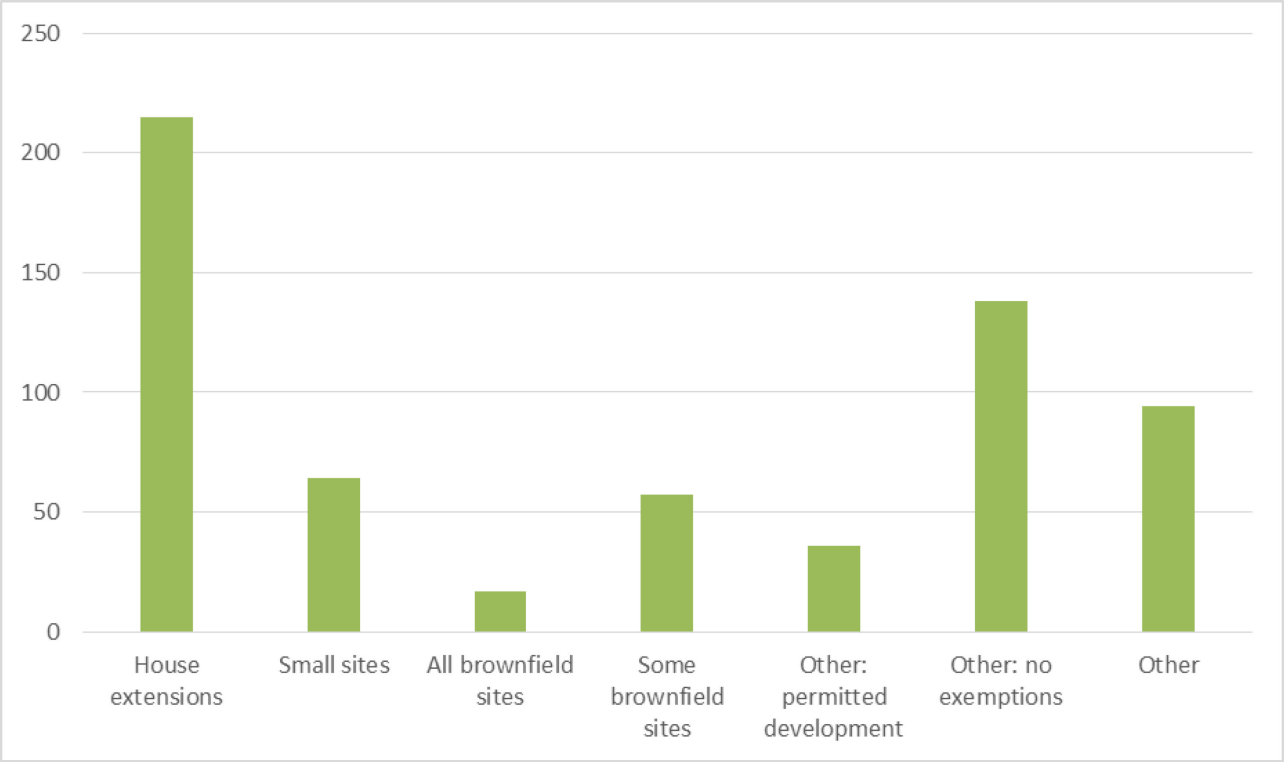

Figure 3: Options selected by respondents to question 3 (multiple options could be selected)

Whilst a significant number of respondents objected to any exemptions at all, particularly members of the public and conservation organisations, many others used the free text box to observe that exemptions for householder applications and permitted development would be fair and proportionate and that the approach outlined in the consultation would not be suitable for these scales of development. It was noted, however, by several respondents that some forms of permitted development could cause significant impacts on biodiversity and around 20 respondents stated that permitted development should not be wholly exempted. Whilst support for a small sites exemption was limited, some respondents did comment on the importance of proportionate requirements, particularly with regard to householder applications such as extensions. It was suggested that types of development that were exempted could instead contribute to achieving biodiversity net gain by using low-cost measures such as bat boxes, insect 'hotels' and swift bricks.

Suggestions for other types of development to be exempted from the requirement included temporary installations, buildings that would benefit communities and buildings developed by charities.

Some respondents suggested that exemptions might need to be more nuanced than the broad categories offered. Inspection or scrutiny of the site and proposals in greater detail than categorisation by broad development type or purpose, it was stated, would help a decision maker to decide whether an exemption would be appropriate. This was countered by several other responses that expressed concern that any exemption would be exploited by some developers and that new development could be redesigned in some

circumstances to bring it within the scope of an exemption. For example, a large site might be partitioned into several small sites to exploit an exemption for small sites.

Question 4: Are there any other sites that should be granted exemptions, and why? For example, commercial and industrial sites.

363 respondents answered this question. Despite the question being open, it was possible to categorise responses and these are set out in Figure 4; it should be noted that these options were not explicitly selected by respondents but were inferred in analysis and so the numbers should be taken as indicative. “No” was selected where responses specifically mentioned opposition to further exemptions and where commercial and industrial exemptions were opposed. Responses that opposed commercial and industrial exemptions but proposed alternative exemptions were classified as “Yes”.

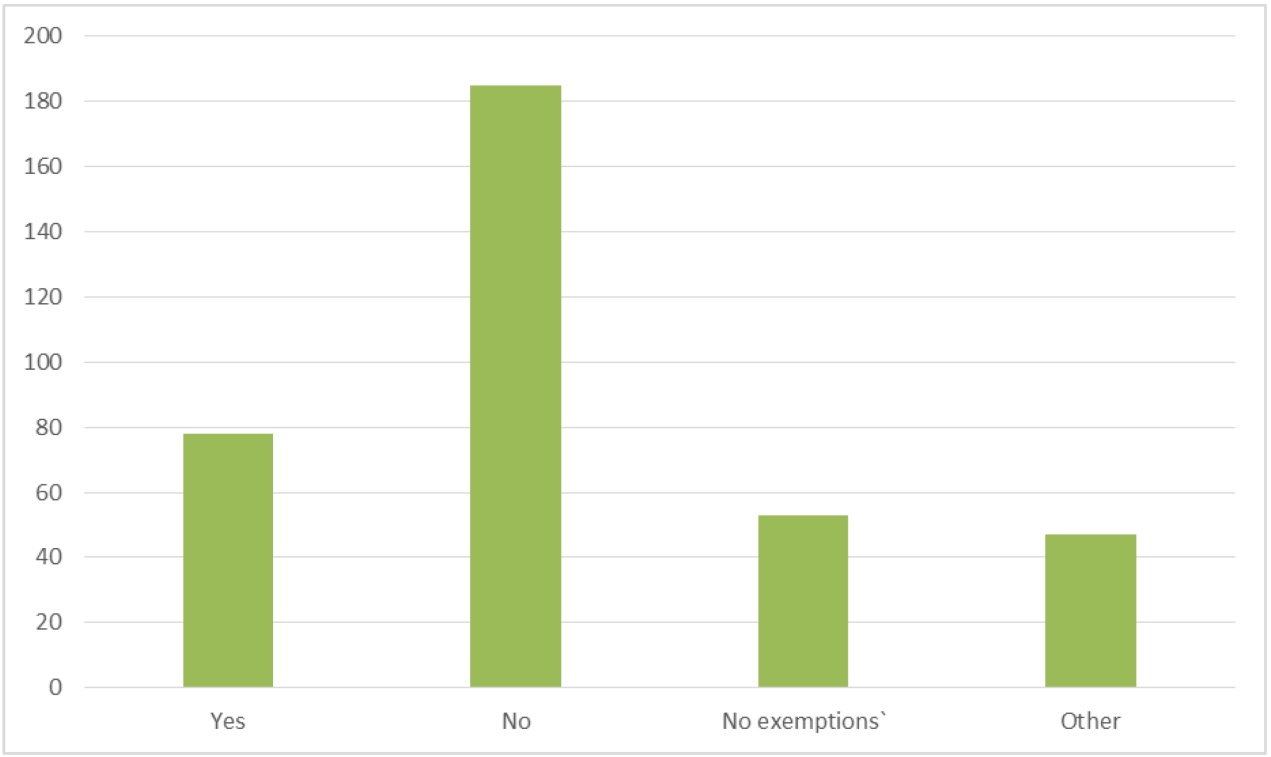

Figure 4: Number of responses to question 4 by answer indicated

Of those that were in favour of other exemptions, several respondents referred to permitted development despite this being proposed as out of scope of the requirement in the consultation text. Some responses to this question also made reference to exemptions covered by the previous question and these were classed as “Other”.

The most frequent suggestions (in approximate order of descending frequency) for further exemptions were:

- permitted development
- affordable housing schemes, such as “rural exception sites”

- development with a primary objective of conserving or enhancing biodiversity
- development in the public interest, such as those improving public health and safety, defence developments (in certain circumstances), school buildings, NHS buildings, renewable energy projects and infrastructure such as pipelines
- agricultural development on agricultural land and forestry, for example slurry pits
- sites with no habitats present, such as development on sites comprising sealed surfaces
- redevelopment of developed sites or existing buildings
- sites with a commercial value
- small industrial and commercial extensions (under a given threshold)
- sites purchased before the legislation is launched (the consultation document included a statement that the requirement would not apply retrospectively to permissions that are already granted)
- applications such as Section 73 applications to vary conditions and others outside the scope of the Town and Country Planning Act
- householder applications
- small instalments such as fences and street furniture
- other suggestions in this category included subterranean developments, developments for charities, small scale regional airports and developments in intertidal zones

Those who suggested affordable housing as a potential exemption stated that affordable housing is already deemed unviable in parts of England, particularly when being delivered on previously developed land, and that further costs might risk exacerbating this issue.

Several respondents suggested that even exempted development should be made to deliver simpler enhancements for wildlife such as bat and bird boxes and that even the smallest developments may affect wildlife (an example was given of the effects of fences on hedgehogs). A small number of respondents also used this question to suggest that the scope should be widened to include development under the Transport Works Act 1992 and the Planning Act 2008. Several respondents also suggested that exemptions of any type would result in greater risks of legal challenge to decisions, and that a more complex system of defining the scope of requirements would add to burdens on local authorities and developers and reduce public acceptance of developments achieving net gain.

Question 5: As an alternative to an exemption, should any sites instead be subject to a simplified biodiversity assessment process?

407 respondents answered this question. The majority of responses received supported simplified biodiversity assessment processes for some sites.

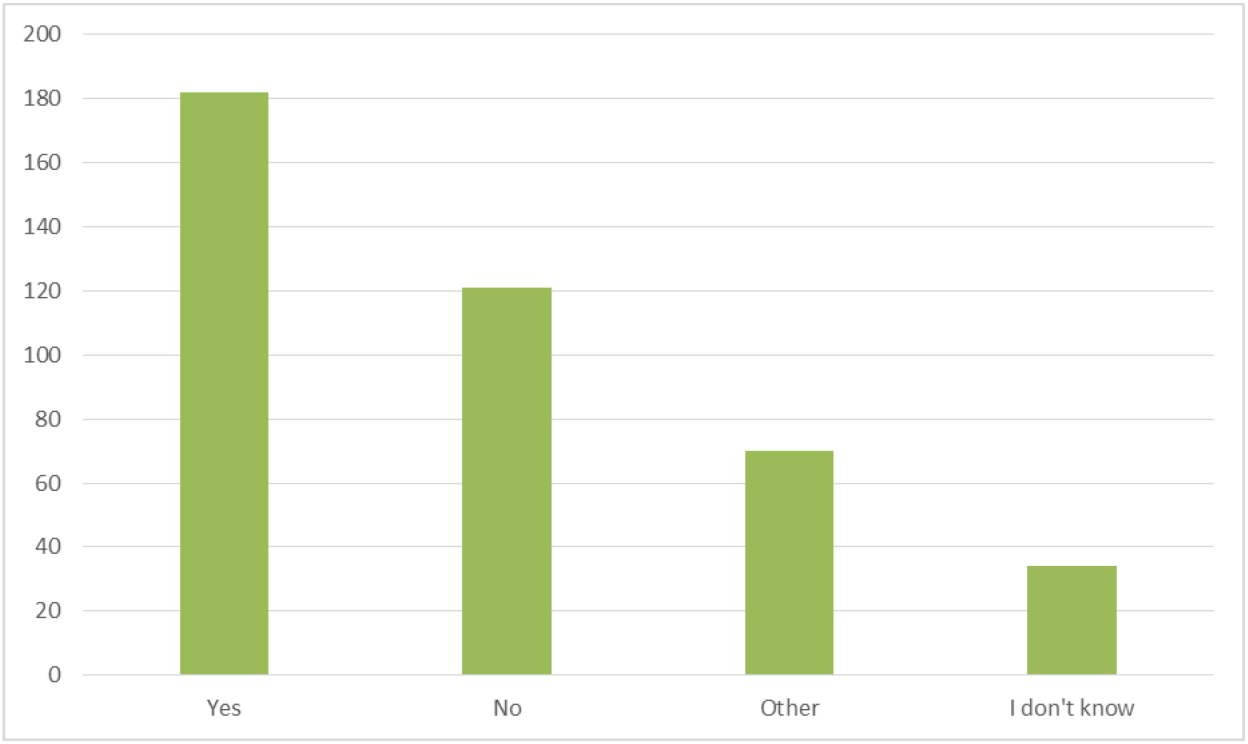

Figure 5: Number of responses to question 5 by answer indicated

Many respondents that supported a simplified assessment suggested criteria for applying the assessment which tended to relate to the types of development referred to in question 3 or small sites specifically.

Some respondents suggested that, should they not be exempted, permitted development could be subject to a simplified assessment process. On a similar theme, householder applications were also suggested as suitable for a simplified metric assessment. Smaller numbers of respondents suggested that brownfield sites, industrial and commercial development (in urban or developed areas) and application subject to prior notification should be allowed to use a simplified assessment process.

Several local planning authorities observed that a simplified assessment would provide a good compromise for the small number of developments that might otherwise face additional assessment requirements through mandatory net gain policy.

Those that opposed the use of a simplified assessment process raised the risk of inconsistency and loopholes. They suggested that different assessment requirements would simply provide another stage for potential disagreement between planning authorities and developers. Some respondents suggested that any simplified assessment should follow a screening exercise to rule out the presence of high-value habitats for wildlife. Some made the technical point that arable, brownfield and industrial land would be unsuitable for simplified assessments due to their flora typically being subtle in nature. Another argument raised against simplified assessments was that the assessment process is by its very nature proportionate already; small sites will require little investigation and

little time to complete the metric assessment whereas larger sites with richer habitat mosaics will be relatively challenging.

Many respondents made suggestions for how a simplified assessment could be applied. Thresholds for small sites were suggested that were set according to numbers of housing units, heights of dwellings or total development footprint area. It was also suggested that a clearer approach might be for local authorities to inspect development sites as part of their planning processes and designate those sites which may use a simplified biodiversity assessment.

Principles for assessment, regardless of simplification, were suggested by some respondents; these principally featured transparency and the use and sharing of data. Several responses also made the observation that clear guidance is also crucial alongside any simplified process and that a user-friendly toolkit could be created to help smaller development businesses through the process. References were also made to the potential for existing local data and habitat maps to simplify assessment processes as this data improves with time.

While not directly related to the question, respondents also used the text box to express concerns about habitat degradation ahead of planning applications and to express the potential for accreditation to improve assessment standards and reduce the need for deep scrutiny when local authorities are assessing routine applications.

Biodiversity features in scope of net gain policy

Question 6: Do you agree that the Defra metric should allow for adjustments to reflect important local features such as local sites? Should the Defra metric consider local designations in a different way?

384 respondents answered this question. Respondents were given the option to select any number of the following options and provide additional comments:

- the Defra metric should allow for adjustments to reflect local sites
- the Defra metric should consider local wildlife designations in a different way
- no, local sites shouldn’t be taken further accounted for in the metric

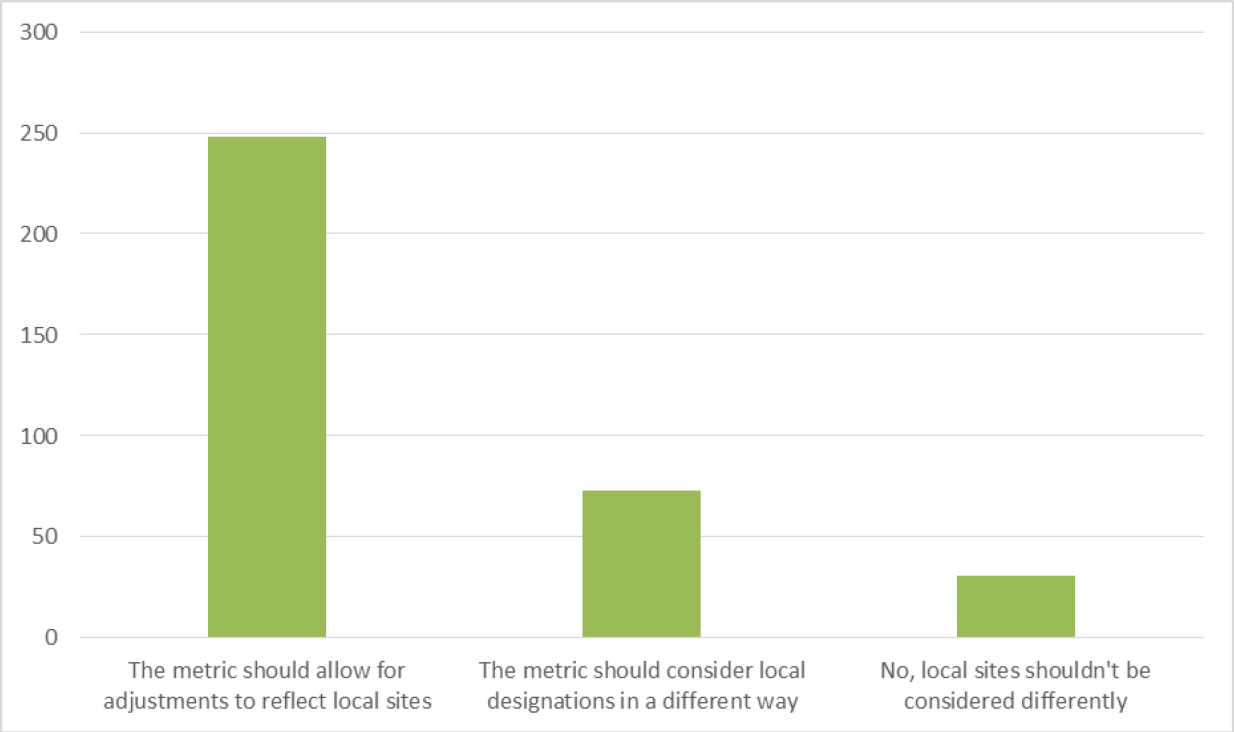

Figure 6: Number of responses to question 6 by responses indicated

In 32 instances respondents chose both the first and second option. There were four main themes in suggestions as to how Defra could consider local sites and local designations:

- the metric should consider a habitat's proximity to local sites
- the metric should consider habitats that harbour niche or rare species but are otherwise low in biodiversity
- the metric should consider other social and natural capital values
- the metric should consider urban habitat in a different way

The vast majority of respondents agreed that the Defra metric should reflect important local features, and favoured higher metric weightings to achieve this. There was concern about biodiversity net gain interfering with robust protection already afforded to local sites, and a view that building on local sites shouldn't be acceptable in any circumstance. A few respondents suggested that local sites statuses are out of date and, as the metric will account for habitat quality, shouldn't be afforded extra protection.

Respondents felt that local sites are important landscape features for wildlife. Where in favour of giving extra weight to local sites, respondents argued that SSSIs are only representative samples of local sites. Local sites tend to have the same levels of biodiversity so should be afforded the same level of protection. A significant number of respondents felt there should be a presumption against development on local sites and that local sites shouldn't be considered in local planning policy. Were this the case, local sites would be protected regardless of the metric. Many respondents agreed with the proposal in the consultation that the metric shouldn't interfere with robust protection already afforded to local sites in local planning policy.

Many respondents who disagreed with the idea of adjusting the metric to local sites suggest that the metric already takes into account habitat quality. These respondents also felt that local site designations were subjective or outdated. One response suggested that the sources of information used to assess “strategic significance” in the metric may be out of date or inappropriate. They suggest agricultural census data from 2009 is used to pick National Character Areas (NCA’s). Another common suggestion from respondents that did not support amending the metric for local sites was that, in order for the metric to be simple and efficient in the planning process, it should be nationally consistent.

Many respondents stated that as the metric does not account for species, there is a risk that development could harm habitats of rare species. A proportion of these responses suggested that, if development does take place on local wildlife sites, there should be a presumption in favour of matching offset habitats. For example, if chalk grassland was being developed on, the offset habitat would also be chalk grassland.

Nine respondents were concerned about what might be allowed to pass if local planning authorities or developers were responsible for the interpretation of the metric, and suggested third party scrutiny would be required to ensure the metric is applied fairly.

How are species treated within a net gain policy?

Question 7: Should local authorities be required to adopt a robust district level licensing approach for great crested newts, where relevant, by 2020?

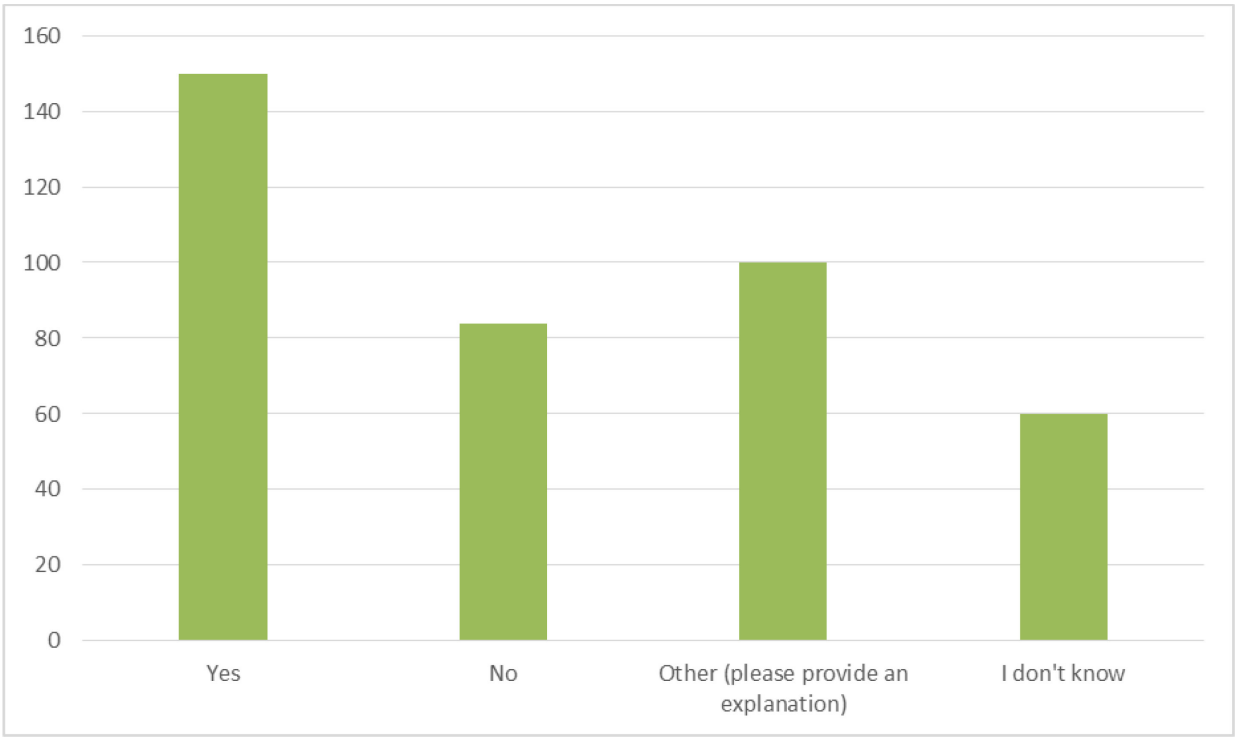

Figure 7: Number of responses to question 7 by responses indicated

394 respondents answered this question. The majority of respondents answered “Yes”. There was a spread across all sectors for those answering “Yes” and “No”. There was also a fairly good spread from all sectors for the less certain “I don’t know” and “Other” responses.

Those in agreement commonly felt that a robust approach would help to ensure that sustainable habitat creation is coordinated and planned in advance, streamline the development process, and increase protection for protected species. They also commonly stated that it would be a more flexible and proportionate approach to great crested newt licensing.

Suggestions as to how the approach could be more robust included hot spot mapping, regularly monitoring and evaluating outcomes, and refining the process over time. One respondent suggested that “hot-spot” maps of key locations containing higher populations of greater crested newts be communicated widely so that planners and developers are made aware.

Some respondents were concerned about how district-level licensing and net gain policies might work together. The Wildlife Trusts asked for clarity and guidance on how district

level licensing for great crested newts can be applied without compromising other biodiversity.

A small number of respondents felt that there was enough legislation to protect great crested newts already.

Echoing the responses to other questions, the need for additional funding for local authorities to access specialist services and to enforce, monitor and administer the system was a common theme. Local government organisations in particular felt that the approach should remain voluntary due to these concerns.

Another key concern was that there has not been sufficient time to build up evidence from the existing district level licensing schemes to support a wider roll out of the approach at this time. CIEEM, for example, felt that 2020 was too early for nationwide mandatory adoption of district level licensing and that more work was needed to gather baseline data and evidence to show that the risks can be managed effectively.

Question 8: For what species is it plausible to use district level or strategic approaches to improve conservation outcomes and streamline planning processes?

298 respondents answered this question. A wide range of views were presented. Developers were generally supportive of applying the approach to other species. Views from conservation organisations, local authorities, ecologists and other respondents were mixed; with many of those opposed not being supportive of the district level/strategic approach, generally.

Many respondents suggested that the approach could be used for all endangered species, all European protected species and all locally-important species such as biodiversity action plan species. A very wide range of specific classes and species were proposed, the most commonly mentioned including certain amphibians, certain species of bats, dormice, hedgehogs, swifts and water voles. There were mixed views on whether the approach would be better-suited to species with restricted/specific habitat requirements (such as aquatic species, dormice or reptiles) or migratory species (such as bats). Some respondents considered that the approach would not be suitable for slow-breeding species or those which require complex licensing procedures in the planning process. There were opposing views on whether it could lead to improvements in connectivity of habitats.

Commonly cited prerequisites for expanding the approach to other species included:

- robust evidence and baseline data
- advice from biodiversity experts and species specialists
- systematic assessment of the ease of identifying and creating habitats and the current level of development-related risk to the species
- clear monitoring and surveillance systems

Many respondents believed that evidence on district level licensing for great crested newts should be collected and analysed first before expanding the approach. There were also comments that the focus should be on habitats or ecosystems rather than species; some suggesting that this could be achieved through biodiversity net gain. Other respondents expressed concern about doing so, as providing new habitats does not guarantee that species will relocate and flourish. Some respondents proposed strategic, species-specific approaches to creating habitats in dwellings, and suggested that these could be required by planning permission.

Ambitions for wider environmental net gain

Question 9: Are there wider elements of environmental net gain that could be better incentivised? If so, please specify which, and any benefits that such incentives could provide.

395 respondents answered this question. The majority (approximately 66%) of respondents agreed that there are wider elements of environmental net gain which could be better incentivised.

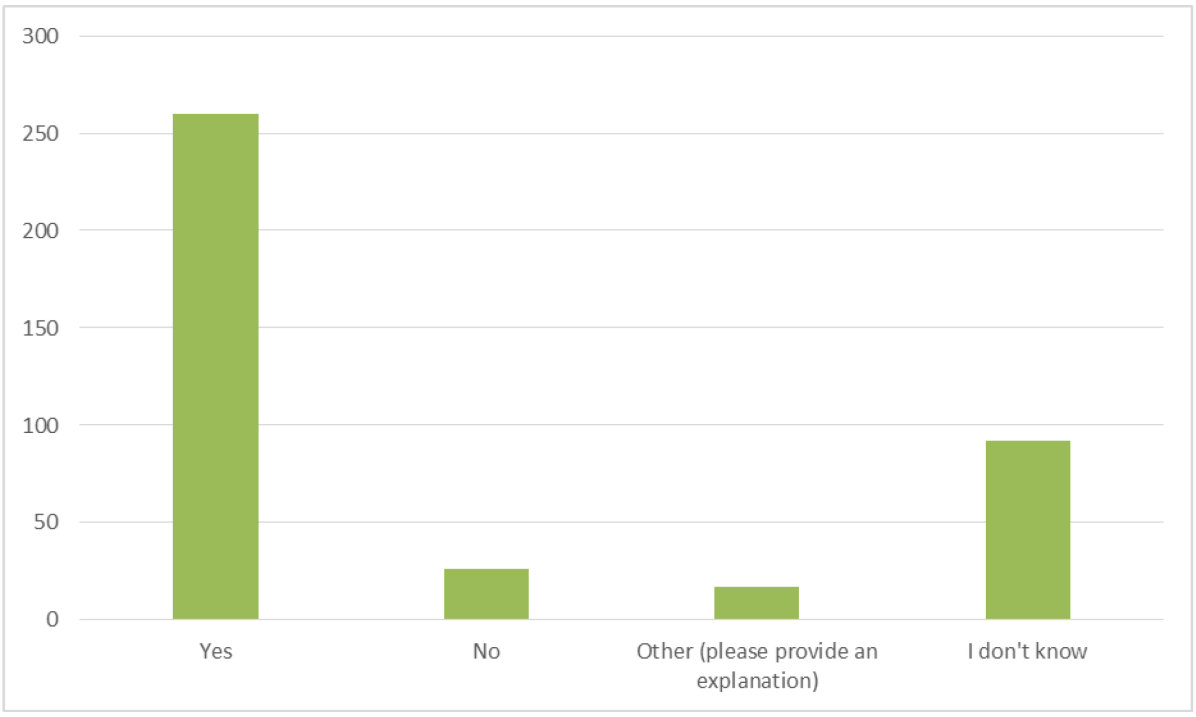

Figure 8: Number of responses to Question 9 by answer indicated

Within the majority of responses that supported incentivising environmental net gains, there were themes emerging on the benefits of integrating ecosystem services that mitigate environmental degradation, including supporting climate change mitigation and resilience. The most frequently cited services to be incentivised were (in order of frequency of occurrence):

- flood alleviation (natural sustainable drainage systems were the most commonly suggested flood intervention)
- public access to nature, and associated health benefits
- carbon storage
- air quality amelioration
- water quality

A number of respondents recommended incentivising environmental principles within the development itself. This would mean that built developments which were designed sustainably, utilising sustainable building materials or incorporating renewable energy, would score positively in an environmental net gain approach. Some responses highlighted a risk with this approach, in that any net gain policy or metric should not allow sustainable building methods to justify the destruction of valuable habitats.

Several respondents highlighted the benefit of enabling environmental net gain to respond to key environmental challenges experienced locally. For example, if a community was at risk from flooding, then net gain investment in habitats contributing to flood management should be secured, or if air pollution was a threat, then appropriate tree planting to ameliorate air quality should be delivered. There were several respondents who were concerned that local people would not be consulted on local environmental measures.

Another issue raised in relation to trade-offs was the importance of balancing public access to green space with nature conservation. Some respondents stated that the ecological value of some habitats could be significantly reduced by public access, whilst one respondent stated that public access could help ensure biodiversity sites are valued and maintained long-term.

Several respondents made methodological suggestions for incorporating environmental net gain (ENG) principles, including through incentives, levies and pilots.

Few respondents thought that no elements of environmental net gain could be better incentivised, though these few respondents included a number of large membership organisations such as the Country Land and Business Association and the Royal Town Planning Institute which suggested an alternative approach to driving a wider consideration of sustainability: “Rather than incentivising elements of ENG, a more pragmatic approach might be to focus on the potential of planning authorities to achieve broader Sustainable Development Goals through the current system, by strengthening mechanisms for strategic planning, increasing the pace of fiscal devolution to combined authorities and other strategic partnerships, and ensuring that planning policies are upheld during inspection.”

A frequently cited concern was that any approach to environmental net gains is likely, at least in the short term, to be more complicated than biodiversity net gain alone. Some stated that it should only be considered after biodiversity net gain has been achieved, and some acknowledged that biodiversity net gain was already a form of natural capital approach and that no further adjustments would be needed.

Of the majority that supported incentivisation of wider environmental net gains, many suggested that ecosystem services should be considered, either in aggregate or with reference to a specific service. For example, it was frequently suggested that development should include habitats which have high potential for carbon storage and sequestration.

The most common suggestions for elements of environmental net gain that could be adopted soon included:

- flood risk mitigation measures such as sustainable drainage systems
- public access for recreation
- sustainable construction practices and materials
- connectivity and the integrity of ecological networks, including through green bridges and tunnels for wildlife
- the water efficiency of development
- structural biodiversity interventions such as bird and bat boxes
- education of stakeholders (presumably residents and local communities) on the benefits and objectives of biodiversity net gain approaches

The complexities of environmental net gain approaches, some of which were highlighted in the consultation document, were reflected in some responses. Acid grassland was raised as an example of habitat that is of high importance for biodiversity, but might be put at risk under a wider environmental net gain approach as it might not score as highly as woodland in terms of ecosystem service provision. Local prioritisation was highlighted by several respondents as a practical solution to the inevitable trading-off of different benefits and some observed that properly implemented ‘like for like’ principles would mitigate these risks.

Part 2: Measuring biodiversity

A biodiversity metric

Question 10: Is the Defra biodiversity metric an appropriate practical tool for measuring changes to biodiversity as a result of development?

408 respondents answered this question. The option most commonly selected by respondents was 'Yes' (approximately 44%), followed by 'Other' (approximately 26%). Unsurprisingly, given that the metric has not been officially updated for general application since 2014, a significant number of respondents selected 'I don't know' (16%) or 'Other' (26%).

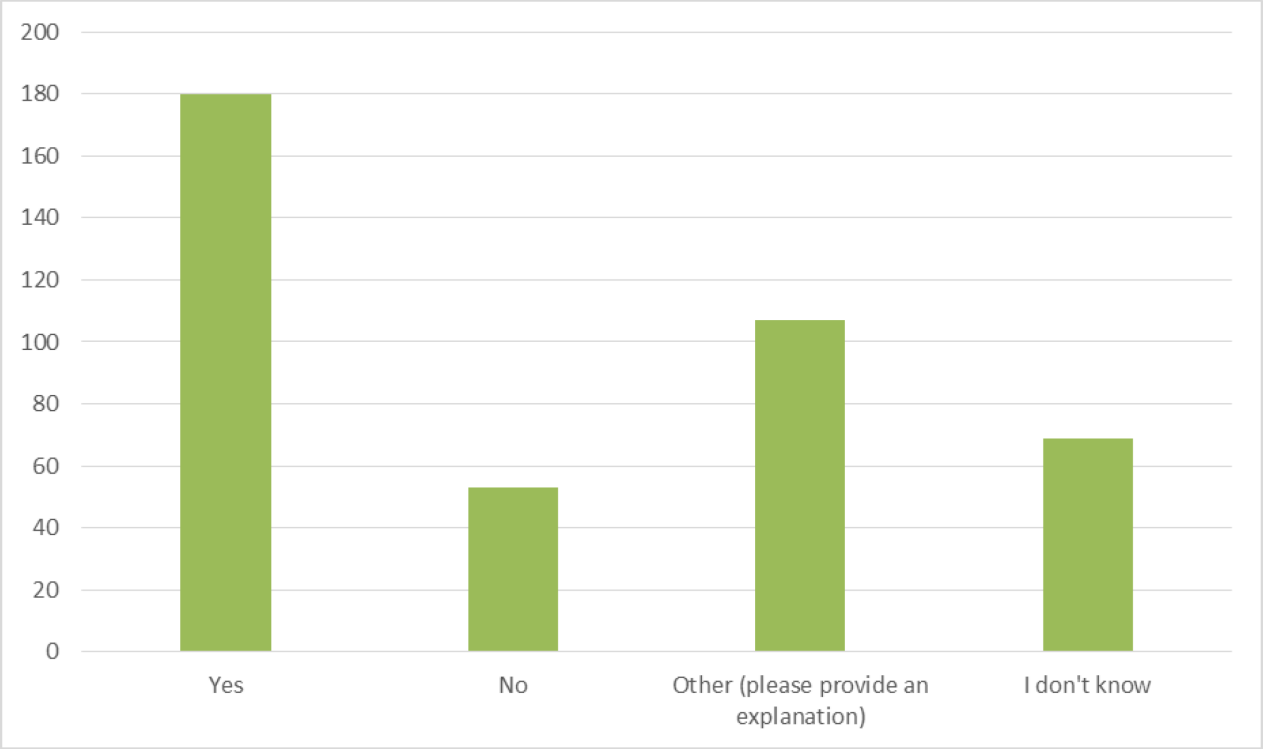

Figure 9: Number of responses to question 10 by answer indicated

The arguments most frequently given in support of the biodiversity metric were that the metric provided standardisation, objectivity (though there were observations that inputs could be subjective, particularly with limited guidance) and simplicity. Those supporting use of the Defra metric observed that an updated metric is likely to be significantly better than the previous version. The Institute for Environmental Management and Assessment (IEMA), for example, stated that, "it is suitable as a minimum benchmark that can be applied across the country in a mandatory scheme".

Recommendations about, and criticisms of, the metric included reference to:

- the potential for subjectivity and “gaming” of multipliers, principally due to the current lack of guidance or a consistent tool for developers and planning authorities to use
- the metric’s use of habitats as proxies for the community of species associated with the habitat, rather than measuring impacts on species directly
- the original 2012 metric’s reliance on conditions assessment criteria from the Farm Environment Plan that were not designed for wider application
- the metric’s omission of irreplaceable habitats such as ancient woodland and blanket bog
- the number of different versions of the metric and tools to implement it creating confusion and additional burdens
- the fact that the metric does not explicitly capture wider impacts of development, such as impacts on downstream water-bodies, recreation pressure, light pollution, noise pollution, wildlife traffic collisions and habitat fragmentation
- concerns that the metric is too simple to properly assess impacts on ecosystems and the services they provide, though others criticised the metric for being too complicated
- the perception that it is not sufficiently clear that the metric should be accompanied by expert advice and judgement (though others stressed the importance of proportionality to the development scheme)
- a lack of transparency around the basis for the multiplier scores in the metric
- a lack of mandatory training in using the metric (raised by an academic respondent with reference to the New South Wales scheme which requires users to undergo training)

Respondents also used this question to reiterate concerns about increasing the incentives for pre-application degradation of habitats by landowners and developers and that the outputs of a metric depend on the quality of the data put into it. Concerns were raised by different respondents at both the exclusion of irreplaceable habitats and at the prospect of them being included in future versions.

Several responses included acknowledgement that further improvements could be made, but that having a consistent platform for these updates would be valuable and that future updates could deliver a very valuable tool for environmental planning. Suggestions for improvements to the Defra metric that might address the above criticisms were provided through question 11.

Question 11: What improvements, if any, could we most usefully make to the Defra metric?

293 respondents answered this question. The most popular themes of responses were the types and definitions of habitats included in the metric, the need to account for species in the metric and suggestions for the wider methodology of applying the metric. There were several references to the importance of clear and detailed guidance in this question, mirroring similar observations made in response to question 10.

On the treatment of habitat in the metric, respondents called for the inclusion or better consideration of:

- common features of blue/green infrastructure such as green roofs, green walls and sustainable drainage systems
- open mosaic habitats
- farmland (and its potential value for nesting birds)
- single trees
- habitats more commonly associated with brownfield land

Other metric-specific suggestions included:

- balancing incentives for habitat creation across habitat types to prevent homogeneity in created habitats; woodland, for example, takes longer to establish than some other habitats and so can generate fewer biodiversity units
- including some regard for locally or nationally notable or protected species in the metric
- incorporating flexibility and locality into the metric
- improving consideration of ecological connectivity and wider ecosystem properties (such as soil health) were also requested in several responses
- a spreadsheet format for the metric
- increasing weighting for local wildlife sites and woodland
- including a weighting based on social value and the capacity of gained or lost habitats to provide ecosystem services
- increasing weightings for compensation that contributes to strategic environmental plans
- resolving the time lag problem by incorporating an adjustment factor onto to the habitat you are proposing to clear (i.e. If you are about to cut some woodland down you are heavily penalised because it is so difficult to replace). They stated that this is different to the current system which attaches the adjustment factors to the act of habitat creation

Suggestions that addressed the wider net gain approach and policy included:

- the provision of comprehensive and clear guidance, particularly with regard to condition assessments and selecting an appropriate time to target condition
- recommendations against allowing trading between habitat types and forms (e.g. linear hedgerow units to compensate for the loss of area-based woodland units)
- an observation that guidance should refer to seasonality and weather impacts on survey outcomes, particularly with regard to less experienced users
- the value of driving on-site delivery through the design of multipliers within the metric
- the inclusion of an opportunity cost statement alongside the completed metric, commenting on the environmental potential of the land as well to complement its current baseline assessment

- the provision of worked examples and case studies to improve consistency in application
- the provision of a simple guide for non-specialist users
- regular reviews and updates to the metric
- support for the CIRIA/IEMA/CIEEM Good Practice Principles for biodiversity net gain

How much gain?

Question 12: Would a mandatory 10% increase in biodiversity units be the right level of gain to be required?

416 respondents answered this question. There was little consensus on the right level of gain that should be pursued through a mandatory requirement. Respondents from planning authorities, ecological consultancies and the development industry were more likely to support the 10% requirement than the wider pool of respondents, but opinion was divided across sectors. Conservation organisations were more likely to oppose the 10% level of the requirement, but were still divided on the issue.

The majority of those who opposed the 10% requirement called for a higher requirement. Some suggested that if a 10% requirement is introduced, it should be preceded by “at least” to encourage developers and local authorities to aim for higher targets where possible. Several respondents stated that they thought that real net gain for wildlife is unlikely to be achieved with a 10% requirement. Some respondents who opposed the 10% requirement cited issues in delivering such a significant increase; developers who had already made voluntary commitments to no net loss or lower net gains stressed that these were in practice still very ambitious and represented a significant step change beyond current practice.

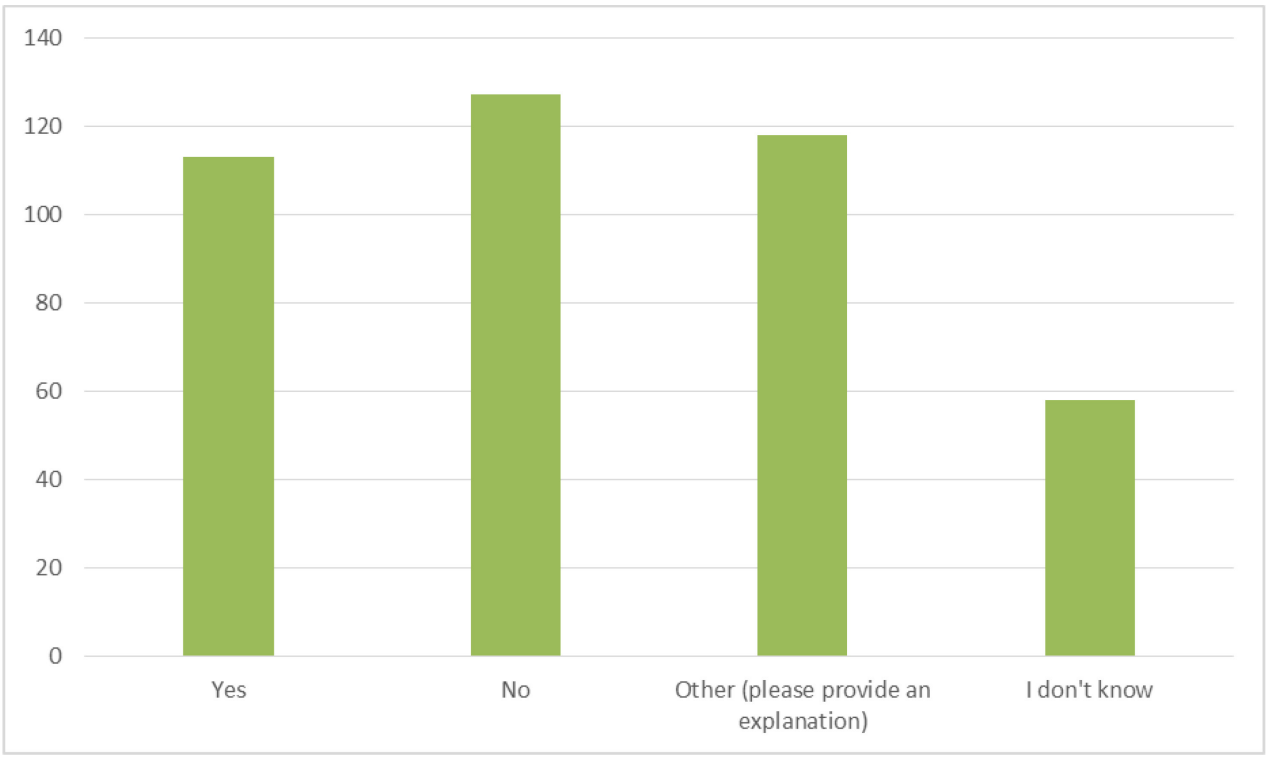

Figure 10: Number of responses to question 12 by answer indicated

Respondents linked the level of net gain to the wider policy, noting that whether 10% is enough would depend on the strength of other aspects of the scheme, such as penalties for non-compliance and the scope for submitting misleading assessments. Several respondents stated that the initial level of 10% net gain would be contentious, and that time and experience would be needed to justify any figure, particularly any more ambitious figure. CIEEM cited a piece of their work which demonstrates inaccuracy of around 5% in the net gain calculation as well as variation across and within habitat types.

A frequently cited concern was that setting any mandatory requirement for biodiversity net gain would act as a barrier to the achievement of higher gains which are being achieved by some planning applications in areas where net gain is already required through policy. 20% was suggested as a more appropriate target on this basis and several respondents mentioned the 20% requirement in Lichfield District (though Lichfield is currently understood to take a slightly different approach to Defra proposals in defining the baseline, meaning that some stated gains in Lichfield might be slightly lower when measured under the proposed mandatory approach).

As well as higher and lower requirements, respondents made suggestions as to how a variable net gain level could be set. These included banding by type and scale of development, local authority discretion in setting levels, the consideration of factors such as rurality and contamination, and the presence of protected species or habitats.

Mitigation hierarchy

Question 13: In clearly defined circumstances, should developers be allowed to pay through the tariff mechanism without fully exhausting on-site and local compensation opportunities?

429 respondents answered this question. The majority of respondents opposed the suggestion that developers should have direct access to the tariff in certain circumstances. This broad preference was a feature of responses from planning authorities, ecological consultancies, conservation organisations, and many individual respondents. This view was not shared by responses from the development industry, professional associations, planning consultancies and land agency sector. These sectors expressed a clear preference for the proposal outlined in this question.

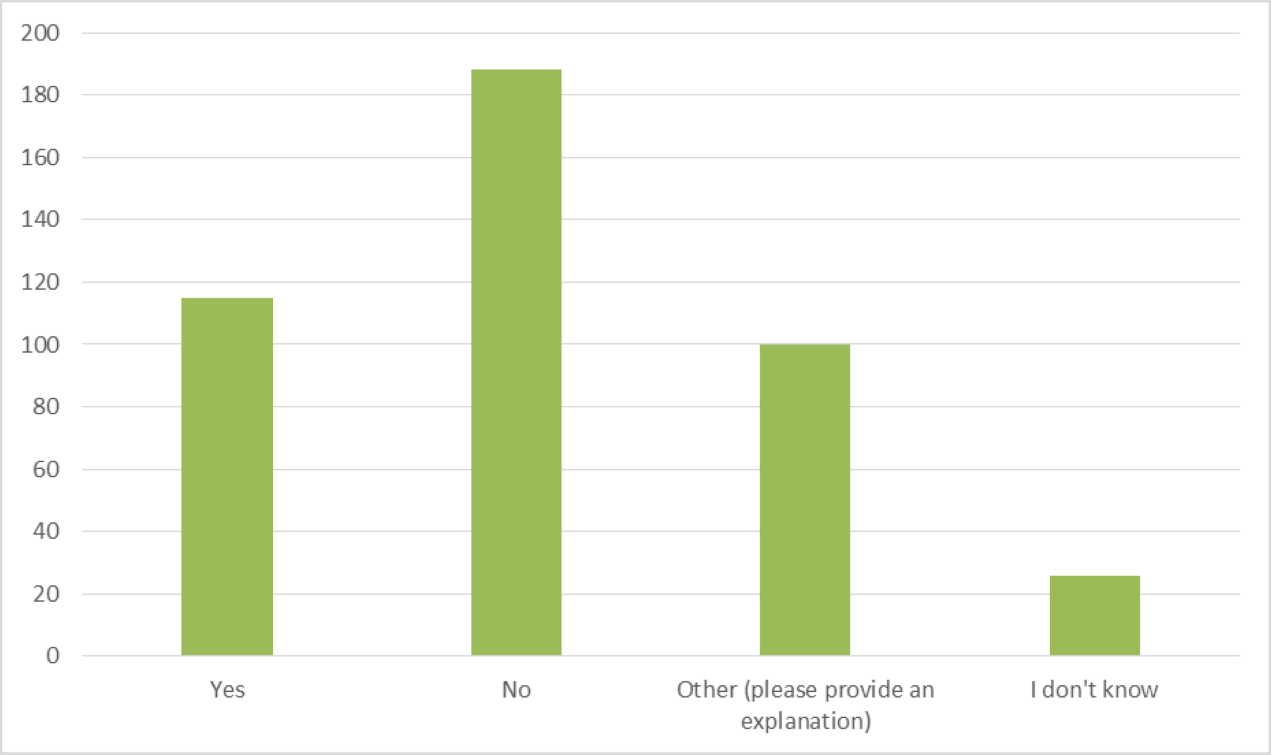

Figure 11: Number of responses to question 13 by answer indicated

Those selecting “No” felt that this would undermine the otherwise clear principle of adhering to the mitigation hierarchy: that biodiversity on sites should always be retained where possible, and that the proposals already contain flexibility for those developing sites. There was evidence that respondents perceived a risk that developers would see any explicit tariff access mechanism as a convenient, if more expensive, opt-out of obligations that are necessary to develop healthy and sustainable communities.

Despite broad opposition to direct access to the tariff, respondents provided a number of circumstances in which direct access might be appropriate. The most popular of these was

that direct access to the tariff should be determined locally on a case-by-case basis. Other criteria included:

- how effectively off-site mitigation would be in relation to on-site mitigation for environmental outcomes
- a development's impact in relation to a threshold (defined in biodiversity units);
- need for housing e.g. urban areas or areas with severe housing deficits
- approval of tariff payments by e.g. planning authorities, Natural England or a combination of organisations
- local authority capacity to accept payments for local habitat enhancement

Other responses to this question stated the importance of ring-fencing any revenue from net gain tariffs or contributions, the importance of habitat location being accounted for, and the potential for a mandatory percentage of net gain revenue to go to a national fund for habitat improvement. Support for the concept of a tariff was also expressed on the basis that it could prevent local habitat creation monopolies, grant flexibility in achieving environmental outcomes and facilitate strategic habitat creation. Concerns included the risk of compensation projects being located a long way from the impacts on biodiversity they related to, and the need for check and balances with regard to general adherence to the mitigation hierarchy.

Spatial preference

Question 14: Would this be an appropriate approach to directing the location of new habitat?

416 respondents answered this question. The majority of respondents agreed with the proposed approach, and many stressed that any compensation under net gain should benefit areas as close to the development as possible. A minority (fewer than 5) took the contrasting view that the siting of compensation habitat should disregard distance from development sites and should instead be based solely on where gains could deliver the greatest benefits. There was a strong preference for habitat enhancements to be guided by a clear strategic spatial framework.

Respondents also commented on the temporal risks of a net gain approach: the loss of established habitats on site might take decades or longer to be truly compensated elsewhere. (Implied and related to this point is the one that habitat creation or retention on-site might be accelerated by the presence of existing ecological communities.)

Concerns raised by respondents included risks that urban development could sometimes struggle to deliver gains on site or locally, which would mean urban areas paying more for

enhancement in suburban and nearby rural areas.

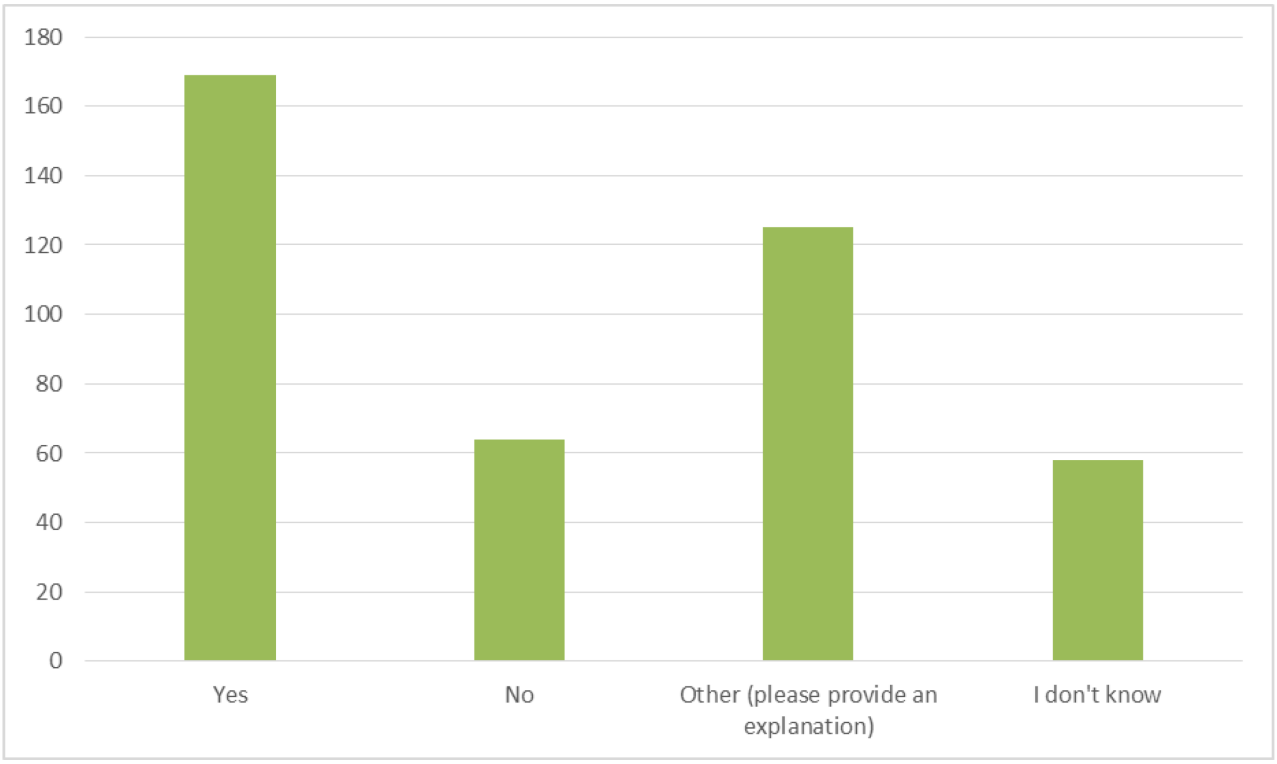

Figure 12: Number of responses to question 14 by answer indicated

Suggestions for directing the location of new habitat did not focus exclusively on spatial hierarchy approaches, but included using mapping, local knowledge and data on connectivity, and local natural history. Other respondents suggested pricing tariffs to drive local delivery through markets or on site improvements. It was, however, pointed out that despite the importance of retaining and enhancing urban green spaces, this approach might unduly affect small and urban sites where local approaches might legitimately be less feasible.

Assessment of habitat type and condition

Question 15: How could biodiversity assessments be made more robust without adding to burdens for developers or planning authorities?

389 respondents answered this question. Responses covered a wide range of themes and suggestions so have not been quantified by theme.

A common response was that local authorities and local environmental record centres should be given more funding to enable improved and quicker assessments of applications, and to improve data held and shared with relevant parties.

Other recommendations and suggestions included:

- standardising assessments and requirements, including proportional assessment requirements for sites
- improving available data, for example publishing online updated habitat and species baseline mapping data (it was suggested that this could be acquired through remote sensing)
- avoiding bias in assessments by employing ecologists independent of the development sector (or seeking input from independent organisations such as universities, conservation NGOs or natural history groups)
- clearer qualification requirements for, or accreditation of, professional ecologists and environmental advisors
- increasing the consistency of planning authority ecological resources to address reported imbalances in the level of training, ability and quality of work
- developing an online or offline tool (or app) with multiple choice elements that would make net gain assessments easier to complete and review
- assessment information to be owned by planning authorities and shared publicly;
- partnership working
- policies and approaches which are transparent, auditable, easy to navigate and worked through in the planning process from pre-application stage

Many of these suggestions were accompanied by recognition of the costs and burdens they might impose, and a corresponding observation of a general lack of resources in environmental planning.

Baseline

Question 16: Should a baseline map of broad habitats be developed?

410 respondents answered this question. There was a clear majority in favour of the development of baseline habitat maps. This majority view was consistent in all broad groups of respondents. Arguments in favour included that it would support accurate assessments, allow for scrutiny of plans and proposals, support ongoing monitoring and reporting, support enhancement planning and help to educate people about locally present habitats.

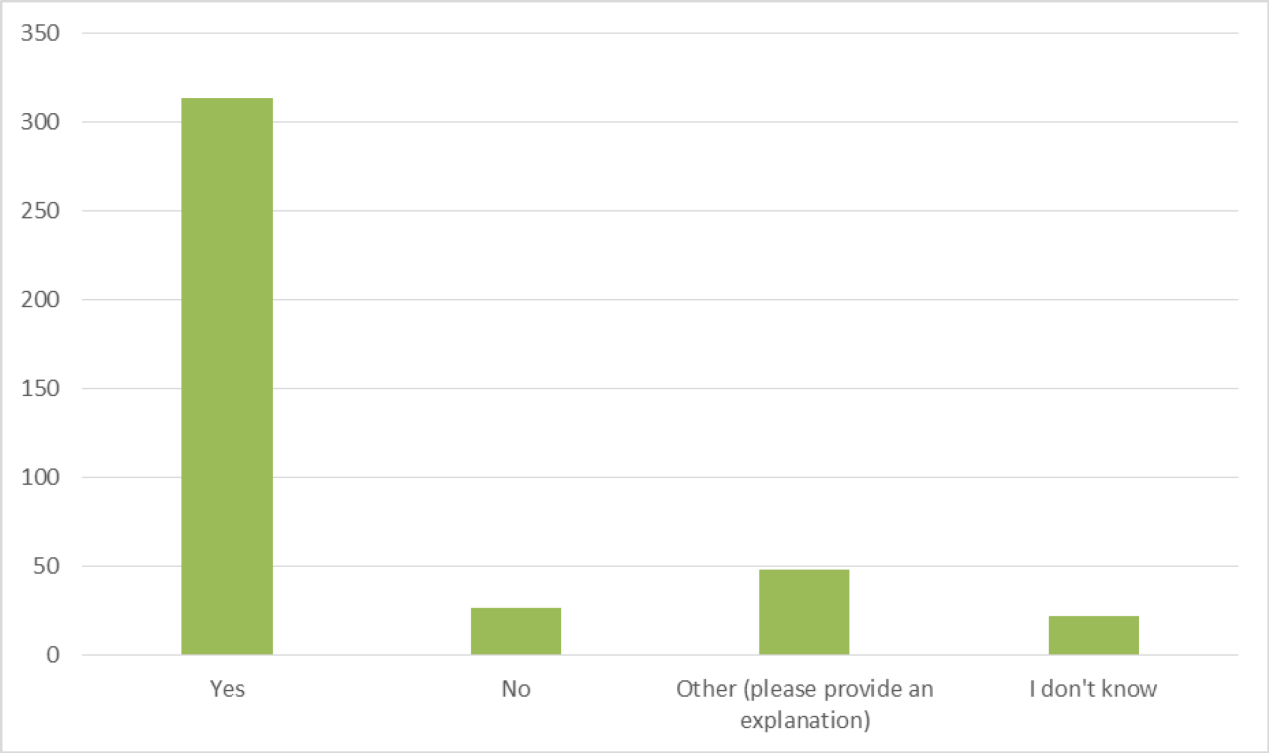

Figure 13: Number of responses to question 16 by answer indicated

Respondents also stated that:

- detailed site surveys would still be needed in most cases, or local knowledge would need to be incorporated into the data
- the data should be standardised, and free to access, to enable flows between local and national data holders
- an organisation would need to be made responsible for maintaining baseline maps
- baseline maps would need to be updated regularly to remain useful
- margins of error should be stated; the existing MAGIC map platform contains some errors which might not be clear to most users
- efforts should focus on developing existing tools such as MAGIC and National Forest Inventory rather than adding a separate new tool

The few respondents who objected to baseline map development suggested that any national map would not be detailed enough for meaningful use in development, that many important habitats are still not comprehensively surveyed, and that the process of updating these maps will require resources.

Question 17: Should this be applied, as a minimum baseline, to: a. net gain calculations for all development? b. net gain calculations in cases of suspected intentional habitat degradation?

388 respondents answered this question. Respondents were able to select more than one option. Several respondents noted that their response to this question would depend on

government's action in response to the former question and the quality of any resulting baseline habitat map.

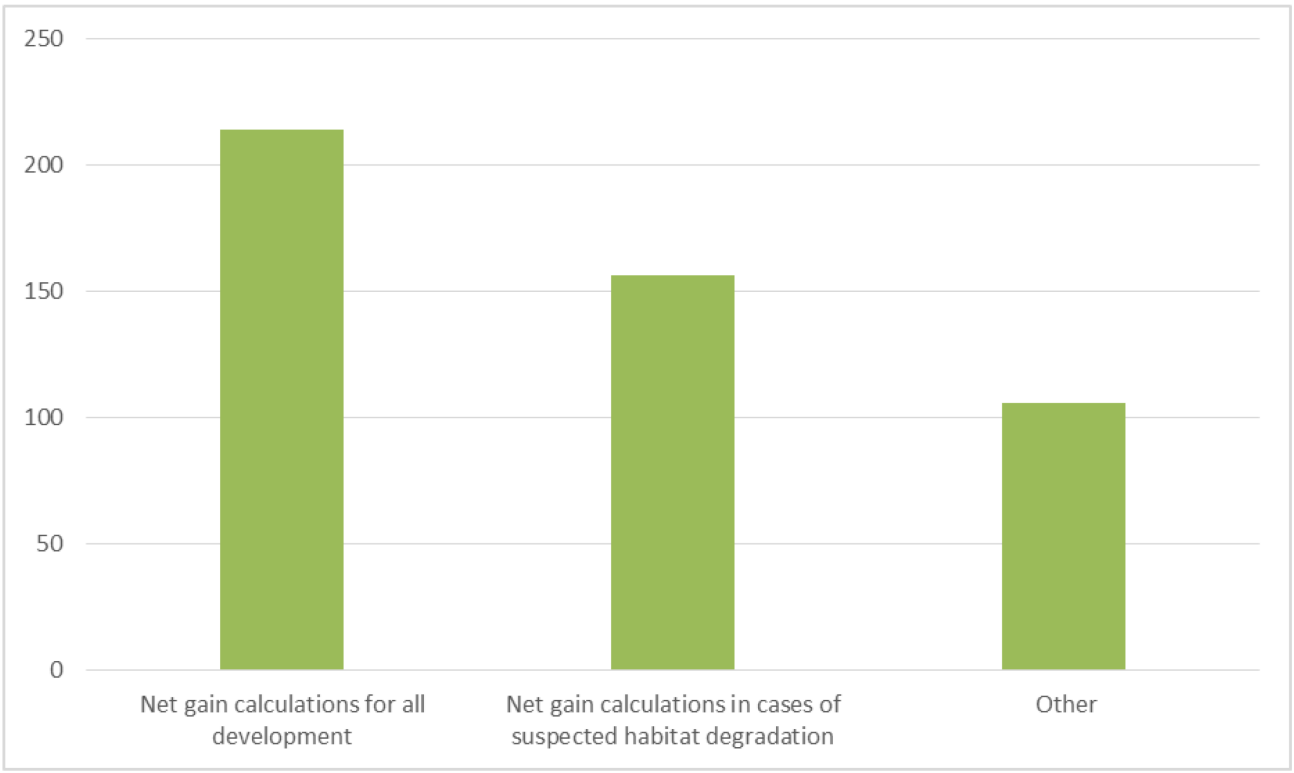

Figure 14: Number of responses to question 17 by answer indicated

The most popular option was the use the baseline maps in all development, though this was commonly caveated with the view that baselines maps should not negate or replace the need for on-site assessments and ground-truthing. This was supported by arguments that they could increase consistency and transparency, and could help to ensure a more level playing field by providing a form of independent verification for the habitat data in net gain assessments.

Common objections to the use of high-level maps focussed on the quality and resolution of the data and cited examples of incomplete or outdated datasets in MAGIC (such as priority habitat survey data) which could be misinterpreted as comprehensive by less experienced users. Many respondents stated that this risked missing elements of local distinctiveness.

Respondents also warned that baseline maps could not detect marginal habitat degradation, and would normally only be used to detect habitat removal. Some also pointed out that national habitat maps are unlikely to be developed to a resolution that works well for small development sites.

Suggestions included:

- setting guidance or requirements for more detailed surveys at the point at which land is sold or transferred to avoid delays during the subsequent development state

- only applying baseline habitat data where local information or existing survey information is not available
- that any national mapping is done in a habitat typology that is consistent with general ecological practice (e.g. Phase 1 or UKHab) and the biodiversity metric

Question 18: What other measures might reduce the risk of incentivising intentional habitat degradation?

311 respondents answered this question. Around 80 respondents mentioned the use of penalties as a useful deterrent to those considering degrading habitats before development. These penalties included automatic refusal of permission, compulsory delay to development, the imposition of inflated tariff costs or making the land available to the local authority for restoration or development.

Similar numbers made comments relating to enforcement and the implementation of legislation that would make this practice (or at least the subsequent submission of degraded baseline data) illegal or not compliant with net gain legislation. A range of fiscal and criminal penalties were suggested. The mechanisms proposed by respondents included strengthened broader Environmental Impact Assessment Regulations and recognising the role of the Birds and Habitats Directives. There was also recognition of several other relevant pieces of legislation:

- The Forestry Act 1967
- The Hedgerows Regulations 1997
- Felling Licences and Tree Preservation Orders
- The Natural Environment and Rural Communities (NERC) Act 2006

Lower, but significant, numbers suggested that education and awareness would be an appropriate way of managing this risk. Some suggested that the metric itself could incorporate some mechanism to address this and that this could be enough to prevent degradation. Such mechanisms could include simple instruction to assume that the original habitat distinctiveness and condition was high where the habitat has since been cleared or reference to earlier habitat data or maps which could be interpreted conservatively and converted into metric inputs. CIEEM recommended the assessment of habitat type and condition at the point of including land in local plans, but noted that this would not resolve the issue for sites coming forward that have not been allocated through plans.

Other suggestions included a clearer and better definition of intentional habitat degradation. We have heard from some stakeholders that unscrupulous habitat degradation is currently difficult to oppose until planning applications are submitted because no policy or legislation clearly prohibits or discourages it (other than wider planning policy which applies to sites being developed). Respondents and stakeholders have also observed that a clear definition would help to prevent legitimate land use changes by landowners being interpreted as pre-development degradation.

Several respondents reminded us that the selected measure to protect against degradation, whatever it may be, should be clearly explained to those completing net gain assessments along with any temporal thresholds that could apply. This would bring benefits in several respects including greater certainty for developers and better public understanding of requirements and guidance (and therefore better monitoring of practice and a more level playing field). Demonstrating the achievability of net gain through case studies and examples would also, it was claimed, reduce the incentive for landowners to try to reduce the level of the obligation through prior degradation.

Question 19: How can the risks of penalising landowners making legitimate land use change decisions before deciding to sell their land for development be mitigated?

282 respondents answered this question. Responses to this question frequently mirrored those to the previous question, principally stressing the need for legislation to operate in a way that either does not affect landowners in general (e.g. a farmer changing a field from pasture to arable production) or that precisely defines pre-development habitat degradation and so exempts other legitimate land use changes.

Some respondents felt that proper and thorough accounts of current and past habitat states would make any question of prior degradation simple to resolve, as these inventories could be referred to at the point of development and a suitable historic baseline agreed. This would not penalise any landowners as any net gain obligation would not be activated unless planning permission was sought.

Another recommendation made was to put in place a system of assessing all land sold for development so that land would be sold with a report on ecological value in a similar way to the provision of energy performance certificates. A designated body for arbitration was suggested by some as a potential solution, and the Royal Institute of Chartered Surveyors was suggested as a potential arbitrator in disagreements about the most appropriate baseline to be used and whether or not pre-application degradation has occurred.

The response to this question was used to suggest alternative penalties that might more specifically target those undertaking development rather than other land use changes. Suggestions for such penalties included the imposition of a higher net gain target in percentage terms, or heavy fines if land clearance for development occurs prior to an appropriate habitat and protected species survey.

Respondents also mentioned protected species. Whilst out of scope of the mandatory net gain requirement, respondents stated that protected species were also at risk of pre-development habitat degradation.

Part 3: Delivering biodiversity outcomes

How should biodiversity priorities be identified?

Question 20: The provision of compensatory habitats would need to be guided by habitat opportunity maps. At what scale should these maps be developed?

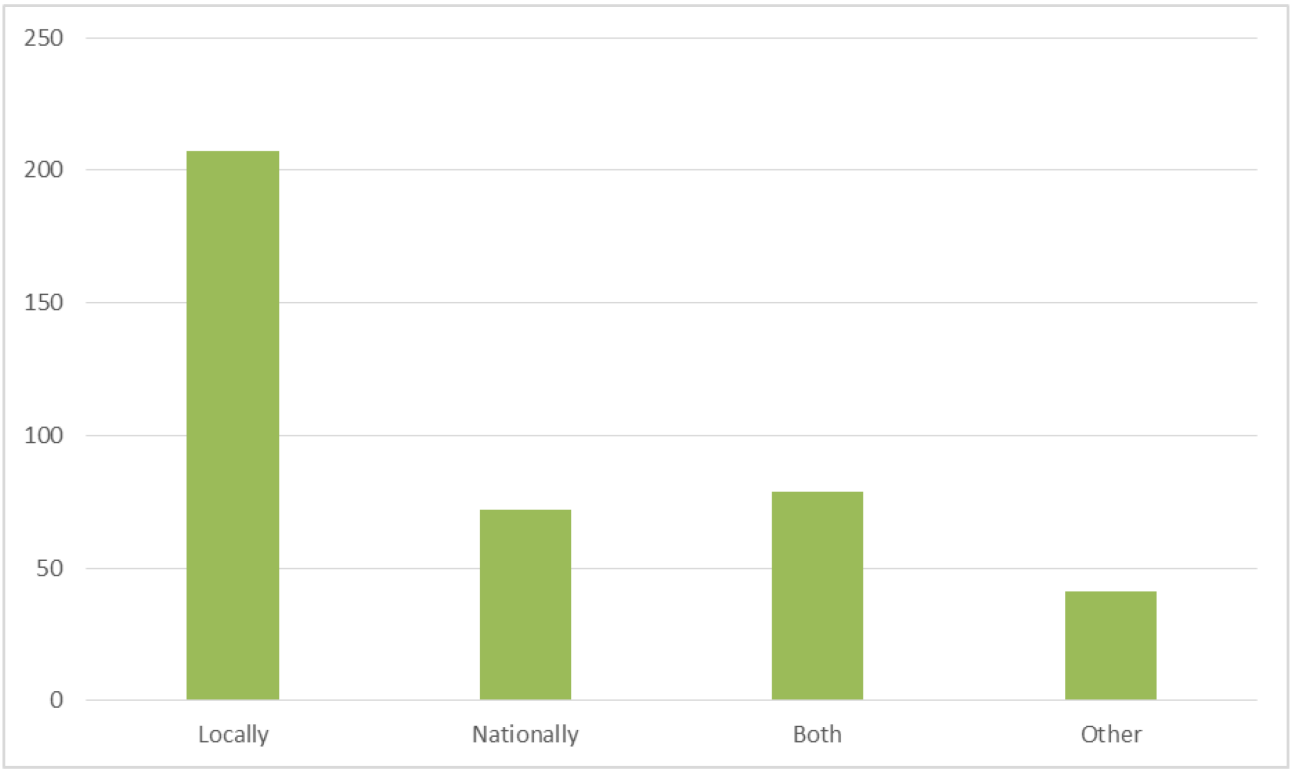

Figure 15: Number of responses to question 20 by answer indicated

399 respondents answered this question. The majority of respondents favoured local habitat maps. This was most marked for planning authorities and planning consultancies where 65% of respondents preferred local mapping. When combined with those who selected both and those who selected other but supported local maps, over 70% of respondents thought that local maps should be developed. However there was also significant support for mapping at a national level with 38% of respondents selecting national maps or both and many respondents who selected other also advocating national maps within a more complex response.

The primary reasons for supporting the local scale were because local knowledge, context and high levels of detail were seen to be important. Respondents felt that maps developed at the local level would be more accurate, detailed and reflect current information than national data sets. The local scale was also felt to be most appropriate for reflecting local biodiversity priorities and needs, and identifying sites according to local plans and

strategies. It was further suggested that Local Nature Partnerships and Local Environmental Record Centres are best suited to developing such maps, and that a number of local mapping schemes already exist. Overall, respondents in support of local development believed that because mitigation and delivery will occur at the local level and through local planning systems, opportunity maps should also be developed at this scale.

Respondents who supported mapping at a national scale mainly cited the importance of consistency, standardisation and coordinated conservation efforts led by national priorities. It was felt that the national scale would present a beneficial overview or larger picture, especially with regards to the impact of climate change.

Respondents who indicated that maps should be developed both at the local and national scale often referred to the need for local level detail but within a national level framework and the need for local level maps to feed into national level mapping. These respondents felt that national and local scale strategic habitat objectives were equally important.

A number of respondents highlighted the concern that biodiversity does not conform to administrative boundaries and that a local approach would be too fragmented to be useful. On this basis, some respondents advocated regional mapping and some sub-national but each covering more than a local authority. Only three respondents opposed the idea of habitat opportunity maps altogether.

Question 21: What other measures should be considered to identify biodiversity and natural capital priorities?

292 respondents answered this question. Overwhelmingly, respondents were in favour of establishing a comprehensive and multi-faceted picture of the natural environment. The three most common suggestions were:

- combine existing datasets and plans into one holistic approach
- collaborate with key stakeholders (especially partnerships) in a given locality
- the importance of creating a high degree of connectivity between habitats

To identify priorities for biodiversity and natural capital, many respondents suggested a holistic approach which considers a range of factors including, for example, potential benefits to health and wellbeing, air and water quality and more. This would result in a more complete picture of the value of a particular site.

A small number of respondents felt that climate change should be considered in mapping in the hope that this could to help mitigate risks to habitats and species associated with changing weather and water levels. Many respondents also mentioned the importance of including water-related data e.g. flood risk management plans, river catchment data etc. A couple of respondents mentioned factoring in the potential impact of invasive species and disease resilience. A small number of respondents also wished to see historical and cultural value of sites considered. Many respondents suggested species surveys to identify priority areas. Many suggested local authorities do this, contingent on receiving more

funding; one respondent suggested that land owners be required to conduct annual species surveys to monitor any declines on their land. This data could also feed into mapping. Another respondent suggested that data from all surveys conducted by environmental consultants must be submitted to a central local record office and that the record office have sufficient funding to be able to collate this into one database.

Although the question asked what other measures should be considered in addition to habitat opportunity maps, many respondents suggested mapping as a tool through which the holistic approach could be represented; by bringing together all factors and presenting them spatially for comparison. These responses indicate the importance of mapping in general and that the use of maps went beyond locating opportunities.

Suggestions with a focus on the specific flora and fauna were popular; mostly involving the idea of conducting thorough surveys of sites and using these surveys to determine what habitats needed improving and where; giving high importance to connectivity of habitats for wildlife corridors, in line with the Lawton principle of “more, bigger, better and joined up”.

Many respondents talked about the value of Defra collaborating with key stakeholders. A wide range of organisations and individuals were cited, most popularly local nature partnerships and wildlife organisations. There was a focus on local collaboration, although one respondent suggested that national organisations should also be consulted to help to form a picture on multiple scales.

Many respondents advocated using existing measures and mechanisms and quoted various current datasets that could be used, with some suggesting to combine all datasets to identify gaps or deficiencies in data.

Concentrating on the connectivity of habitats was a popular response. Strategic planning would ensure that connectivity of habitats was prioritised and protected. One respondent suggested that grass verges and embankments were an opportunity to increase connectivity and also be improved through the tariff mechanism where there was no room for biodiversity net gain onsite.

A small number of respondents mentioned that informing land owners and farmers how to best manage their land through countryside stewardship programmes would help to prevent habitat decline; this is due to many recent declines in the quality of habitats being a function of poor management practices including persecution of birds of prey and a lack of deer population management. Encouragement of positive land management is therefore key in preventing habitat decline. The Wildlife Trust’s Biodiversity Benchmark was cited as being a potential method through which an annual certification scheme could operate.

Provision of compensatory habitats

Question 22: Would mandating net gain through the planning system be enough to stimulate the growth of a market for biodiversity units?

368 respondents answered this question. Understandably, given that the question asks respondents to speculate about a nascent market's response to future legislation, the most frequently chosen response was "I don't know". Of those who expressed an opinion, most thought that a mandatory system would be enough to drive market growth, and a large number voiced alternative views to the simple options provided. Two developers argued that the requirement for net gain in planning policy would be sufficient to drive compensation market growth.

Some recognised that, once established, a habitat market could tap into other streams of natural capital revenue through local natural capital plans such as payment for ecosystem service schemes or compensation for businesses' natural capital accounting in line with their own sustainability objectives.

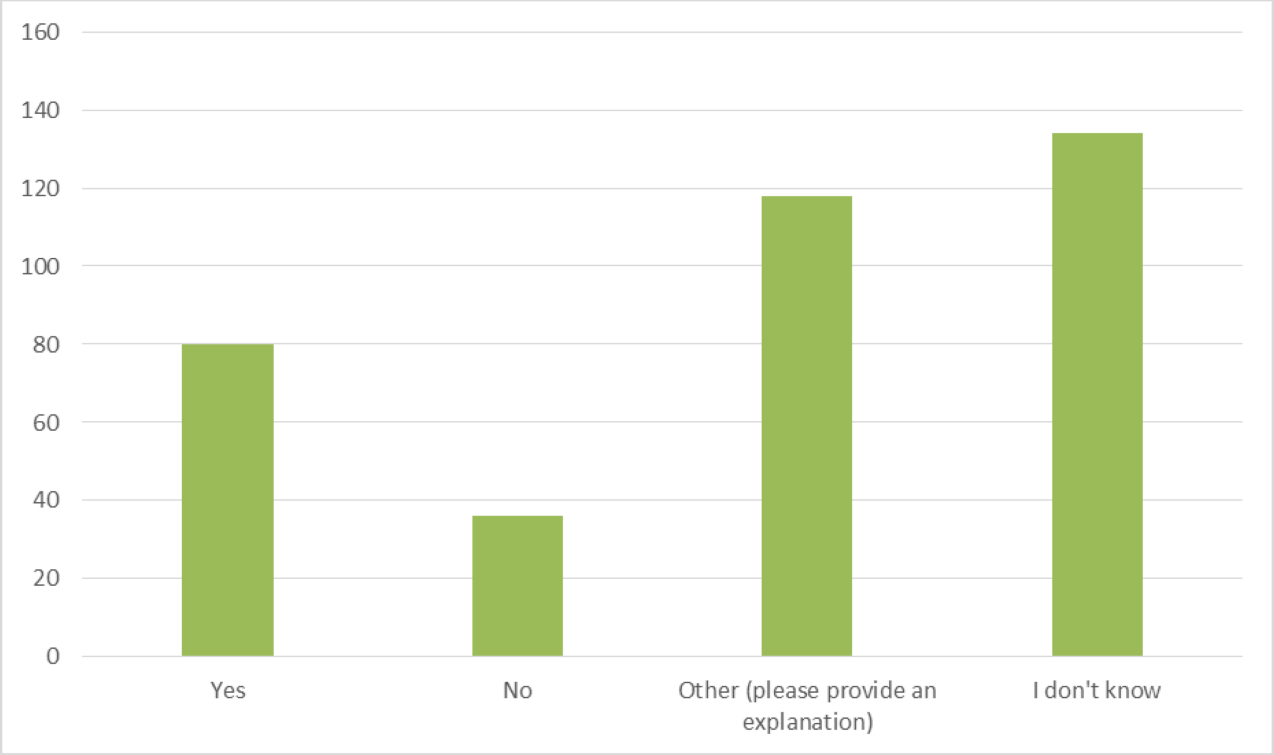

Figure 16: Number of responses to question 22 by answer indicated

One respondent raised concerns that the market for habitat creation might be too small to fully develop and delivery cost savings through scale. Another respondent pointed out that the market supply for habitat creation will be highly dependent on any agri-environmental schemes offered by government in coming years. Inheritance tax rules were also raised as a significant disincentive to convert farmland into land for conservation.

Despite the question asking only whether a market would develop in response to a mandatory requirement, respondents used the response field to raise concerns including:

- the potential for a market to encourage circumvention of the mitigation hierarchy and the "export" of habitat from local areas receiving development (stated by more than 70 respondents)
- the need to ensure that the mandatory requirement does not encourage new habitat market entrants who might not operate to the same standards as the, typically specialist, organisations that currently participate in the market
- the risk that the trading of 'surplus' units (those delivered above legal or policy requirements) in development would act as a cap on the level of net gains achieved by, and attributable to, individual developments. It might also encourage the transfer of units from rural schemes to comparatively more expensive urban schemes. Several respondents linked this proposal to carbon offsetting, where this has reportedly led to a loss of transparency
- that commercial habitat providers will target the cheapest land, rather than the best for strategic conservation, for habitat enhancement

Potential remedies to these concerns and others included the introduction of accreditation for compensation site vendors and promotion of the role of brokers in the market who could carry out due diligence on landowners and organisations coming forwards with compensation proposals. On accreditation, respondents were broadly supportive but suggested that an inflexible or onerous system of accreditation could limit supply and exclude those, such as local NGOs, who might be best-placed to deliver high-quality compensation. The need for strong governance, oversight, monitoring and enforcement was also stressed by several respondents. This was linked to suggestions for central registers of potential and active compensation sites and the biodiversity units generated.

Question 23: What further measures would help to ensure that the market provides:

221 and 185 respondents answered questions 23a and 23b respectively, though many respondents used this question to refer back to their answers to the previous question or copied identical responses into the text fields for both.

a. Sufficient biodiversity units for development?

Some respondents stated that the most important aspect for land owners and investors is certainty and consistency in policy. Another general requirement was that compensation agreements should be outcome based as far as is practical, rather than locking landowners into overly prescriptive management regimes. In terms of matching supply to demand, it was pointed out that the planning authorities will often have the best knowledge of where and when development will occur and that this knowledge should be shared to allow planning for suitable compensation sites to be undertaken in advance. Others

observed that planning authorities would often be well placed to provide compensation habitats themselves.

In recognition of the fact that supply will rarely perfectly meet demand, one respondent suggested that some revenue from the tariff could be spent through bids from landowners who have not been able to attract investment from development directly. Another respondent suggested the setup of a government sponsored rolling seed investment fund for delivery bodies to bid into; this, it was stated, would enable early commencement of habitat creation projects and allow the recovery of costs later as the generated biodiversity units are acquired by developers.

The complexities of additionality rules was identified by respondents as a potential barrier to investment. This was raised with regard to agri-environmental schemes, and some respondents wanted compensation projects to be eligible for other land management incentive schemes such as woodland creation grants.

Alongside the previously suggested accreditation scheme, another submitted measure was the creation of a ‘Biodiversity Net Gain Manual’ to standardise habitat creation processes and provide clarity on what types of habitat project can and cannot be counted towards net gain obligations. Another suggestion was for a trading platform that would drive competition between habitat providers and allow developers or local planning authorities to get the best value in terms of environmental outcomes for their investment.

The benefits of a registry for compensation sites were reiterated, focussing here on the fact that such a registry would make it simpler for habitat providers to gauge supply and demand balances and for developers and brokers to reliably check the legitimacy of offered schemes. This was balanced, however, by other respondents pointing out that any onerous registration scheme might act as a deterrent to landowners who would otherwise be willing to participate, particularly if land that was pre-registered was locked out of other uses.

While unclear whether it would need to be provided by government or other sectors, certification, awards and insurance were all stated by respondents as mechanisms which could help to drive good practice and reduce the risk to individual participant brokers and landowners. The Woodland Carbon Code and Partnership Management Plan Priorities (for National Park Authorities) were both put forward as potential frameworks on which to base any certification or market eligibility criteria.

Other suggestions included the exploration of international land acquisition for the benefit of migratory species, allowing ‘micro-compensation’ through green roof creation, allowing wildlife charities to provide units commercially and subsidising agricultural landowners to forfeit land for habitat creation and allowing planning authorities to purchase strategic land for habitat creation.

As in the previous question, several respondents used this question to raise general concerns about the operation of a compensation habitat market. Concerns raised in

response to this question included the risk that habitats would be ‘re-sold’ for compensation after their net gain obligation expired (i.e. that after 25 years a compensation habitat would not be bound by management restrictions and could be cleared and replanted with trees to generate biodiversity units again). A few respondents also used this question to raise concerns about supplies in urban areas.

b. Cost-effective biodiversity units?

Suggestions included:

- a form of payment by results that would incentivise high-quality delivery and disincentivise cost cutting or inefficiencies that would inflate costs without improving outcomes (this would need the support of a robust monitoring system and clear success criteria)
- administration and monitoring support, as well as a nominated body to provide a channel for redress where gains are not on course for delivery
- a panel of experts to make decisions on funding prioritisations too
- the engagement of volunteers in the management of land
- allowing natural succession to deliver desired outcomes as far as is possible to achieve ecological outcomes without expensive intervention
- the use of reverse auctions, with Mersey Forest cited as an example of this working
- maintaining quality by reporting wider social and ecological benefits of compensation proposals
- using a minimum price, as well as a maximum, to help to guarantee additionality and some level of quality
- setting any national tariff rate above the cost of local biodiversity units
- clear guidance for how biodiversity units could be claimed from part-funded or match-funded projects (i.e. detailed guidance on additionality) so that developers could not, for example, contribute 20% of the costs for a biodiversity project in partnership with other organisations and claim biodiversity units for the entire project but could participate in schemes attracting other types of investment

A number of respondents objected to the idea of seeking cost-effective biodiversity units and one stated that they found this objective offensive. These objections appeared to be founded on concerns that cost cutting in the market would undermine the delivery of potential benefits through net gain and that habitat would become overly commodified in the planning system. Responses also demonstrated an association made by respondents between markets and speculation. Some stated that a market approach would be fundamentally incompatible with a spatially planned approach

Legacy

388 and 368 respondents answered questions 24 and 25 respectively. A significant majority of respondents agreed that habitats should be maintained for a minimum period.

These respondents often reasoned that without a minimum period of maintenance, biodiversity net gain risks not delivering positive outcomes for the environment. When asked to specify a minimum duration, almost half of respondents wanted permanent maintenance, and many pointed out that biodiversity loss caused by development is, in most cases, permanent so compensatory habitats should also be permanent. “Permanent” was particularly popular amongst conservation organisations and individuals. Only 31 respondents thought that habitats should be maintained for less than 25 years.

Question 24: Should there be a minimum duration for the maintenance of created or enhanced habitats?

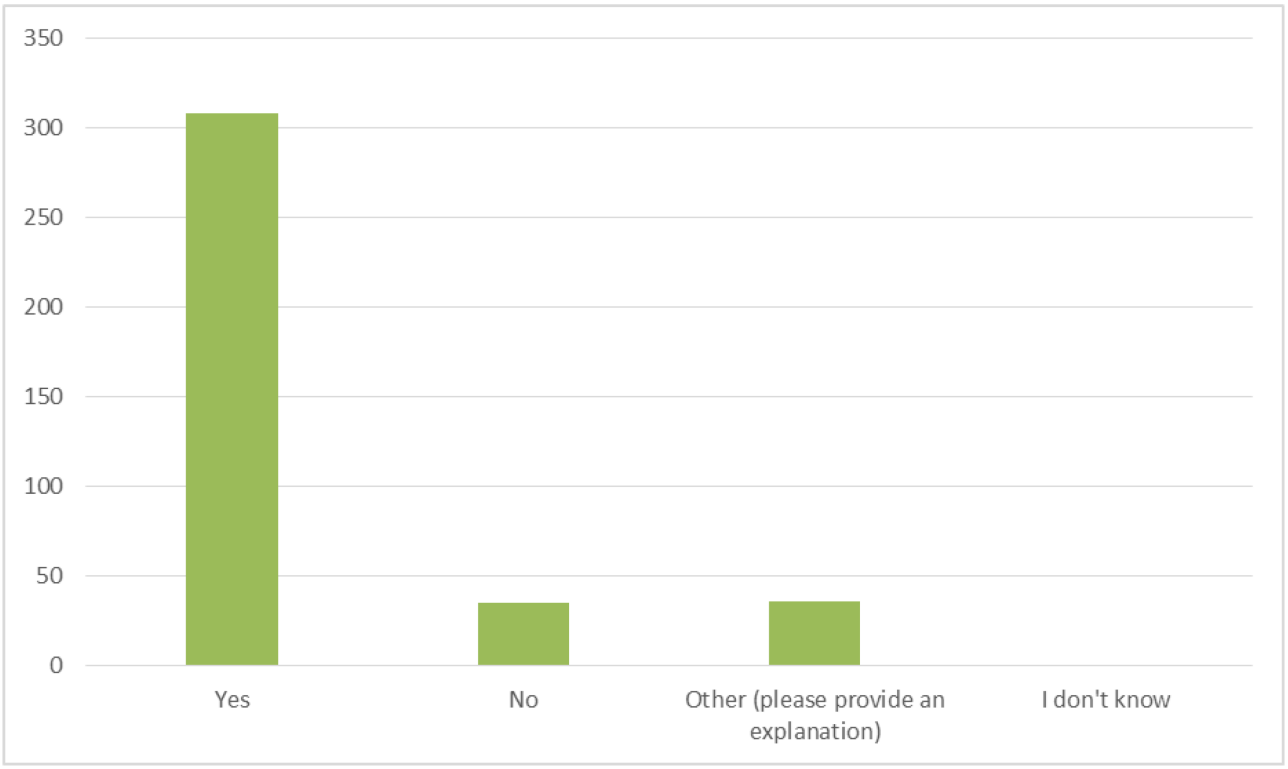

Figure 17: Number of responses to question 24 by answer indicated

The responses to question 24 are discussed with responses to question 25 in the next section.

Question 25: If so, what should the minimum duration be?

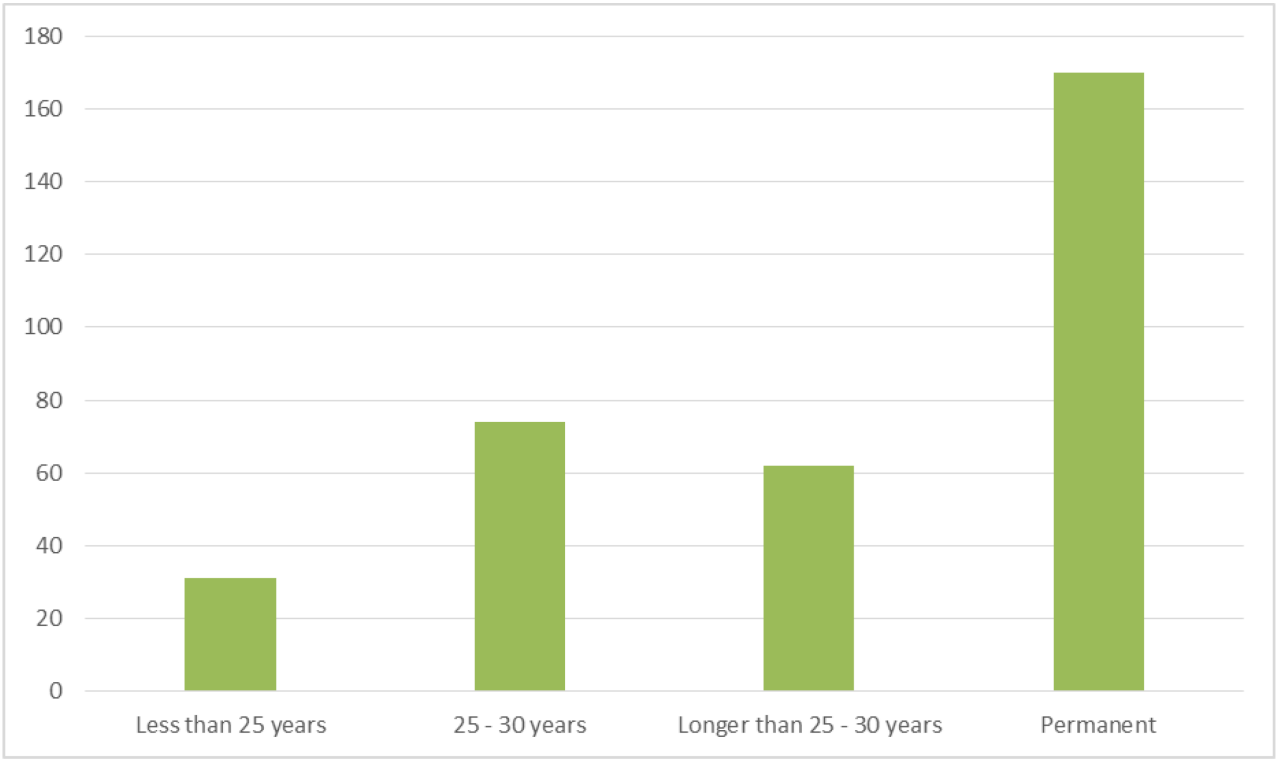

Figure 18: Number of responses to question 25 by answer indicated

Many respondents felt that there should be some flexibility in the required duration of habitat maintenance. Many, including some developers, suggested that the type of habitat and how long it takes to reach target condition, as well as the biodiversity value and ecosystem services that the habitat provides, should be taken into account. This was countered by the acknowledgement that this flexibility might incentivise developers and habitat providers to focus their efforts disproportionately on certain types of habitat such as those which achieve target condition more quickly. This contributed to a wider concern that maintenance requirements would make habitats which are cheaper to maintain more attractive to developers.

Other suggestions of where flexibility in duration of maintenance required should be considered were:

- flexibility or separate principles for certain types of development e.g. minerals sites and temporary development
- flexibility for certain types of authorities e.g. transport authorities who are required to expand operations to serve growing populations
- land ownership e.g. maintenance required for longer than 25-30 years for private land and housing estates, but permanent on public land
- differentiate on-site and off-site biodiversity net gain e.g. off-site provision should be managed in perpetuity

A number of those who selected options other than “permanent” said that while ideally maintenance should be permanent, shorter or fixed durations would be more practical. Additional suggestions included that the requirement could work up to permanent maintenance over a period of time, and that any minimum should be subject to review after implementation.

A number of respondents were concerned about the cost and commercial implications of ongoing maintenance and who should be responsible for this cost. There was some concern that local authorities might be left to pay for habitat maintenance. Suggestions to prevent this included levies on new homeowners and funding agreements with local organisations who would manage the site. Some respondents suggested that a minimum maintenance period would make it clear to land managers and developers what would be required financially. One developer suggested that developers’ obligations with regard to habitat maintenance should be subject to agreement, and that housebuilders would require an ‘exit mechanism’ once the business has provided the requisite number of biodiversity units for a site.

A few respondents cautioned that the legal terminology ‘in perpetuity’ was not equivalent to permanent protection and should be treated with caution. Some pointed out that current practice is for sites to be maintained for 25-30 years, and any shift from this would indicate a step change in approach. Some respondents raised the point that damage to habitats as a result of climate change posed the risk of those responsible for maintenance being held liable for what was not in their control.

Question 26: Would conservation covenants be useful for securing long term benefits from biodiversity net gain or reducing process and legal costs?

The responses to question 26 are discussed with responses to question 27 in the next section.

Question 27: What safeguards might be needed in the implementation of conservation covenants?

341 and 260 respondents answered questions 26 and 27 respectively. Defra also undertook a separate consultation specifically on conservation covenants which ran for four weeks and closed on 22 March. 112 responses were received to this separate consultation. A summary of responses and the government response to that consultation is being published at the same time as this one. The text below refers only to covenants responses to this net gain consultation.

There was overwhelming agreement that conservation covenants would be useful for securing long term benefits from biodiversity net gain. Only nine respondents of the total 465 answered question 26 “No”. Some thought that conservation covenants could be used to fill a gap in the current legislative framework for delivering land management on

compensatory land, particularly as section 106 Agreements can be short-lived and easily contested. Others pointed to their effective use in other countries. Some thought covenants would provide for conservation charities and others to become involved in the monitoring of compensatory habitats with associated benefits for health, wellbeing and fostering positive attitudes to the environment. A few doubted that there were the resources required to monitor and enforce covenants and felt that covenants would be easily evaded. Local authorities and Natural England were suggested by several respondents as suitable enforcement bodies.

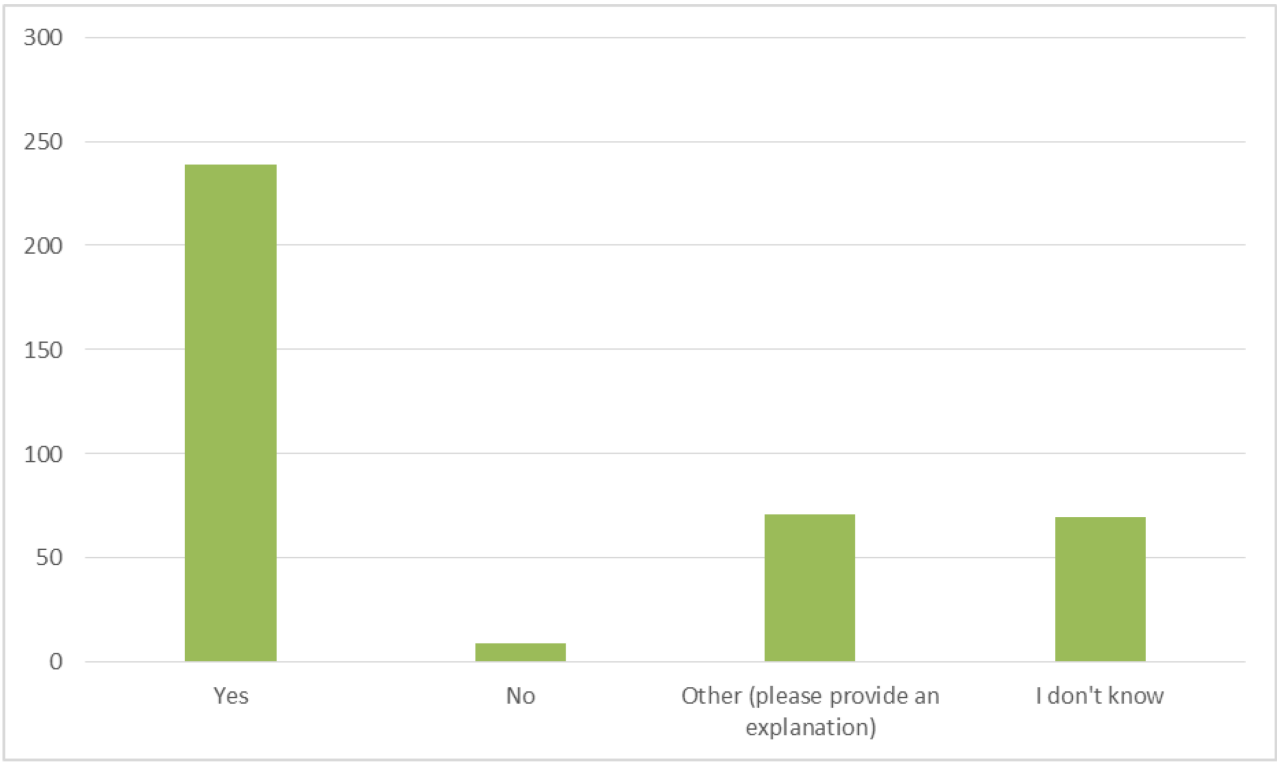

Figure 19: Number of responses to question 26 by answer indicated

Some thought there needed to be flexibility built into their use which allowed for covenants to end if projects fail, if circumstances change, or if they are to be transferred to new landowners. Potential inflexibility was cited as a reason for likely limited uptake in the farming sector. Others thought covenants will need to be clearly defined and carefully drafted to avoid abuse, unfair penalties in changing circumstances, or evasion of commitments. Some suggested a “Right of Action” clause allowing local communities directly affected by covenants to notify enforcing bodies about breaches. The demands associated with maintaining biodiversity net gain, especially for the long term, and limited availability of compensatory land were thought by some to be a barrier to uptake.

On safeguards, many proposed a legally binding mechanism to deliver monitoring and enforcement of covenants. Some thought monitoring and enforcement should be delivered by an independent body, such as a conservation charity; others thought the public should be involved, or that statutory undertakers should take over when habitat management is inadequate. Another suggestion was to require a responsible body to be a party to a

covenant in a tri-party approach, with the conservation body holding the offset fund. Some suggested fines for non-compliance and others that money should be refunded if the compensatory site is not properly managed. The need for transparency was also proposed by some - with public access to information about the covenanted land, including the details being mapped and captured on a database, such as the land register.

Some identified the need for resources to support the actions of the covenant holders on issues such as legal drafting and variations covenants. Others thought indefinite funding was needed for landowners providing the land for the compensatory habitat, with trusts, endowments or insurance proposed to secure the necessary management. Mechanisms to maintain covenants were identified by some as safeguards, including injunctions and contractual damages, affiliation with conservation organisations and transferring the land to a conservation charity. Some suggested that safeguards were needed to ensure the parties did not agree to modify the covenant because of their changing priorities – something which it was felt might happen with bodies, such as local authorities or ministers, which have functions beyond conservation.

Other suggested safeguards included tying covenants to the land rather than the owner, so that the compensatory habitat is not lost when the land changes hands; and providing for flexibility to cater for changes, such as those brought about by climate change, new policies or the future needs of farming businesses. Some pointed to the incompatibility of indefinite covenants with the need for flexibility, with “let-out” clauses suggested to cater for changes. A flexible, broad approach to the potential holders of covenants was also proposed to ensure net gain is not frustrated by too narrow a pool of bodies; and assurances were sought by one respondent that habitats improved through net gain would not result in the site being designated.

Part 4: Calculating and collecting the tariff

Tariff rate

Question 28: Does this proposed range for tariff costs fit with the principles set out in this section?

342 respondents answered this question. As seen in other questions on the tariff and compensation markets, more respondents selected ”I don’t know” or ”Other” than other options. Of those who expressed an opinion with their selection, most thought that the proposed range of tariff costs did fit with the stated principles.

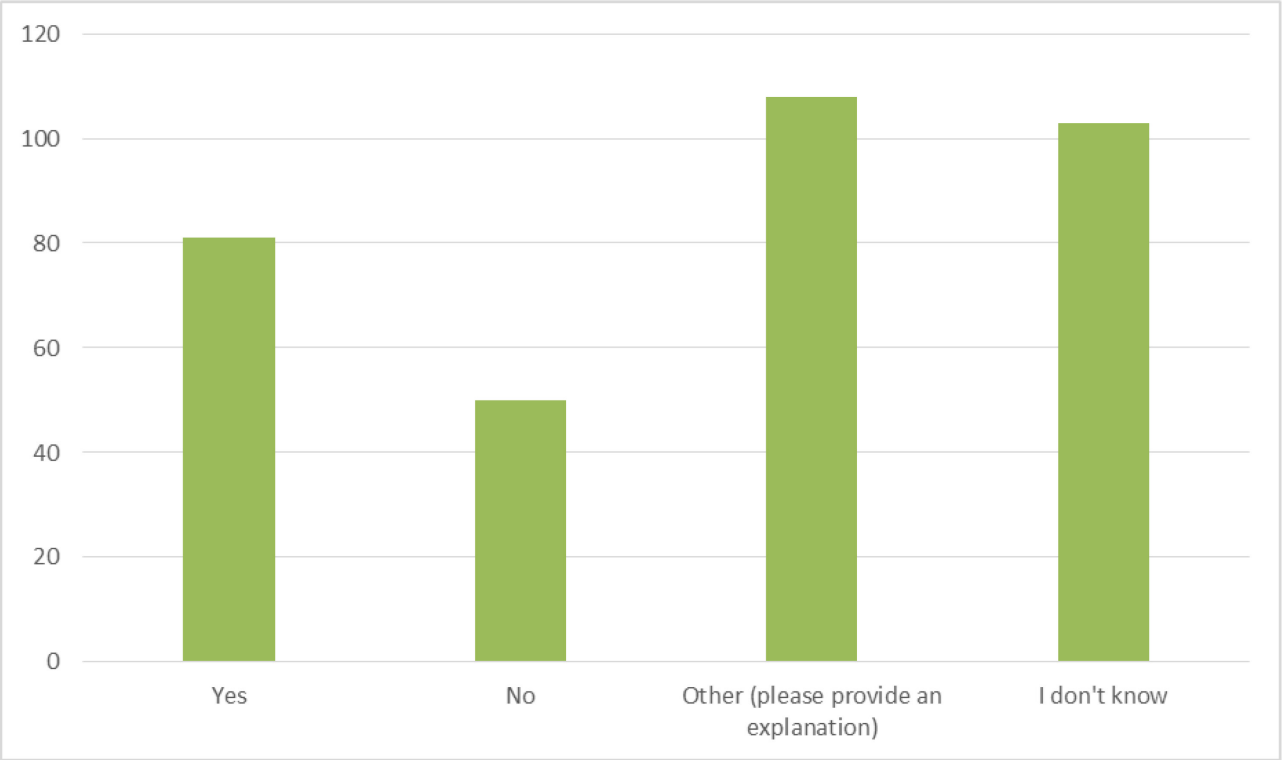

Figure 20: Number of responses to question 28 by answer indicated

Most respondents agreed that the tariff cost should reflect the full costs of habitat creation, including costs relating to administration of a tariff scheme. A common criticism was that there was little evidence presented to underpin the proposed range of tariff costs and that little evidence currently existed to justify any particular tariff rate that could operate nationally.

Those that did not agree with the proposed range of tariff rates tended to express a preference for a higher rate, although a small number of housebuilders suggested the rate was too high. Some suggested their own recommended rates which included ”£15,000 to £30,000” or pointed to Warwickshire’s rates which were stated as approximately £40,000 for woodland and wetland and £30,000 for grassland or £20,000 with economies of scale.

Another planning authority respondent cited an average local authority tariff rate of £19,700. A conservation organisation stated that a rate set at the proposed level would drive habitat creation into rural areas and away from urban areas that could benefit most from new green spaces. Others stated that they would need to develop detailed proposals to comment on an appropriate range. One conservation organisation stated:

“The consultation tariff range is described as one that is intended to be an incentive to retain habitat on site and to limit local habitat losses, and seek net gain through use of local habitat creation schemes. This suggests that these two options should be cheaper than the tariff, with the tariff as a last resort option. However, the level is much lower than what we consider to be the cost of delivery. If a tariff is offered nationally at this level, it could undercut local schemes and destroy the opportunity for local habitat creation.”

One local planning authority made a similar observation:

“It does not support a flexible supply and demand market place. It may reduce the take up of local, small initiatives.”

These observations were countered by views from development industry respondents and a few consultancies that suggested the tariff rate will impose a significant cost and should take regional cost factors and improved evidence into account. Another respondent stated that any tariff cost in this range would be ‘small change’ in the context of development revenues. Some planning authority respondents called for the tariff rate to be set locally, which would allow consideration of local circumstances and land prices.

A number of respondents used the question to reiterate their view that the mitigation hierarchy should continue to underpin development decisions, preventing exploitation of any tariff option when impacts are avoidable or on-site or local options are available.

Other suggestions included:

- setting a maximum and minimum value, but allowing local areas significant flexibility to determine appropriate tariff rates
- index-linking the tariff to allow for adjustment with inflation
- setting a tariff at regional, county or local level without a fixed national price, but possibly an advisory range
- taking the duration of compensation habitat into account when setting the tariff rate
- running further consultations or engagement on any tariff rate
- reviewing the tariff rate after 3-5 years to assess its effectiveness in delivering net gain
- only providing a national tariff as a temporary measure until markets establish
- scrutiny of any application seeking to use the tariff rate to determine whether the mitigation hierarchy has been adhered to
- that the tariff rate should also include costs of lost ecosystem services
- removing developer contribution pooling restrictions to enable larger and better value habitat creation schemes

Question 29: Would this proposed range for tariff costs provide opportunities for cost effective habitat banks and compensation providers to compete?

309 respondents answered this question. Most respondents selected “I don’t know” (43%) or “Other” (30%) with almost equal support for “Yes” (14%) and “No” (13%) on whether the proposed range for tariff costs provided opportunities for cost effective habitat banks and compensation providers to compete. Each option was selected at broadly consistent levels across each sector, although the development industry and environmental consultants were more likely to choose “Yes” and conservation organisations more likely to choose “No”.

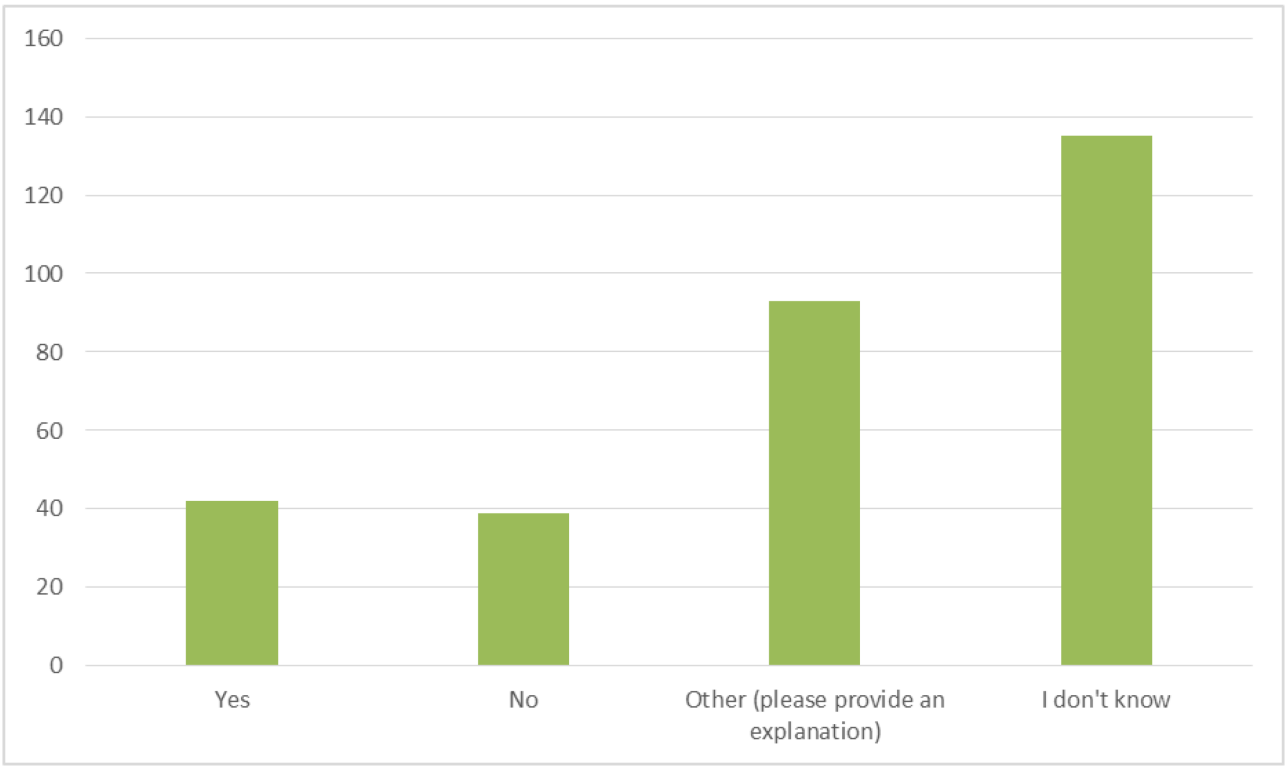

Figure 21: Number of responses to question 29 by answer indicated

Many comments echoed responses to the previous questions and raised concerns that the proposed tariff rate might be too low. IEMA considered the range to be too low, and CIWEM suggested that a figure above £12,000 per unit would be required. The RSPB agreed with the range but did not express a view on where a rate should sit within the range. There were concerns that a low tariff rate would prohibit conservation organisations from undertaking habitat creation in areas with higher land values (such as the South East) and would make the purchase of new land for conservation difficult. The NFU submitted a detailed response, stating that the lower end of the tariff rate would make the prospect of hosting compensation activities unattractive for the majority of agricultural landowners, particularly as they estimate 20% of the tariff rate would be allocated to administrative costs.

Many respondents felt unable to provide an opinion about the tariff and the way it was calculated as they felt uninformed. The most common suggestion from respondents was that the rationale behind the calculations should be robust, taking into account the variable costs of acquiring, creating, maintaining and monitoring habitats. Some respondents reported that the methodology behind the proposed tariff rates was not clear and therefore they felt unable to comment. Some objected to the use of market terminology in the context of conservation. The Home Builders Federation suggested that clarity would be needed on how tariff payments would be taken into account in viability assessments and agreement of developer contributions. Some respondents reported that, even with further information, habitat creation costs would vary so much in practice that it would be difficult to give a reliable estimate.

It was suggested by some that a tariff would create competition for habitat creation contracts driving down standards through cost cutting, and that compensation needed to be allocated to the right places rather than the cheapest land. This was related to broader concerns about offsetting and low standards observed historically, on which some respondents cited a paper from Friends of the Earth.

There were several mentions of the potential for net gain to drive development in areas where compensation could easily be achieved.

Respondents suggested that, to allow for local schemes to compete for compensation, the tariff rate should be set with regard to:

- further consultation on, or piloting of, tariff rates
- costs of identifying and surveying potential compensation sites
- cost of monitoring and reporting
- cost of maintenance and restoration activities
- risks that some habitat compensation schemes will fail for ecological, legal or business reasons
- standards, quality criteria and good practice principles
- incentivising the use of local habitat compensation schemes and encouraging on-site enhancement
- not undercutting the cost of on-site enhancements such as green roofs and wildflower planting
- the risk of driving habitat creation away from populated areas with higher land values

Question 30: Do you agree with the proposed principles for setting the tariff rate, as set out in this section? Please suggest any other factors that should be taken in to account.

337 respondents answered this question. More respondents agreed with the proposed principles than disagreed with them.

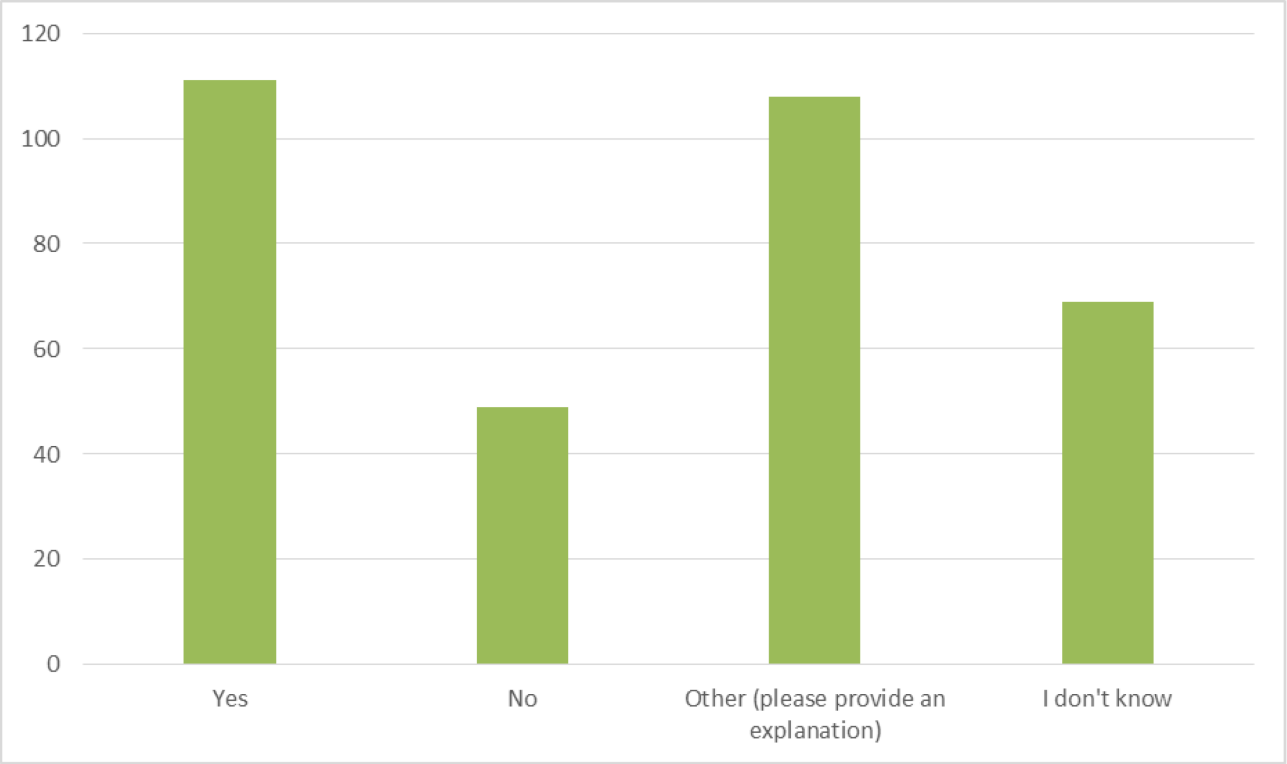

Figure 22: Number of responses to question 30 by answer indicated

Principles that attracted particular support in responses included the encouragement of on-site mitigation and the incentive to use local compensation schemes where possible. Some respondents disagreed with the need for a tariff component at all, and that net gain should be achieved locally.

Key criticisms were that the principles did not refer to:

- additional administrative costs in a tariff mechanism
- duration of compensation agreements
- need to account for rare species
- value of ecosystem services lost through development
- transparency in spending tariff revenue

Some respondents also stated that the principles should encourage tariff rates to be set locally rather than at a national level. Other suggestions included:

- linking payments to inflation or other risk factors to decrease opportunity cost risks for landowners entering habitat creation agreements
- testing the tariff against the principles stated at consultation in practice, with a particular focus on whether it encouraged more sustainable development
- tariff rate which varies according to how much on-site mitigation has been achieved
- alternative principles for brownfield sites
- incorporating viability calculations into locally set tariff rates

How a tariff could be collected and spent

Responses to this set of questions focussed around a number of key themes:

- a greater preference for local tariff collection and spending for accountability, efficiency and for biodiversity and wellbeing benefits to be felt where development occurs but with some recognition that land for delivery might not always be available locally
- concern about resources being available to operate a tariff system
- recognition of the opportunity to align with existing planning system and local habitat improvement schemes
- the observation that a tariff could have different viability implications in different parts of the country
- recommendation that tariff spending should be ring-fenced for biodiversity but with interest in delivering wider benefits as well
- support for tariff spending to contribute to cross-boundary strategic improvement and monitoring but also interest in maintaining fairness in the distribution of investment
- concern around risks of a tariff becoming an easy way to pay out of obligations

Question 31: How should the tariff revenue be collected? (Locally (e.g. through a local authority); Nationally (e.g. through Natural England or another national body); Other, please specify)

353 respondents answered this question. This question followed consultation text discussing local and national aspects of how the tariff could be collected and spent.

The majority of respondents indicated that the tariff should be collected locally (53.8%). A large proportion of planning authorities preferred the local option. It was also popular with conservation organisations and was the most common response from all sectors. A small number of respondents (9.5%) supported national tariff collection and 12.7% opted for “Other”.

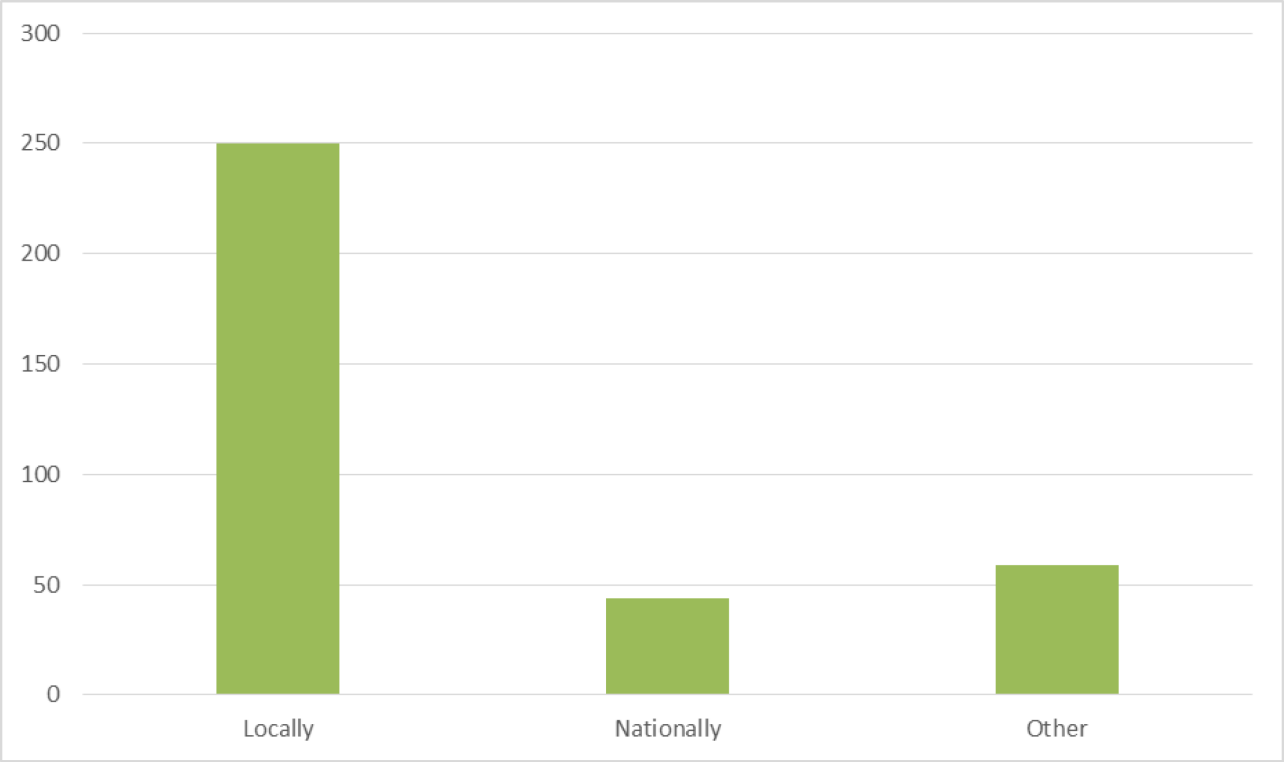

Figure 23: Number of responses to question 31 by answer indicated

A common reason for collecting the tariff locally was that it would help ensure that local biodiversity priorities are met. However, some respondents noted that local tariff collection would also require national monitoring, strategy and investment. Those who supported national collection did recognise that it would have to align with local needs.

Transparency and accountability were cited in support of both local and national tariff collection, although respondents primarily felt that the local level provided more accountability. However, support for a non-local system referred to the lack of transparency and inconsistency in planning agreements and the consistency that a national system could provide. Resource availability was a concern at local and national level. This included under-resourcing of planning authorities and the potential complexities of a national system.

Respondents also had concerns about local planning authorities' simultaneously granting planning applications and managing the tariff. Several respondents from the development and consultancy sectors also felt that the tariff system should account for geographical variance in affluence.

A common theme referred to by 29% of respondents was the details of the tariff mechanism and aligning the tariff collection with local planning authorities' existing systems or local schemes to help ensure consistency for developers.

Other suggestions offered on the tariff revenue collection and spend, which is covered in the next question, included:

- the role local record centers, Local Nature Partnerships and charitable bodies could play in tariff collection
- collaborative approach between local, regional, sub-regional and national levels
- ring-fencing of funds for local habitat creation
- auditing the tariff
- collection of the tariff through registered, accredited or independent third parties
- local tariff collection and national tariff spending
- variation in how the tariff is collected based on scale of development
- including administration costs within the tariff
- clarity on how the tariff is spent

Question 32: How should the tariff revenue be spent? (Locally (e.g. through a local authority); Nationally (e.g. through Natural England or another national body); Through a blended model, allowing spending at both levels; Other, please specify)

365 respondents answered this question. This closed question followed consultation text on some advantages and disadvantages of either local or national spending and the possibility of a blended model with money directed to meet both national and local priorities.

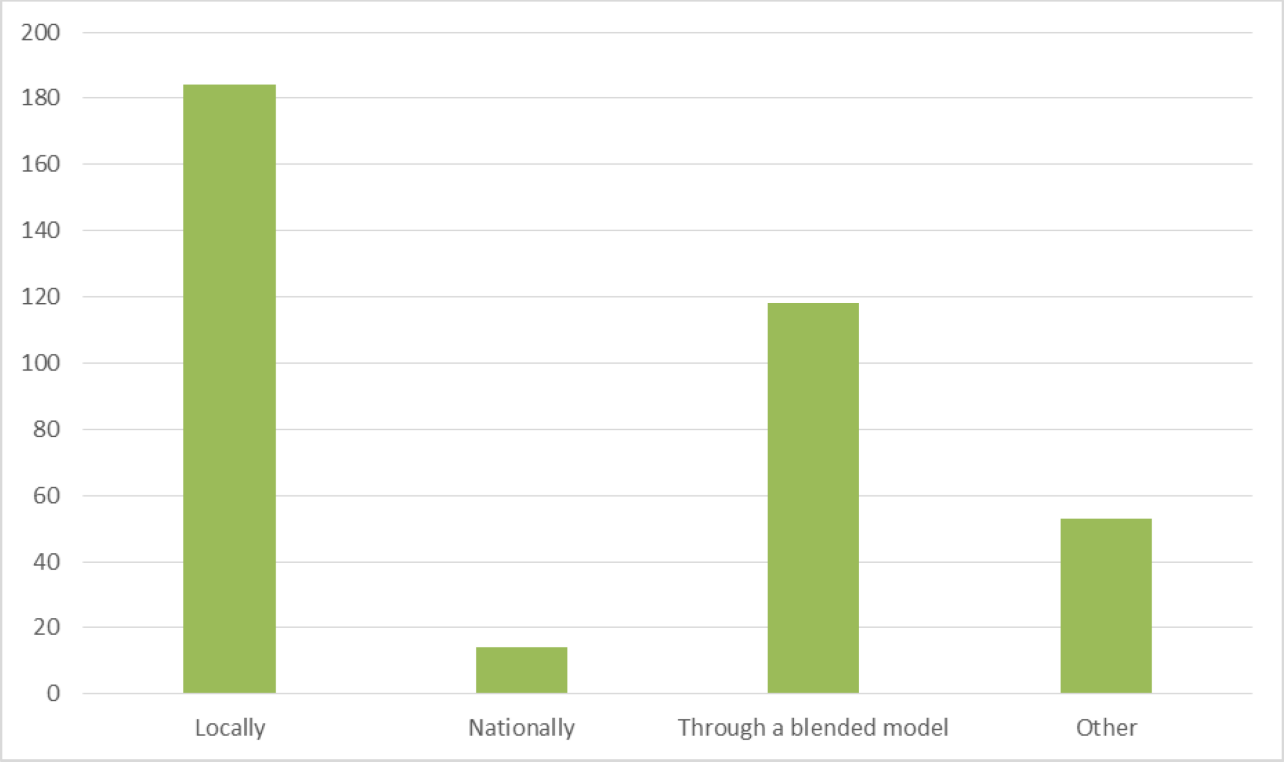

Figure 24: Number of responses to question 32 by answer indicated

The strongest preference (49% of those who answered the question) was for local spending of a tariff, with the most significant support for this option among planning authority respondents but also shown across other groups. Respondents selecting “Other”

and “Through a blended model” commonly explained that national spending was only acceptable as a last resort. Those in favour of local spending gave several reasons: that it would be less bureaucratic, more efficient with use of local knowledge and properly accounted for, local people would not lose out on sites of wellbeing value and wildlife corridors could be maintained.

Only 4% of respondents preferred solely national spending, with some of these expressing distrust in local authorities to spend the tariff appropriately or concern that it would create an incentive to grant planning permission on greenfield sites. Other respondents who supported some national spending believed this could enable the greatest gains for the money available and that it would sometimes be the only option where land is not available locally.

Common themes were concern whether tariff monies would be spent solely on biodiversity and support for a strategic cross-boundary approach to deliver net gain in line with Lawton’s principles. However, some were also concerned strategic priority areas may not always represent good value.

Other suggestions were offered on how the tariff should be spent, that:

- it be ring-fenced and monitored closely to ensure it is spent solely on delivering net gain
- a third party should officiate such as a multidisciplinary partnership. Local Nature Partnerships were proposed as being capable and suitably independent
- democratic input be sought on spending decisions using locally published maps
- initial spending be national by Natural England on mapping, guidance and expertise

Question 33: If tariff revenue was collected and spent nationally, should spending prioritise areas which have contributed the most through biodiversity net gain tariff payments?

358 respondents answered this question. Two themes emerged in the responses: that tariffs should be spent locally, not nationally, and that if tariffs had to be spent nationally this spending should be informed by a clear spatial strategy.

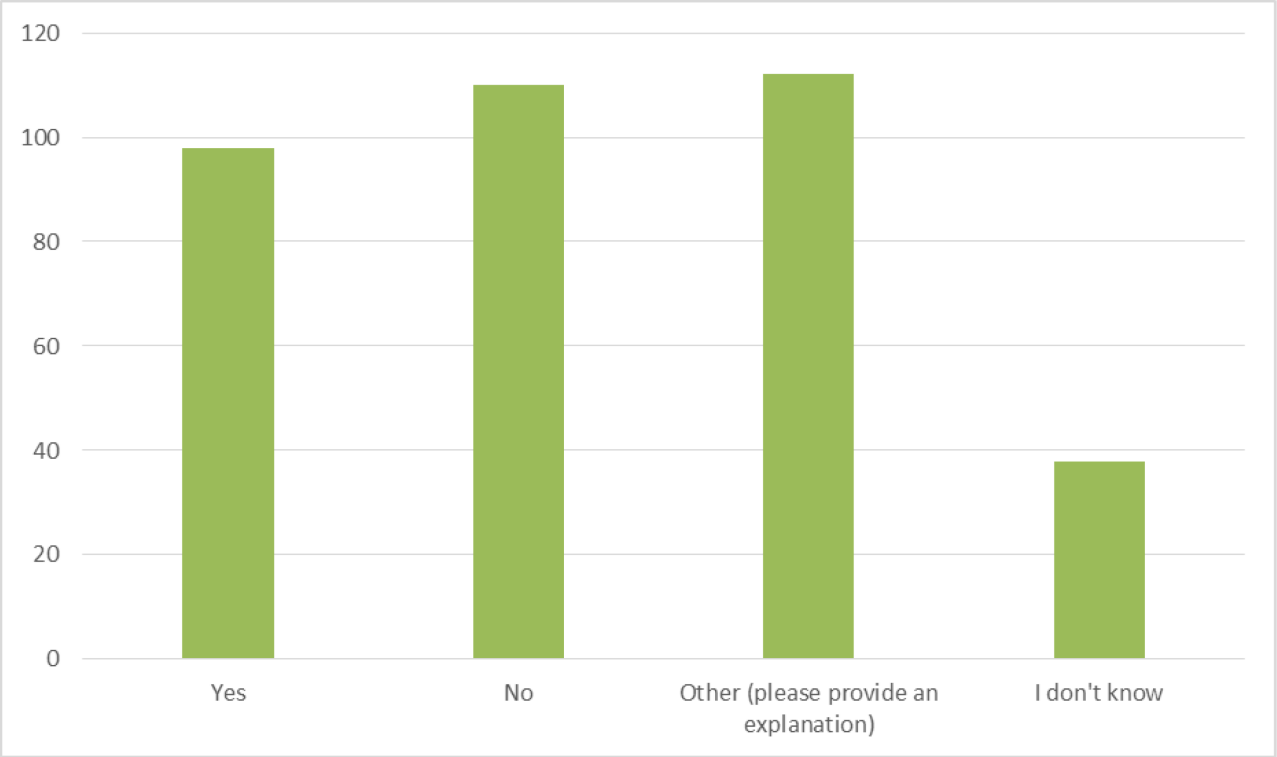

Figure 25: Number of responses to question 33 by answer indicated

Those answering “Yes”, around 31%, explained further that more local collection and spending would be preferable to unrestricted national-scale collection and spending. There was agreement that a local priority approach seemed a reasonable method of redistributing funds as areas contributing to tariffs would be acquiring the most damage through development. However, there was also the view that those areas contributing the most to the tariffs would not necessarily be of high value for conservation.

Common themes were concerns that spending tariffs nationally or away from a development meant those communities loosing biodiversity as a result of development would not see any net gains or mitigation in their local area. Many respondents indicated the importance of biodiversity and nature to health and wellbeing and the concern that communities would therefore lose out on the benefits.

Some respondents suggested this method would make tariff payments the preferred option for developers and authorities. Other responses mentioned it could encourage land-grabbing and unnecessary development. There were also concerns over funding and how priority areas would be decided.

Many respondents suggested that instead of spending the tariff money on areas which contributed the most, there would need to be a more strategic approach to spending. Others explained the need for data, monitoring and reporting on the collection and spending of the tariff and that this should be publicly available.

Suggestions were offered on how the tariff revenue should be spent. Many suggested tariff revenue be spent where there would be the greatest benefit to wildlife and biodiversity.

Others mentioned that money collected via a tariff should be used to fund the administration of net gain including guidance, tools and mapping.

Further suggestions were also offered around the decision making process for tariff revenue spending:

- using a ‘Nature Recovery Network map’ to inform decision making combined with data on accessibility of nature to communities and benefits to health and well-being
- collection of the tariff revenue through an independent organisation
- a national framework/guidelines on how tariff money should be collected and spent both nationally and locally

Part 5: Delivering net gain in the planning system

Impact on local authorities

Question 34: What further measures will help to prevent burdens on local authorities increasing?

312 respondents answered this question. The most frequent themes in responses were the need for local authorities to have access to specialist ecology advice, and be given additional funding to deliver their role effectively. Almost as popular were the need for clear guidance and training for local authorities.

Some respondents talked about the need for the system to be user friendly and clear to both local authorities and developers, and that it should align as far as possible with existing local authority processes, and be clear in relation to the National Planning Policy Framework.

Some respondents felt that funding from the tariff could mitigate increases in burdens on local authorities. One respondent wanted the tariff to include provisions for all administrative, implementation, monitoring and enforcement costs. A few individuals, conservation organisations and planning authorities proposed admin fees for developers which might go towards local authority costs.

Some ecological consultancies, planning authorities, individuals and professional bodies, felt partnership working with local environmental groups could reduce burdens on local authorities. A few responses suggested that local authorities should not be in control of a net gain system and that it should sit with, for example, professional bodies.

Question 35: How could the proposals be refined to manage any negative impacts on the scale and delivery of other developer contributions (e.g. through Section 106 or Community Infrastructure Levy payments)?

245 respondents answered this question. Respondents had concerns about the possible negative impacts on other developer contribution posed by a net gain tariff. There were different positions on how a biodiversity tariff should interact with existing developer contributions. Many respondents, particularly planning authorities, environmental consultancies and individuals, felt that biodiversity payments should be kept separate while others thought the tariff could be applied through Section 106 or the Community Infrastructure Levy. Some felt that developer contributions should be considered in the round, including one planning authority respondent who wanted “holistic multi-functional solutions” to improve the environment and deliver features such as sustainable drainage

systems. One developer suggested that ”thought should be given to ensure that developers are not required to double up on contributions with the same ultimate social, economic, and environmental benefits through two different mechanism”.

Where respondents wanted biodiversity payments to be separate, they wanted to ensure these payments would be used to deliver biodiversity net gain. This was a view most commonly expressed by planning authorities, environmental consultancies and individuals.

Many respondents felt that the tariff could work through Section 106 agreements. The Community Infrastructure Levy was mentioned as an option by a number of respondents, but was generally agreed to be a less appropriate mechanism for net gain.

Many respondents, particularly planning authorities, environmental consultancies and individuals, felt that clear guidance would be needed so that developers and local planning authorities know what is required in relation to developer contributions. A number of respondents talked about local authorities being resourced properly to deliver any new system, and phased implementation to give time for local authorities and developers to understand what will be required.

Some responses, predominantly planning authorities, felt that local viability should be properly tested through the local plan process.

Question 36: Would you, as a planning authority stakeholder, prefer any net gain tariff revenue to be paid through a) Local authority administration, b) Nationally managed funding scheme, c) Other?

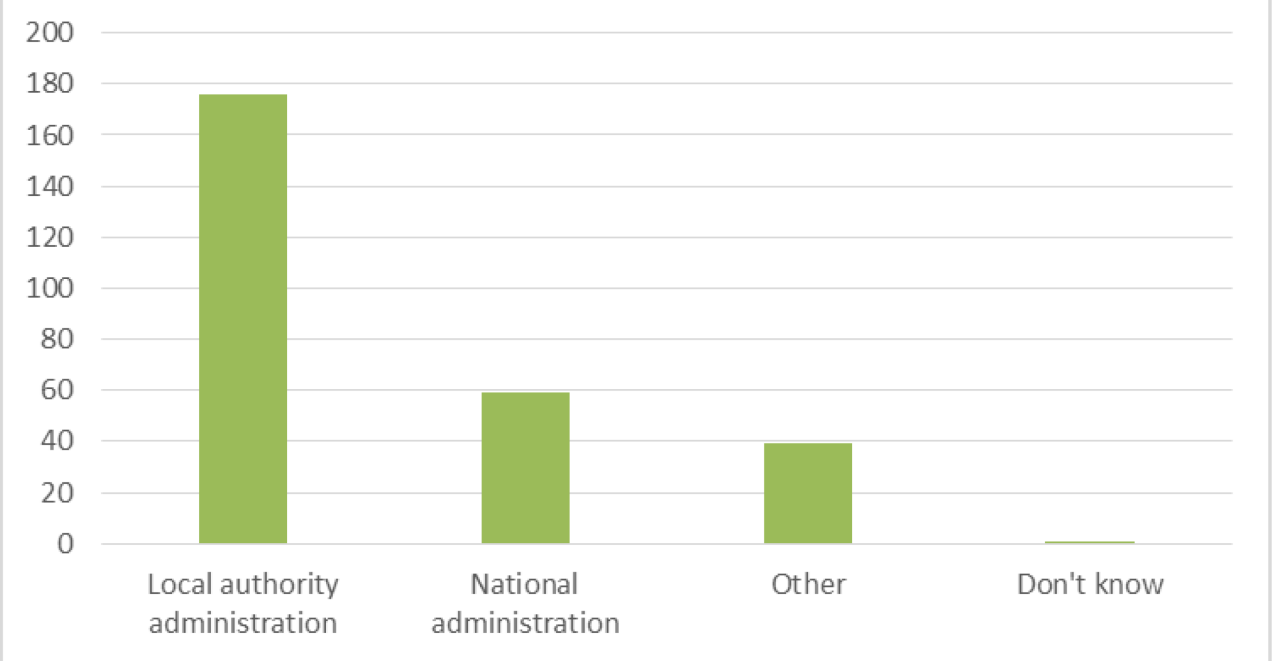

Figure 26: Number of responses to question 36 by answer indicated

275 respondents answered this question. A significant majority of respondents from across the sectors represented wanted net gain revenue to be paid through local authority administration.

The most popular reason for supporting local spending was alignment with existing local authority planning and environmental processes including established mechanisms to collect, allocate and spend developer contributions. Some respondents pointed out that existing net gain schemes are managed at local authority level, and suggested local authorities could incorporate intentions for this spending in local plans.

The opportunity to leverage local expertise and knowledge to deliver on local biodiversity priorities was the second most popular reason for supporting local authority administration. A number of respondents felt that national spending risked missing detailed local knowledge and overlooking smaller compensatory habitat schemes. A significant number of respondents felt that the benefits of new or enhanced compensatory habitat should be kept local to those impacted by the development.

A number of responses talked about the need for transparency and accountability to the local community around tariff spending. There was concern that if the tariff were nationally operated, local biodiversity priorities might not be addressed with tariff revenue generated in that locality. One respondent talked about the risked of an area becoming a ‘net exporter’ of biodiversity.

A significant number of respondents made reference to the need to account for habitat priorities that transcend local boundaries. For some respondents this was about national strategic priorities informing the identification of required local habitat improvements. One conservation organisation saw the potential value in national oversight to facilitate cross boundary co-operation, while others felt this should be achievable through local partnerships.

Other suggestions included local administration, alongside a national scheme, that would receive a percentage of the tariff and would, ”correspond clearly to strategic environmental priorities with clearly banded guidance and criteria to avoid potential disagreement”. CPRE supported local administration but suggested a degree of flexibility which could allow for tariff revenue to be invested in the most appropriate local scheme even if this is in a neighbouring local authority area.

There was concern about the burdens operating a net gain tariff would put on local authorities. For some respondents the solution to this was national administration to allow a more cost-effective and efficient concentration of the required ecology expertise. UKGBC suggested they would support, ”national collection through Natural England or a model similar to the aggregates levy sustainability fund”.

However, for others, the solution would be to make sure any additional burden on local authorities is acknowledged and properly funded, and that the right training and guidance is in place to support. One local authority ecologist framed this in terms of opportunities as well as challenges, arguing that the net gain approach should, “be seen as a driver and funding mechanism for getting ecological expertise into planning authorities and, in turn, delivering wider benefits that this expertise within the planning system will enable.”

A small number of responses suggested that local third parties, such as Local Nature Partnerships, have relevant expertise and knowledge of local priorities and projects making them well-placed to advise on, and potentially administer, tariff spending. Specific suggested roles for third parties included: administering tariff revenues (a proportion of respondents who mentioned third parties suggested a delegated spending model similar to district level licensing); brokering agreements for offsets; and an oversight/review role for spending.

One developer promoted involvement of a range of third party providers as opposed to relying solely on local NGOs and wildlife trusts. The respondent also wanted local authorities not to be able to direct all net gain tariff funding “to their own offset receptor sites as has occurred with some suitable alternative natural greenspace (SANGS) allocation which has been overloaded onto LA-owned sites”.

Reasons given for favouring national spending included improved national oversight of tariff spending, better capacity to manage strategic investments in biodiversity across administrative boundaries, the potential to support local authorities to work together and reducing burdens on local authorities. One developer suggested that a national scheme would be easier to interact with.

The small number of respondents supporting a “blended” approach to tariff spending, most commonly thought this approach could facilitate sharing good practice across the country.

Additional suggestions included:

- that spending be transparent and accountable including a requirement on the administrating body to publish data on income and expenditure of net gain tariffs
- that funds should be ring-fenced for defined and appropriate purposes i.e. biodiversity enhancement and resourcing local authorities to deliver the scheme (e.g. ecologists)
- local record centres were highlighted by a number of respondents for their potential role in managing information on compensatory habitat projects which can then be used to take a strategic approach to habitats in the area
- a number of responses (including Taylor Wimpey’s) suggested that funds which remain unspent after a set period be returned to a national body for national-scale projects, or back to the developer

Impact on developers

Question 37: How could the proposed net gain process be improved for developers?

276 respondents answered this question. By far the most frequently requested measure was the need for the system to be clear, consistent and simple with concise but detailed guidance (including on how to practically achieve net gain in development). This would reportedly allow for net gain to be designed into processes at early stages and for any design issues to be detected and resolved without causing delay to development.

Second most frequently requested was that the approach should be standardised as far as possible. Other suggestions included:

- provision of a range of compensation habitat providers and tariff options as well as improving access to expert advice
- screening or mapping of higher biodiversity sites (other than protected sites) that would be difficult to achieve net gain on
- no exemptions or loopholes to confuse developers
- integrating the requirement into existing processes
- phased implementation and a clear transition period
- including costs in guidance for developers to consider at site selection stages
- informing developers about the long term benefits of net gain
- encouraging pre-application discussion
- clarity on how net gain applies to multi-phase developments
- supporting developers in handing long term responsibility to management companies who will deliver to a high standard

- avoiding unfair prosecution of developers for failures due to ecological circumstances or unforeseen failures of management companies or habitat providers
- maintaining an element of pragmatism in the survey requirements and assessments
- encouraging developers to engage with affected communities and to improve relations by designing and implementing socially acceptable biodiversity net gain projects
- clear interpretation and explanation of any exemptions that are necessary
- integration of other environmental considerations and requirements into the same guidance and approaches (e.g. drainage, air quality)
- simplified assessments for small and medium sized sites
- obligations for local authorities to hold habitat mapping data and opportunity maps for compensation
- reducing the requirement below 10% to reduce risks of shortage of compensation options
- clarity around management costs and appropriate means of meeting these
- coordination with habitat creation through great crested newt district licensing
- flexible tariff which allows net gain to be split between on-site and tariff contributions where appropriate
- using Section 106 mechanism rather than a new form of community infrastructure levy

Several respondents argued that the objective of net gain should be robust environmental outcomes, and strongly objected to the prioritisation of aspects which might make the process easier for developers at the expense of social and environmental outcomes. Some of these respondents expressed concerns at the consultation proposal that government will only mandate biodiversity net gain if it benefits development. They argued that this appeared to conflict with evaluation findings of the 2012 biodiversity offsetting pilots which reported that the approach would not work as well on a voluntary basis.

Some respondents felt that proposals already offer developers more consistency and clarity than existing approaches, while reducing risks of unexpected costs and delays. Some argued that in delivering greener developments that people like, proposals would lead to better developments and greater acceptance from local communities as a result.

Question 38: What other steps, considerations or processes in environmental planning should be integrated within a net gain approach?

246 respondents answered this question. There was significant variety in the types of processes suggested and the level of detail provided. The most frequent suggestion was to work towards incorporating wider environmental characteristics and ecosystem services into net gain approaches (a feature of approximately a quarter of responses to this

question) in line with the consultation content on environmental net gains. Other frequently suggested factors included: sustainable drainage systems, transparent engagement with affected stakeholders, protections for existing habitats and open spaces and alignment with environmental impact assessment and strategic environmental assessment. WWF cautioned against the merging or streamlining of environmental impact assessments or approaches for Natura 2000 site with net gain, at least until net gain is better established and understood.

Other specific suggestions for integration with net gain included:

- greater consideration of climate change in development (and benefits of renewable energy projects)
- adaptation of management plans e.g. for grass verges to improve their value for wildlife
- recreation impact mitigation (e.g. SANGs for protected sites)
- consideration of protected species
- sustainability of building materials
- light and sound pollution
- green infrastructure's contribution to air quality improvement
- flood alleviation
- BREEAM and HQI
- sustainable transport provision
- a simple requirement for integrated nesting or roosting bricks and natural boundaries such as hedging
- irreplaceable habitats
- identification of compensation opportunities in neighbourhood planning

Question 39: Would any particular types of development (e.g. commercial, industrial, public sector, local infrastructure) be disproportionately affected by a mandatory biodiversity net gain requirement?

240 respondents answered this question. The most frequent response was that there were no types of development that would face a disproportionate impact, followed in frequency by the similar assertion that the requirement should be consistent across different types of development. These views were supported by the UK Green Building Council (UKGBC), which reported that, "Through feedback from members, it has not been evident that any particular development types would be disproportionately impacted by a mandatory biodiversity net gain requirement".

Several respondents supported this statement with the view that the impact on a given development would depend only on the habitat impact of that development, and not on the type or sector it belonged to. WWF made this argument, stating, "clearly, a particularly damaging development, for example, one that is very land-hungry, may be required to

provide more in the way of compensation under a system of net gain, but that would not be disproportionate – it would be proportionate."

Only one other specific theme attracted more than 10 responses, which was public service and infrastructure development, although it was also observed that those undertaking public development would have the greatest capacity to identify and realise off-site gains. The following additional suggestions were all made by several respondents:

- development in low viability areas, including social and affordable housing schemes in these areas
- minerals sites (some responses just made the observation that these often achieve large net habitat gains already)
- industrial and commercial development
    - some respondents argued that some of these types should face higher tariff rates because of reportedly poor practice at present
    - one respondent limited this selection to those in city centres
    - one organisation suggested that large commercial sites should not be exempt, but could benefit from a lower net gain requirement
- residential development
- urban development
- rural development
- brownfield developments (particularly sites that were previously heavy industry)
- greenfield development
- individual houses
- householder applications
- permitted development by statutory undertakers
- small sites
- infrastructure schemes
- agricultural development (if a tariff payment is required)

The Home Builders Federation (HBF) and Crest Nicholson raised their concerns about the impacts of a biodiversity net gain requirement on development viability. The HBF stated, "We do not support a mandatory approach towards biodiversity net gain. Residential development will be disproportionally affected by the proposals and, if it is badly implemented or has an unaffordable effect on the viability of development, housing delivery and output may be threatened."

Some respondents made general comments that further evidence is required to answer the question, or that net gain should be applied on a case by case basis.

Implementation of mandatory biodiversity net gain

Question 40: Do you agree that the proposal for staggered transitional arrangements would help to ensure smooth implementation of biodiversity net gain policy?

Most responses agreed that staggered transitional arrangements would help ensure smooth implementation of the policy. This view was consistent across the sectors represented. Many of these responses talked about the need for time to deliver training and guidance to support organisations and time to implement mechanisms to deliver the policy effectively. A significant number also talked about the need for robust baseline and mapping to be in place before the policy is implemented.

Many responses included the view that government should set clear deadlines for transition, and that any transition period should be limited in length to avoid delaying the implementation of biodiversity net gain and positive outcomes for biodiversity. However, there was also a strong view that transition should be longer than one year. Suggestions ranged from 18 months to 5 years. In discussing the timing of a staggered transition, some respondents talked about aligning with the local plan process and/or community infrastructure levy charging schedules. Some wanted transition to be timed so that the costs of the policy would be properly reflected in land prices and viability assessments.

Some respondents made specific suggestions for how a transition might be staged, such as lower value habitats being captured first before rolling out the approach to higher value habitats once the policy has been tested, or bringing in small sites into the approach at a later date. Some responses were concerned that landowners might degrade habitats if transition is too protracted, and some warned of an increase in planning applications ahead of the transition period. Some responses suggested that the transition period should be used to test the system and gather feedback to check that it is delivering.

There was no clear consensus on whether reserved matters applications should be included in net gain requirements, with some suggesting that they should be exempted to ensure a smoother transition.

Right of appeal

Question 41: Would the existing dispute resolution process provide the best way to overcome any disagreement over whether net gain is achieved?

290 respondents answered question 41, and the most frequent response was “I don’t know”. 99 respondents stated that any disagreements over whether net gain is achieved would be best managed through the existing dispute resolution process and 31 said that they would not be best managed through existing processes.

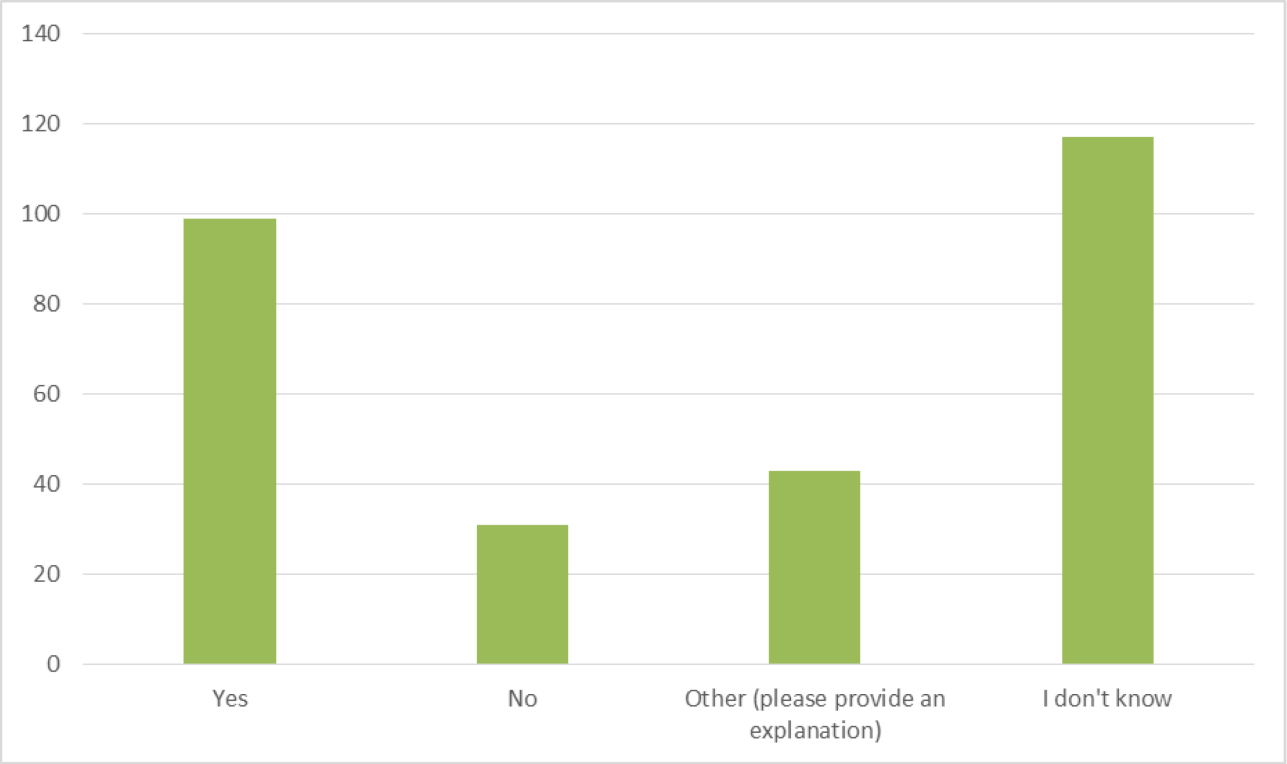

Figure 27: Number of responses to question 41 by answer indicated

The responses to question 41 are discussed with responses to question 42 in the following section.

Question 42: Would an additional arbitration or approval process be necessary? If so, please specify why.

281 respondents answered question 42, of which again the majority responded “I don’t know”. 63 people felt that an additional arbitration or approval process would be necessary to manage disagreement over whether net gain is achieved; 62 disagreed. Responses to both questions tended to be evenly spread across the sectors represented.

Where respondents felt the existing dispute resolution process would be the best way to resolve disagreement over whether net gain is achieved, they commonly supported this by saying that the existing system is well established and understood. Some respondents cautioned against creating additional complexity, or thought that a new system would be time consuming and costly. Where respondents promoted using the existing system, many made the point that training and guidance would be required to ensure planning decision makers and inspectors have, or have access to, the right expertise and experience to conduct net gain appeals effectively.

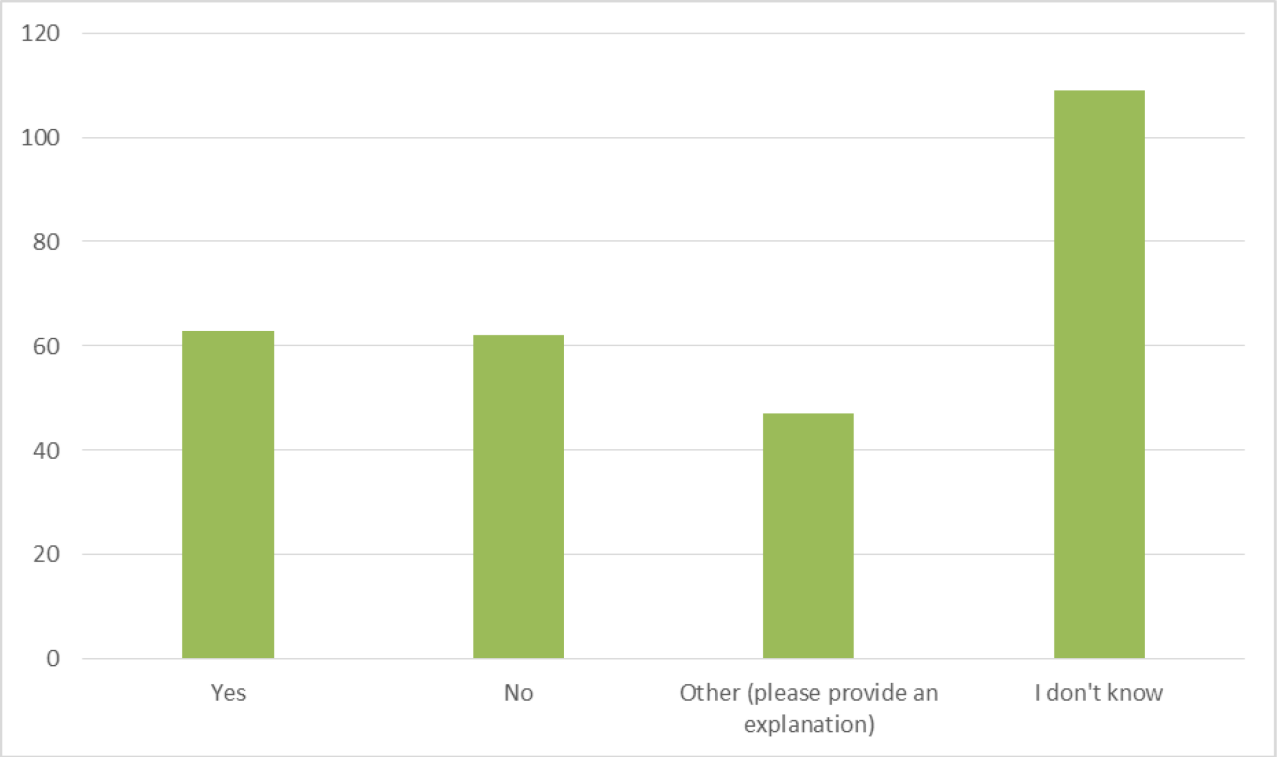

Figure 28: Number of responses to question 42 by answer indicated

Respondents who thought the existing dispute resolution system may not be the best route for net gain disagreements were concerned about lack of specialist resourcing in the existing system. Some respondents felt that the current system is costly and time consuming, and managing net gain appeals through it when it is not set up for this purpose could exacerbate delays. It was suggested that using the existing appeals process for a technical dispute such as whether net gain is achieved or not would be disproportionate and could delay planning decisions. The Law Society made the point that planning appeals often deal with subtle applications of policy and technical evidence; given that the biodiversity metric is standardised and therefore more objective, a specialist arbitration or approval process could reduce the extent to which new biodiversity net gain obligations might result in delays to development.

Where respondents supported an additional arbitration or approvals process, the concern that appeals be managed by people with the right ecological experience and expertise was again prominent. Respondents also talked about the need for independence and transparency to establish public confidence in the system. Some respondents felt that an additional process could be simpler, and potentially reduce costs. Specific suggestions for who should adjudicate where there is dispute included an independent ecological assessor, or a national expert on interpretation of biodiversity metric assessments, the Office of Environmental Protection, Natural England, Local Records Centre, those with existing expertise in applying the metric in practice e.g. Warwickshire County Council, CIEEM, local nature partnerships, and the RICS Dispute Resolution Service.

Some respondents felt that there are issues with the metric which would play out in any dispute resolution process. One professional body suggested that some disputes which could arise are likely to relate to the design of the metric. For example species, are not covered by the biodiversity metric, and will need to be considered by the local planning authority in relation to a proposed development; how the two interact may become the basis for some disputes. Others talked about their experience of the metric being inconsistently applied, and suggested that a robust appeals process could help establish consistency. There was also the suggestion that an appeals system might be temporary until precedent decisions have been established.

Some respondents questioned the time at which disputes would arise and how this would play out in the existing or a new system. Some felt that pre-application consultation with the local planning authority might help avoid potential disagreements, the Home Builders Federation thought that the required level of detail would be difficult to address at this stage, given that this is often not available at that point. One respondent suggested an additional specialised planning application validation process, involving out-sourced advice.

Part 6: Monitoring and evaluation

Quality assurance

Question 43: Are there any issues or measures, other than those outlined, that we should take into account when considering how to monitor biodiversity net gain?

270 respondents answered this question. The primary concern was ensuring the right capacity and resources were in place to ensure that whoever is responsible for monitoring, local authorities or national organisations, could be effective.

Many respondents were clear that whoever is conducting the monitoring should be appropriately qualified. Chiming with comments on the importance of transparency and independence, some suggested accreditation through IEMA or CIEEM; others proposed that reporting should include the qualifications of the person who carried out the monitoring activity. A significant number of respondents wanted more clarity over who would be responsible for monitoring and suggested drawing on knowledge and information in local bodies including local nature groups and local environmental record centres. Others supported national monitoring by a body like Natural England.

Many respondents also talked about how biodiversity net gains should be monitored, commonly asserting that monitoring should continue over the long-term to be effective. A significant proportion suggested that net gain monitoring should include other measures. Specific suggestions included species, ecosystem services, and green infrastructure. Respondents also talked about the importance of making the right information available to support effective monitoring e.g. clear baseline and target for habitats; others suggested different habitats might call for different monitoring requirements. Remote sensing alone was felt not to offer the right level of accuracy or detail; it was suggested that remote sensed date should be ‘ground-truthed’ with local surveys.

Additional themes in responses included calls for all information, data and targets to be publicly available, monitoring to be an enforceable condition of planning, and a mechanism to address cases where the habitat has not reached its target condition, and penalties e.g. for assessors who do not comply with accreditation requirements. A number of respondents also made reference to the advantages of aligning monitoring with existing processes.

Question 44: Should local authorities be required to provide information about habitat losses and gains?

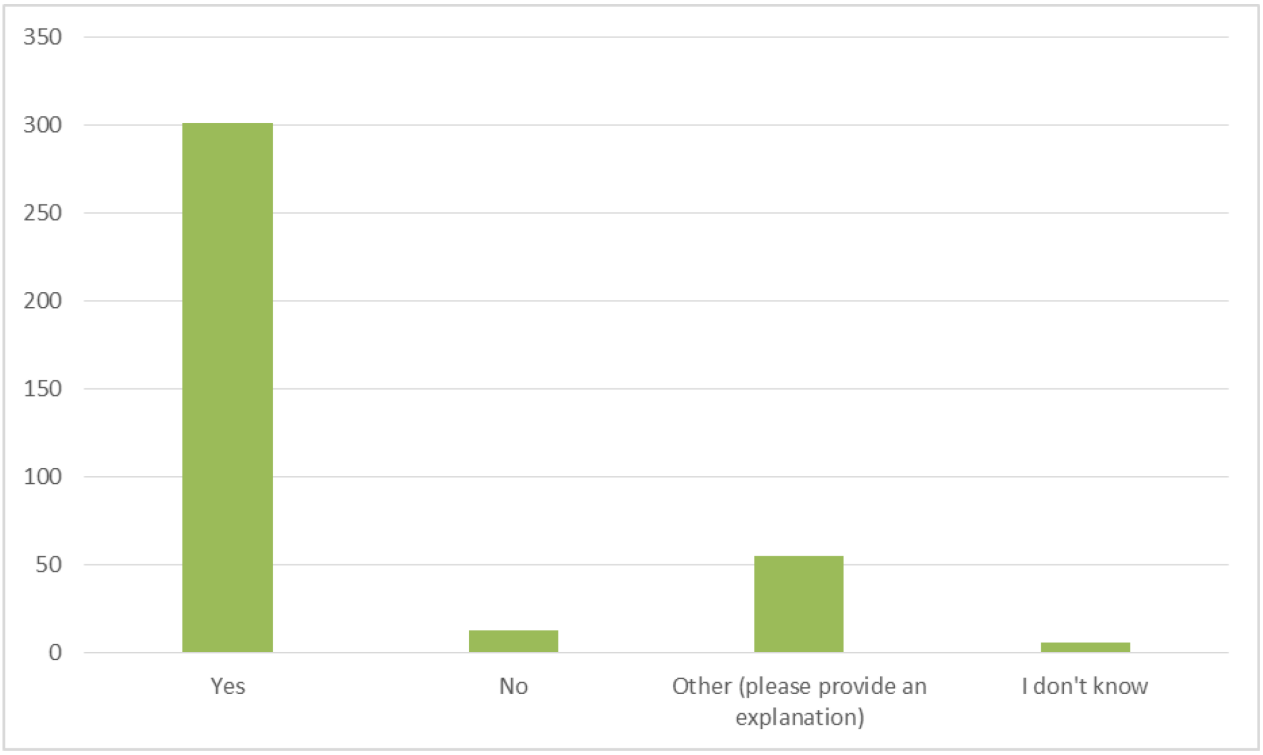

Figure 29: Number of responses to question 42 by answer indicated

376 respondents answered this question. While the vast majority of respondents thought local authorities should be required to provide information about habitat losses and gains, many cautioned that local authorities are not currently resourced to do this. Of those responding “Yes”, many felt that making information about habitat losses and gains available, to both the public and central government, would be crucial to monitor the success of biodiversity net gain and build public confidence in the policy. A smaller number of respondents thought this requirement would hold local authorities to account (e.g. inclusion as a performance requirement to measure the success of local plan) and deter “foul play”.

Amongst those who felt local authorities should not be required to provide this information, the lack of funding / resourcing available to local authorities was the most common justification given. These respondents suggested that this reporting should be the responsibility of Local Nature Partnerships or local environmental records centres given their expertise, or that these organisations should partner with local authorities to provide the information. It was suggested that local authorities might encourage public involvement and draw on local expertise, such as that of nature enthusiasts, to help gather data. A few respondents suggested national monitoring would be preferable.

Many respondents wanted data collection and reporting mechanisms to be straightforward and consistent across all local authorities. A public register, for example of (potential) biodiversity compensation sites, was suggested by a number of respondents as a way of

efficiently capturing information and making it public. Some respondents talked about the need for alignment with current processes including the single data list and authority monitoring reports.

A few respondents recognised the potential for habitat data to support strategic habitat creation, for example by creating a map which could be scaled up nationally. A small number suggested a legal reporting requirement.

Question 45: What technological or other innovative mechanisms could facilitate the delivery and monitoring of biodiversity net gain?

241 respondents answered this question. Responses to this question included a range of suggestions for mechanisms which could facilitate delivery and monitoring of biodiversity net gain. The two most common were remote sensing of sites (e.g. with drones) and mapping technology, both for monitoring sites.

Some respondents thought the policy offered an opportunity to engage with "citizen scientists", for example through inviting volunteers to participate in monitoring habitats through apps such as iRecord. Other suggestions for public engagement included "planting days", and a public education program delivered by local authorities, media and education providers.

Remote sensing was felt to have the potential to reduce site visits, but discussion of aerial monitoring was commonly caveated with the need for this data to be "ground-truthed". Many respondents, including professional bodies, stated that remote sensing should be seen as a complement to, not a replacement for, ecological field surveys and site walkovers.

Specific data collection and monitoring technologies and mechanisms mentioned by respondents included aerial surveys, drone surveys, satellite data, BIM/3D modelling of ecological features, LiDAR, ESRI Story maps, DNA Barcoding, grid-based monitoring, bioacoustic monitoring, hyperspectral imaging, near-infrared technology, visitor feedback systems, camera traps and fixed-point photography. It was suggested that artificial intelligence could be used to support data analysis.

Respondents often mentioned data standards, including those already set out by Natural England and implemented through the ALERC accreditation system. The Future Cities Catapult[16] and the Ministry of Housing, Communities and Government digital team[17] were also mentioned as suitable fora or partners for exploring standardised data collection and reporting.

[16] https://futurecities.catapult.org.uk/, Accessed March 2019

[17] https://mhclgdigital.blog.gov.uk/, Accessed March 2019

Open-access data was a popular theme. Habitat maps, net gains and losses, species statistics, and delivery plans/proposals were all mentioned in this context. It was also suggested that blockchain technology might be used to create a common ledger of biodiversity units that might reduce any risk of fraud in the system.

Combining datasets was suggested by a number of respondents as a way to establish a more accurate picture. Mentioned sources included local environmental record centres, the National Biodiversity Network, developer-led surveys, county records and species group surveys. It was suggested that cloud-based platforms for mapping such as Google Earth Engine[18] might facilitate mass uploads of data from different organisations.

An existing spatial data platform, MAGIC, was mentioned by several respondents. Some wanted mapping to be more sophisticated than MAGIC; other suggested integrating new maps with MAGIC. There was some concern that if the data was made available to developers, they might re-submit the same data at each monitoring point to ensure they do not report net losses through it. However, it was not stated exactly how this risk would manifest within the approach proposed in the consultation. To guard against this, it was suggested that the data should include metadata that describes when, where and by whom it was collected.

Other specific mapping technologies and mechanisms mentioned included ecological network mapping, landscape scale monitoring, and “leading edge modelling” to show habitats best suited to net gains.

Popular suggestions that were less directly related to technology and mapping included accreditation and certification schemes for developers and data management organisations. Some respondents suggested using permaculture methods on habitat sites to ensure they are self-sustaining. Integrating nesting and roosting bricks into developments to provide habitats for insects, birds and bats was also mentioned.

A number of respondents suggested that technologies and mechanisms should be kept under review so that updates can be made in line with technological advancements.

[18] https://earthengine.google.com/, Accessed March 2019

Annex A – Organisation respondents

26 Local Nature Partnerships
AECOM
Aggregate Industries UK Ltd
Aldersgate Group
ALGE
Amphibian & Reptile Conservation Trust (ARC)
Ancient Tree Forum
Anglian Water Services
Arcadis
Armstrong Ecology & Mountains Ltd
Aspen Ecology
Associated British Ports
Association of Local Environmental Records Centres
Assura PLC
Atomic Weapons Establishment
Aylesbury Vale District Council
Balfour Beatty
Barnes Associates Ltd
Barratt Developments PLC
Barrow Borough Council
Barton Willmore
Basingstoke and Deane Borough Council
Bat Conservation Trust
Bath & North East Somerset Council
BBOWT (Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust)
Bedford and Milton Keynes Waterway Trust
Bedford Borough Council
Berkeley Group
Biodiversify Ltd.
Bioscan (UK) Ltd
Bioscan UK Limited
Birchington Parish Council
Birmingham and Black Country Local Nature Partnership
Birmingham City Council
Birmingham OnePlanetLiving Project
Black Country Authorities
Bolton and Bury Swifts
BRE Global
Bristol City Council
British Aggregates Association
British Association for Shooting and Conservation
British Ceramic Confederation
British Ecological Society
British Property Federation
Broomhead Environmental Services ltd
BSG Ecology
BSI
Buckingham Expressway Action Group
Buckinghamshire and Milton Keynes Natural Environment Partnership
Buckinghamshire County Council
Butterfly Conservation
Cambridgeshire and Peterborough Environmental Records Centre
Campaign for National Parks
Canal & River Trust
Canterbury City Council
Catholic Action for Animals
CBI Minerals Group
Cemex UK Materials Ltd
Central Bedfordshire Council
Central Herts Green Corridor Group
Centre for Ecology & Hydrology
Chartered Institute of Ecology and Environmental Management
Chelmsford City Council
Cherwell District Council and South Northamptonshire Council Net Gain Consultation Response
Cheshire East Council
Cheshire West and Chester
Chiltern Society
Chilterns Conservation Board
City of Bradford Metropolitan District Council
City of London Corporation

city-voice.org
CIWEM
Client Earth
Climate Friendly Bradford on Avon Swift group
CNHS
Coast to Capital
Colchester Borough Council
Community Action Newhaven
Cornwall Council
Cornwall Wildlife Trust
Cotswold District Council
Country Land and Business Association (CLA)
Countryside Properties
Coventry City Council
CPRE
CPRE Sussex
CPRE SX
Crawley Borough Council
Crest Nicholson Plc
CSA Environmental
Danbury Parish Council
Dartmoor National Park Authority
David Alexander
David Locke Associates
Deptford Neighbourhood Action (Deptford Neighbourhood Forum)
Derbyshire County Council
Derbyshire Wildlife Trust
Devon Biodiversity Records Centre
Devon County Council
Devon Local Nature Partnership
District Councils' Network
Doncaster Metropolitan Borough Council
Dorset Environmental Records Centre
Durham County Council
East Devon District Council
East Riding of Yorkshire Council
Eastleigh Borough Council
Ecological Planning and Research Ltd
Ecology Solutions
Ecosulis Ltd
ECUS Ltd
Eden Rivers Trust
EDF Energy
Enable Leisure and Culture
Energy UK
Environment Agency
Environment Agency
Environment Bank
Environmental Industries Commission
Environmental Policy Forum
Environmental Strategy Unit of Chichester District Council
Epping Forest District Council
Etude
Exeter City Council
Exmouth Wildlife Group
Fairoaks Garden Village
Fairsnape
Fareham Borough Council
Field Studies Council
Forestry Commission
Friends of Greenfield Local Nature Reserve, Colne, Lancashire
Friends of Kings Heath Park
Friends of the Earth England Wales and Northern Ireland
Friends of the Lake District
Friends of Tide Mills and Community Action Newhaven
FuturEcoLogic Ltd
Game & Wildlife Conservation Trust
Gateshead Council
GeoGrow Ltd
Gladman
Gravesham Borough Council
Greater Cambridge Shared Planning Service
Greater Exeter Strategic Plan joint team
Greater Lincolnshire Nature Partnership
Greater London Authority
Greater Manchester Ecology Unit representing the ten District Councils of Greater Manchester and the Greater Manchester Combined Authority

Greengage Environmental Ltd
Greenspace Information for Greater London CIC
Groundwork UK
HalpinRobbins Ltd
Hampshire County Council
Hampshire Swifts
Hanson Quarry Products Europe Limited
Hatch Warren Nature Group (Basingstoke)
Henry Doubleday Research Association - Garden Organic
Herefordshire Council
Herefordshire Wildlife Trust
Herpetofauna Consultants
Hertfordshire and Middlesex Wildlife Trust
Hertfordshire County Council
High Weald AONB
Highways England
Historic England
Home Builders Federation
Horsham District Council
Hull and East Yorkshire LNP
Hull City Council
IEMA
Industry Nature Conservation Organisation
Institution of Environmental Sciences
Isle of Wight Council
Islington Swifts Group
Keepmoat Homes
Kent County Council
Kier Highways
Kirklees Council
Landscape Conservation
Landscape Institute
Lee Valley Regional Park Authority
Leeds City Council
Lewes District Council and Eastbourne Borough Council
Local Government Association
Local Nature Partnerships (supported by the Shropshire's Great Outdoors Strategy Board)
London Borough Havering
London Borough of Harrow
London Borough of Islington
London Borough of Richmond upon Thames and London Borough of Wandsworth
London Borough of Tower Hamlets
London Wildlife Trust
Long Ashton Parish Council
Maldon District Council
Marian Cameron Consultants Ltd
Marine Management Organisation
Mayor of London
Merit Estates
Merseyside and West Lancashire Bat Group
Merseyside BioBank / Cheshire rECOrd
Merseyside Environmental Advisory Service
MHE Consulting Ltd
Middlemarch Environmental Ltd
Mineral Products Association
Mole Valley District Council
Mott MacDonald
National Association for Areas of Outstanding Natural Beauty
National Farmers' Union
National Federation of Builders/House Builders Association
National Forest Company
National Grid
National Infrastructure Planning Association
National Parks England
National Trust
Natural Capital Solutions
Natural England
Network Rail
NextEnergy Capital Group
Norfolk County Council
Norfolk Wildlife Services

North Devon Council
North Lincolnshire Council
North Merseyside Local Sites Partnership
North Yorkshire and York Nature Partnership
North Yorkshire County Council
Northamptonshire County Council
Northumberland County Council
Northumbria University
Northumbrian Water Ltd
Norwich City Council
Nottingham Open Spaces Forum
Open Spaces Society
Ordnance Survey
Ove Arup & Partners Ltd
Oxford City Council
Oxfordshire County Council
Palatine Properties Ltd.
pcuw photography ltd
Peel Land and Property Group Management Limited
Peterborough City Council
Planning Authority
Planning Officers Society (POS)
Plymouth City Council
Port of London Authority
Portsmouth City Council
Prime Environment
Ramblers
Ramblers (Sussex Area)
Ramboll
RECORD, The Biodiversity Information System fo Cheshire, Halton, Warrington and Wirral
Redrow
Ribble Rivers Trust
RICS
RM and PAD Cherrington
Rotherham Metropolitan Borough Council
Royal Borough of Kingston Upon Thames
Royal Institute of Chartered Surveyors (RICS)
Royal Town Planning Institute
RSPB
RSSB (Rail Safety and Standards Board Limited)
Rushcliffe Borough Council
Rushcliffe Nature Conservation Strategy Implementation Group
Rushmoor Borough Council
Salisbury and Wilton Swift Group
Save Newcastle Wildlife
Savills
School of Social Sciences, University of Dundee
ScottishPower Renewables
Sellafield
Sheffield and Rotherham Wildlife Trust
Shropshire Swift Group
Simons Group Ltd
Skanska UK PLC
SLR Consulting Ltd
Solihull Metropolitan Borough Council
Somerset Wildlife Trust
South East England Councils
South Gloucestershire Council
South Hams District Council
South Lakeland District Council
South West Water
Southern Water
Southwark Council
Speldhurst Parish Council
Spelthorne Borough Council
St Albans City and District Council
Staffordshire County Council
steveleesplanning
Stevenage Borough Council
Stroud District Council
Suffolk County Council
Surrey Bat Group
Surrey County Council
Surrey Heath Borough Council
Surrey Hills AONB
Surrey Wildlife Trust, and on behalf of Surrey Nature Partnership's Biodiversity Working Group

Swale Borough Council
Swift Conservation
Tarmac Trading Limited
Taylor Wimpey
TCPA (Town & Country Planning Association)
Teignbridge District Council
Tendring District Council
Test Valley Borough Council
Thames Valley Environmental Records Centre
Thames Water
The Central Association of Agricultural Valuers (CAAV)
The Cheshire Wildlife Trust
The Green Infrastructure Consultancy Ltd
The Land Trust
The Landscape Partnership
The Law Society
The Retirement Housing Consortium
The Society of Motor Manufacturers and Traders
The Wildlife Trusts
Thorp Precst Ltd
Transition Kentish Town
Transport for London
Tree Warden
Truro City Council
Trust for Oxfordshire's Environment
TSP Projects
Tyne Ecology
UCL
UK Onshore Oil and Gas
UKELA
UKGBC
United Utilities
University of East London
University of Kent
University of Oxford
University of Oxford
University of Reading
University of Sussex
Volunteer conservation group
Walsall Council
Warwickshire County Council
Warwickshire Wildlife Trust
Water Management Alliance
Waveney District Council and Suffolk Coastal District Council
Waverley Borough Council
Wessex Water
Wessex Water hosted Catchment Partnerships
West Devon Borough Council
West Sussex County Council
Wild Oxfordshire
Wildflower Turf ltd
Wildfowl & Wetlands Trust (WWT)
Wildlife and Countryside Link
Willmott Dixon
Woking Borough Council
Wokingham Borough Council
Woodland Trust
Worcestershire County Council
WWF
Yarnton Parish Councillor
Yorkshire Water

Glossary

BBOP: Business and Biodiversity Offsets Programme

Biodiversity unit: A unit which represents a combined measure of habitat distinctiveness, area and condition.

BRE Global: Building Research Establishment Global

BREEAM: Buildings Research Establishment Environmental Assessment Method

CIEEM: Chartered Institute of Ecology and Environmental Management

CIRIA: Construction Industry Research and Information Association

CIWEM: Chartered Institution of Water and Environmental Management

Ecosystem services: The benefits people obtain from ecosystems. These include *provisioning services* such as food and water; *regulating services* such as flood and disease control; *cultural services* such as spiritual, recreational, and cultural benefits; and *supporting services* such as nutrient cycling that maintain the conditions for life on Earth.

Environmental net gains: In short, this means improving all aspects of environmental quality through a scheme or project. Achieving environmental net gain means achieving biodiversity net gain first, and going further to achieve net increases in the capacity of affected natural capital to deliver ecosystem services.

IEMA: Institute of Environmental Management and Assessment.

International, national and locally designated sites of importance for biodiversity: All international sites (Special Areas of Conservation, Special Protection Areas, and Ramsar sites), national sites (Sites of Special Scientific Interest) and locally designated sites including Local Wildlife Sites.

Irreplaceable habitats: Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen.

Local planning authority or LPA: A local planning authority is responsible for deciding whether a development, which could be anything from an extension on a house to a new shopping centre, should go ahead. This includes borough, district and county councils, unitary authorities, national park authorities and development corporations where relevant.

Local wildlife sites: These are locally designated sites which do not typically receive statutory protection but are recognised in planning policy for their importance.

MAGIC: The MAGIC website provides geographic information about the natural environment from across government. It is presented in an interactive map. It can be accessed at: https://magic.defra.gov.uk/home.htm

Mitigation hierarchy: The principle that environmental harm resulting from a development should be avoided (through locating development where there will be less harmful impacts), adequately mitigated, or, as a last resort, compensated for.

Natural capital: The elements of nature that directly or indirectly produce value to people, including ecosystems, species, freshwater, land, minerals, the air and oceans, as well as natural processes and functions.

Nature Recovery Network: An expanding and increasingly connected network of wildlife-rich habitat. It will be designed to stimulate the recovery of wildlife and will support the delivery of other economic and social benefits, such as water quality improvement or flood attenuation.

Net gain for biodiversity: Delivering more or better habitats for biodiversity and demonstrating this measurable gain through use of the Defra biodiversity metric. Development that adopts a biodiversity net gain approach seeks to make its impact on the environment positive, delivering improvements through habitat creation or enhancement after avoiding or mitigating harm.

NPPF or National Planning Policy Framework: The National Planning Policy Framework sets out government's planning policies for England and how these are expected to be applied. The revised NPPF can be accessed at: https://www.gov.uk/government/collections/revised-national-planning-policy-framework.

Offsetting: The creation or enhancement of wildlife habitat to compensate for loss or degradation elsewhere.

Permitted development: Permitted development rights are a national grant of planning permission which allow certain building works and changes of use to be carried out without having to make a planning application. Permitted development rights are subject to conditions and limitations to control impact and to protect local amenity.

Priority habitats: Priority habitats, or habitats of principal importance, are all the habitats in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. They include terrestrial habitats such as upland hay meadows to lowland mixed deciduous woodland, and freshwater and marine habitats such as ponds and subtidal sands and gravels.

Tariff: Government's net gain consultation included proposals for a tariff mechanism to implement a financial charge on development for nature conservation when net gain could not be achieved. The details of these proposals can be found by accessing: https://consult.defra.gov.uk/land-use/net-gain/