



Offshore  
Wind Evidence  
+ Change  
Programme

# Strategic Net Gain Targets for Coastal and Marine Environments

Task and Finish Group Final Report

# Executive Summary

There is increasing recognition of the need for greater action to restore the marine environment in the face of a continued decline in marine biodiversity. Net gain has been identified as a potential approach to development which can contribute to halting and reversing biodiversity loss by leaving the natural environment in a measurably better state than before. Developments which adopt Biodiversity Net Gain (BNG) aim to have positive impact by delivering an overall increase in biodiversity.

Currently, there is no formal requirement for Net Gain as part of marine development or Nationally Significant Infrastructure Projects in the marine environment. However, it is understood that both are likely to become mandatory in the near future. Introducing a system of Net Gain in the marine environment is recognised as being particularly challenging owing to the dynamic nature of the marine environment and the complex interactions with marine development. It is therefore important that there are clear objectives and targets for Marine Net Gain (MNG) which provide a focus for developer action.

Defra's Offshore Wind Enabling Actions (OWEAP) Programme is working to increase understanding of the environmental impacts of offshore wind and find strategic solutions to manage and mitigate impacts in order to reduce barriers to the expansion of offshore wind in English waters. One of the key areas being addressed under OWEAP is MNG.

In order to help inform the development of Defra policy in relation to MNG and its implementation, the Offshore Wind Evidence and Change Strategic Net Gain Task and Finish Group (T&F Group) was established to work closely with OWEAP to identify suitable targets for marine and intertidal Net Gain. The T&F Group comprised a range of organisations including Defra, Energy UK, Natural England, Renewable UK, RSPB, SUDG, The Crown Estate, The Wildlife Trusts and UK Major Ports Group, supported by an experienced consultancy, ABPmer. The Group aimed to identify a set of strategic targets for the delivery of MNG and, through consultation, achieve agreement for these targets from all sectors.

The T&F Group began by undertaking a gap analysis of existing legal and policy objectives and targets, to inform and support discussion around possible priorities for MNG. Following this, two on-line stakeholder surveys were conducted to gather views from marine stakeholders about MNG opportunities and priorities. The findings from these surveys informed the suggested recommendations for MNG priorities.

In addition, to ensure that the T&F Group was operating with a common understanding the Group defined a set of assumptions that would guide the work discussions. The assumptions outlined were central to the Group's determination of targets whilst also informing their application and deliverability by industry to meet potential future MNG obligations. The development of these assumptions was supported by the information gathered through the stakeholder surveys. It is also important to stress that all discussions of the T&F Group on MNG were based on the foundation that the mitigation hierarchy will still apply to development.

The outcome of the work carried out by the T&F Group is a robust set of suggested strategic targets for MNG, which have strong consensus and agreement from all sectors; industry, regulators and conservation bodies. The targets set a clear direction for how developments could contribute towards MNG to restore and improve the marine environment, linked to national strategic priorities. On a national and regional level, the T&F Group considers that



MNG should be a strategically managed process led by the government to which funding and delivery of projects is contributed to by industry.

Importantly, MNG should not just encompass habitat restoration but also include species restoration and human activity pressure reduction, as important measures to support restoration and enhancement of the marine environment.

As such the recommendations from the T&F Group, to support further discussions on MNG, and assist Defra in its development of MNG policy, are:

- The identified strategic target areas should be used by government to inform the development of MNG policy and principles of implementation;
- Strategic targets should be based on our understanding of where we are already failing intertidal and marine environments, and the need to halt and reverse marine biodiversity loss;
- MNG should as a minimum achieve BNG;
- The primary goal of intertidal and marine BNG at a national scale should be to place marine and intertidal ecosystems into recovery;
- Multi-purpose projects providing secondary benefits that contribute to the following targets should also be prioritised, but these benefits should be delivered in addition to the primary goal of achieving ecosystem recovery: to reduce disaster risk from the continuing loss of natural coastal defences such as salt marsh (e.g. flood risk/ coastal erosion); and to combat climate change, through mitigation and adaptation;
- The T&F Group recognises the urgency in halting and reversing marine biodiversity loss, particularly in the context of accelerating pressure from climate change and the likelihood of the need to relate to planning decisions. Overall targets for MNG should be presented without reference to specific timescales as the requirement for MNG interventions will depend on the nature and pace of relevant development projects and their impacts. Where specific MNG interventions are progressed, there should be clear objectives, linked to measures of success for these interventions supported by effective monitoring;
- MNG should be secured 'in perpetuity', but this is dependent on the type of intervention, the mechanism for delivery and the custodianship of responsibility and may be subject to natural change. The aim should be to contribute to an overall recovery;
- MNG policy must be developed in the context of the dynamic nature of the marine and intertidal environments. MNG projects must be considered with an understanding of the complexities of marine systems, and that pre-existing causes of loss may need to be addressed if the outcomes of MNG activities are to be successful and sustained;
- There is some potential that research and data gathering could be considered as MNG (for example, a research project to support better MNG delivery in the future), but only if it is delivered as part of a broader strategic approach as part of a package of measures;
- MNG will have a greater impact on the recovery of the marine environment if funding is pooled into a national fund to assist in the delivery of the strategic Net Gain targets. There is also a need to involve industry as a partner throughout the Net Gain process to ensure positive outcomes can be credited to developers, allowing them to build funding this into their business models;



- Delivery of MNG could be assisted by Regional Delivery Groups, distributing pooled funds and operating under a clear set of agreed principles. Delivery groups should be represented by a range of organisations with marine expertise including government, SNCBs, industry and eNGOs; and
- Development of MNG policy should appropriately consider the question of custodianship of responsibility to deliver Net Gain.





## **Figures**

Figure 1 Number of suggested actions by overarching theme .....	25
Figure 2 Respondents view on the overall prioritisation for Net Gain.....	28

## **Tables**

Table 1 Summary of key gaps and opportunities for each feature category .....	19
Table 2 Summary of the overarching action themes and suggested actions.....	24
Table 3 Pressure reduction opportunities which are seen as low priority .....	31
Table 4 Intertidal/ near coastal priorities.....	33
Table 5 Offshore priorities .....	39

## **Document Control**

Revision	Author	Approved	Date	Description of change / status
1.0	Task and Finish Group	Task and Finish Group (Chair)	22/10/2021	Approved for issue by Task and Finish Group.
Reference: 41691-016-OP01				

*This is the independent report produced and approved for issue by the Task and Finish Group.*



# 1. Introduction

## 1.1 Net Gain and development: background and progress

Since the launch of the 25 Year Environment Plan (25YEP) and the growth in understanding of natural capital, there is increasing discussion about Net Gain as a concept to be associated with development. Net Gain can be defined as building measures into a development that would ensure that biodiversity and/ or the environment is improved when work is completed. Marine industries are accustomed to protecting the environment and the legislation that requires this, but there is a growing view that we need to be working towards restoration and improvement as well. Net Gain is one way in which developers can make a positive contribution to the environment through the activities they undertake.

Some progress has been made on this in terrestrial development, where metrics have been developed and it is accepted that Net Gain will soon be mandatory under the Environment Bill down to the mean low water mark. In addition, the movement towards Net Gain as an integral aspect of development is almost certainly going to increase in importance as people look more towards corporate and social responsibility in industry. Some industries are already acknowledging this in their future planning and corporate identities and their policies and proposals on the environment are increasingly reflected in corporate publications. Good examples relevant to the marine environment are Scottish and Southern Energy's Biodiversity report 'Protect, Restore, Enhance'<sup>1</sup> and Ørsted's 2030 net positive biodiversity commitment<sup>2</sup>.

As yet, there is no clear statement that Net Gain will be required for marine development and there is no requirement for Net Gain as part of developments considered to be NSIPs in the marine environment. However, it is understood that both are likely to become a mandatory aspect of development through Statutory Instrument within a short number of years. There is also some uncertainty whether the requirement will be to deliver Biodiversity Net Gain (BNG) or wider environmental improvements (Environment Net Gain (ENG)). BNG, as its name suggests, specifically seeks to enhance biodiversity while the growing adoption of the natural capital approach suggests that wider environmental benefits (i.e. ENG) could also be examined which could also incorporate BNG<sup>3</sup>. This distinction may be important in determining what Marine Net Gain (MNG) should entail when it becomes a mandatory aspect of development.

The Environment Bill cites BNG, but there are also references to ENG by policy makers, and it is assumed that this will become clearer as policy on Net Gain, and MNG in particular, is prepared by Government.

How this will be done and how compliance with evolving legislation will be determined and regulated remains unclear at this stage, but there are some areas of work being undertaken to look at this:

---

<sup>1</sup> [https://sse.com/media/575256/Biodiversity-Report-2019\\_WEB.pdf](https://sse.com/media/575256/Biodiversity-Report-2019_WEB.pdf)

<sup>2</sup> <https://orsted.com/en/media/newsroom/news/2021/06/697759855099726>

<sup>3</sup> It should be noted that wider environmental Net Gain should not include measures to improve public access that could have detrimental impacts for biodiversity and the environment, such as the creation of new footpaths or signage.



1. Natural England (NE) has developed and launched a metric for the delivery of terrestrial and intertidal Net Gain and this is linked to compliance with the Town and Country Planning Act, which applies down to mean low water. Although a metric has been prepared further clarity is needed about how the intertidal metric will be applied and NE has also emphasised that the metric will be reviewed over time ahead of mandatory inclusion of Net Gain, currently expected in 2023.
2. Defra has established a number of groups under its Offshore Wind Enabling Actions Programme (OWEAP) and one of these is looking at the policies, principles and possible application of Net Gain in the marine environment.

There are also some related activities looking at the potential for improvement of the marine environment being undertaken by NE including:

- Defining Marine Irreplaceable Habitats (those habitats that would be outside the scope of MNG);
- Application and applicability of the Environmental Benefits for Nature (EBN) tool to the marine environment (exploring the wider benefits of marine Nature Based Solutions);
- Evaluating the benefits of artificial habitats (better understanding of the contribution to biodiversity and wider ecosystem functioning); and
- Comparing the value of natural vs assisted marine habitat recovery (identifying situations where active restoration interventions can promote and accelerate recovery).

When complete the outcomes of these initiatives may help to assist in the planning and delivery of aspects of Net Gain.

## 1.2 Industry and Marine Net Gain

The Seabed User & Developer Group (SUDG) held a number of workshops in Autumn 2018, 2019 and 2020 with industry, Statutory Nature Conservation Bodies (SNCBs) and non-government organisations (NGOs), including The Wildlife Trusts (TWT) and Royal Society for the Protection of Birds (RSPB). The aim of these workshops has been to plan how Net Gain could be adopted as a principle that would ensure marine industries can make a significant contribution to improving the environment, whether it became mandatory or remained as a voluntary process. This work was predicated on the understanding that if Net Gain becomes part of the development process, then it is beneficial for industry to take the opportunity to form a view from the outset which could be considered as part of the process for implementing and delivering Net Gain.

Importantly, a significant outcome of the workshops was that if Net Gain is to provide maximum benefit to all stakeholders, it must be seen by industry as an opportunity rather than a further burden on development. There is also need for Government, NGOs, industry and regulators to work together to ensure this is the case.

In developing thinking on Net Gain and the opportunities it creates, the workshops and other discussions have raised a number of specific questions which need to be considered as part of any work taking Net Gain forward:





1. There are still decisions to be made as to where Net Gain may apply; one view is that it can only be applied in areas outside any formal conservation designation, to ensure that any gains are additional to those that would otherwise happen. A steer is needed on this and we understand this will form part of a government consultation on MNG later this year. One possible approach is that Net Gain could potentially be applied in designated areas where it is not directly associated with the habitats and features that are cited in designations but could contribute to ecosystem enhancement and conservation value of the whole site.
2. It is widely accepted that many marine developments will impact on terrestrial, intertidal and subtidal habitats, so there is wide scope how and where Net Gain could be applied and how this would impact on opportunities for Net Gain. Would subsequent regulation allow for wider and more ambitious Net Gain actions covering a range of habitats and features, or will regulation require different and more specific Net Gain actions for each zone? This is widely considered as a key point to ensure that Net Gain delivers the maximum possible value.
3. A possible approach to Net Gain raised during the workshops is to not treat Net Gain as distinct from mitigation and compensation (the 'mitigation hierarchy'), but rather use it as an opportunity to provide more than compensation, so that the environment is not just protected but improved. The recent Defra consultation on 'Best practice guidance for developing compensatory measures in relation to Marine Protected Areas' touched on this issue<sup>4</sup>. A feature of this approach is that it could be applied regardless of whether work takes place in designated areas or outside. Logically, this should also apply on an ecosystem-wide basis, acknowledging that some species require access to terrestrial, marine and intertidal habitats throughout their lifecycles. This has been referred to as 'ecosystem enhancement' and may be of considerable value.
4. Many of the discussions about Net Gain have emphasised that a paradigm shift to move beyond environmental protection to improvement and restoration will require innovation and creativity; developing new ways of working rather than simply adjusting the way we currently deliver outcomes. This view is predicated on the understanding that regulation to protect the environment works well, but that simply applying an extension of this would not deliver wider and more ambitious Net Gain benefits.
5. Linked to the increasing recognition that the marine environment requires more than just protection, there is an incredible amount of work being undertaken by a range of bodies to develop ambitious and large-scale projects to restore both habitats and species. For example, major managed realignment projects have been implemented in the Crouch/ Roach (Wallasea Island Wild Coast), Medmerry in Sussex and at Steart Peninsula in the Severn Estuary. A number of significant oyster restoration projects are being progressed at various sites, including in the Solent, Essex Estuaries, Dornoch Firth and Milford Haven. Large-scale initiatives to restore seagrass are also being taken forward in Pembrokeshire and the Solent. Clearly, there is a possible role for industry to provide funding to assist in the delivery of similar projects through partnership.

---

<sup>4</sup> <https://www.gov.uk/government/consultations/marine-protected-areas-guidance-for-developing-compensatory-measures>



6. The open and connected nature of the marine environment means that human activity pressures may be expressed over wide spatial scales, affecting not just marine habitats but also key species such as invertebrates, fish, birds and marine mammals. Restoration of some ecological features of the marine environment may require active intervention where it is ecologically feasible but for other features recovery may need to be facilitated simply through the removal of existing pressures. In contrast to the terrestrial environment where Net Gain is focused solely on habitat lost to development, there is greater opportunity within the marine environment to consider wider possibilities for Net Gain, including species restoration and removal or reduction of human activity pressures.
7. In order to maximise the environmental outcomes of delivering Net Gain projects, a strategic approach should be taken, whereby broader overarching needs for environmental improvement are considered, rather than Net Gain opportunities being identified solely at a development-specific scale.
8. Finally, the potential for contribution to Net Gain from the planned growth of marine industries and, in particular, offshore wind and associated cables and infrastructure is huge. Consequently, it may be important that the outcome from Net Gain actions should be ambitious and highly significant in helping to reverse environmental loss in marine and coastal areas.

None of these points, however, replace the existing obligations of legislation to protect the environment, but, as with 7 above, Net Gain may create an opportunity where development could contribute to better ecosystem management beyond delivery of Net Gain actions aimed at specific aspects of single developments. Such approaches could ensure that development has a material and significant impact in helping to meet, for example, Good Environmental Status (GES) under the Marine Strategy and avoid the potential for Net Gain to be described as 'greenwash'; where actions would simply be delivered without addressing clearly understood issues in the marine environment.

### 1.3 Strategic targets for Marine Net Gain

The result of discussions within the SUDG MNG workshops held between 2018 and 2020 was that many of the aspects considered in examining how best to take forward Net Gain could possibly be facilitated with the identification and subsequent delivery of agreed strategic targets for Net Gain. These targets would be aimed at assisting in the improvement and restoration of the marine environment, which has been documented through a number of important reviews and monitoring programmes. Strategic targets could be delivered by industry and statutory bodies, working in partnership to deliver their respective statutory duties, or with other bodies working towards recognised conservation objectives, such as RSPB and TWT. The benefit of having strategic approaches is also increasingly recognised by Defra, NE and others, which will need to be further explored to understand how they could be incorporated into legislative processes.

Consequently, SUDG and TWT proposed that we should work with a range of marine stakeholders to identify strategic targets for MNG that would improve and restore the marine environment that could support an approach to Net Gain with marine industry sectors. The development of these strategic targets could be based on a number of information sources that already recognise that there are considerable opportunities to restore and improve the marine environment.



These include:

- Failure to achieve GES for many of the descriptors which are reported through the Marine Strategy including for cetaceans, benthic habitats, seabirds, fish and underwater noise;
- Failure of many features within designated sites to achieve favourable condition;
- Continued failure of many rivers and estuaries to meet Water Framework Directive (WFD) standards which, as a consequence, will continue to prevent effective restoration work of features such as seagrass. For example, the impact of nitrogen inputs in the Solent has caused harm to the coastal environment in that area and the issue led to the suspension of the granting of planning permissions in south Hampshire while a solution was found;
- The immense and growing pressure on the marine environment from climate induced changes and the inability of many marine features to be able to naturally respond to this; and
- Increased understanding of the extent of loss of habitats such as saltmarsh, including the REstoring MEadows, MARshes and REef (ReMeMaRe) work of the Environment Agency (EA) and the LIFE Recreation: Reducing and Mitigating Erosion and Disturbance Impacts affecting the Seabed (ReMEDIES) project lead by NE.

#### 1.4 Strategic Marine Net Gain Task and Finish Group

To develop the idea of strategic MNG targets further, SUDG and TWT prepared a successful proposal to the Offshore Wind Evidence and Change Programme<sup>5</sup>. The terms of reference for the work had the following key roles and objectives:

- Examine the sources of information that could be used to identify strategic MNG targets;
- Use the information to develop draft strategic Net Gain targets for marine and coastal environments;
- Consult widely on these to determine acceptability across a broad range of stakeholders;
- Finalise agreed strategic targets; and
- Publicise the final outputs.

A multi-disciplinary Group from a range of organisations was established and supported by an experienced consultancy, ABPmer, with the aim of identifying strategic targets for MNG which, to be successful, would be widely agreed across a range of stakeholders.

---

<sup>5</sup> The Offshore Wind Evidence and Change programme was established by The Crown Estate in December 2020 and aims to facilitate the sustainable and coordinated expansion of offshore wind to help meet the UK's commitments to low carbon energy transition whilst supporting clean, healthy, productive and biologically diverse seas. It is a collaborative programme led by The Crown Estate, together with its programme partners, the Department for Business, Energy and Industrial Strategy (BEIS) and Defra. It is being delivered in collaboration with devolved government bodies and organisations from across the UK that have an interest in planning for the future of offshore wind.



The group agreed that it should be established as a Task and Finish Group (T&F Group) and comprised:

- Defra;
- Energy UK;
- Natural England;
- Renewable UK;
- RSPB;
- SUDG;
- The Crown Estate;
- The Wildlife Trusts; and
- UK Major Ports Group.

The range of representation in the T&F Group ensured that there was experience from industry, which would be critical in maintaining the positive approach to MNG; conservation bodies, whose experience and understanding would be invaluable in highlighting conservation needs. Defra and NE were also invited to ensure full linkage to their work on Net Gain policy development and regulation.

The T&F Group began by undertaking a gap analysis (see Section 3) of existing legal and policy objectives and targets, to inform and support discussion around possible priorities for MNG. Following this, two on-line stakeholder surveys were conducted (see Section 4) to gather views from marine stakeholders about MNG opportunities and priorities. The findings from these surveys informed the suggested recommendations for MNG priorities (as outlined in Section 5).

### 1.5 Defra's Offshore Wind Enabling Actions Programme (OWEAP)

Defra's Offshore Wind Enabling Actions (OWEAP) Programme is a two-year programme designed to increase understanding of the environmental impacts of offshore wind and find strategic solutions to manage and mitigate impacts in order to reduce barriers to the expansion of offshore wind in English waters. The aim is to enable the responsible and sustainable growth of offshore wind, recognising its essential contribution to meeting the Government's climate change commitments, whilst ensuring the protection of our marine environment.

OWEAP has four key areas, one of which is addressing Net Gain. The Net Gain Workstream is developing the policy and approach and is examining the legislative aspects of Net Gain in the marine environment. It is developing a comprehensive programme of work which will be carried out over the coming months.

The MNG work area in OWEAP is preparing a consultation on the aims and principles of MNG which it intends to open later this year. The responses will help to shape the development of government policy for introducing an approach to Net Gain in the marine environment. It is important therefore to stress that the work of the T&F Group has not looked at policies associated with the delivery of Net Gain, and from the outset the work of the T&F Group was restricted by design and agreement to develop strategic Net Gain targets. The aim is for these targets to be used by Defra as building blocks when developing its own policy for MNG. The



two aspects of work have therefore been kept distinct, but Defra has been part of the T&F Group to ensure close liaison and coordination between the two initiatives.

The discussions within the T&F Group and the feedback from the surveys also identified a number of points about the ability for some of the strategic targets to be delivered and possible mechanisms for doing this. These have been included later in this report as assumptions made by the T&F Group (Section 2.1). These are not intended to set out policy, but have been included as considerations which can inform the public consultation and subsequent work which Defra will undertake later this year.



## 2. Assumptions

In order to identify strategic targets for MNG, ongoing discussion within the T&F Group ensured that it was operating with a common understanding of the assumptions being made. Therefore, the assumptions outlined in this section are central to the group's determination of targets whilst also providing information on their application and deliverability by industry to meet potential future Net Gain obligations. The development of these assumptions has also been supported by information gathered through the stakeholder surveys (see Section 4) undertaken by the T&F Group to collect views on strategic targets and priorities. It is also important to stress that all discussions of the T&F Group were based on the foundation that the mitigation hierarchy will still apply to development.

### 2.1 Assumptions made by the T&F Group when determining strategic targets for Marine Net Gain

The assumptions agreed were as follows:

1. As a basic premise, strategic MNG targets should be based on our understanding of where we are already failing intertidal and marine environmental objectives, and the need to not only halt but also reverse marine biodiversity loss. This is well documented by existing monitoring of statutory as well as non-statutory obligations; for example, the failure to meet GES as part of the Marine Strategy requirements and the failure of designated Marine Protected Areas (MPAs) to meet favourable conservation status. In addition, numerous reports prepared by eNGOs and others highlight the continuing depletion of marine species and habitats. For example, only 4 out of 15 indicators for meeting GES have been achieved so far<sup>6</sup> and the latest State of Nature report estimated that only approximately half of fisheries in the UK are assessed as being fished sustainably<sup>7</sup>. The UK Breeding Seabird Indicator showed a 28% decline in average abundance between 1986 and 2018<sup>8</sup>. Recent seal counts from 2019 show that harbour seal populations on the east coast of England have declined by approximately 27.6% compared to the previous year<sup>9</sup>.
2. The primary goal of MNG at a national scale should be:
  - *to place marine and intertidal ecosystems into recovery.*

Multi-purpose projects providing secondary benefits that contribute to the following targets should also be prioritised, but these benefits should be delivered in addition to the primary goal of achieving ecosystem recovery:

- a. *to reduce disaster risk from the continuing loss of natural coastal defences such as saltmarsh (e.g. flood risk/ coastal erosion); and*
- b. *to combat climate change, through mitigation, adaptation or through the storage of blue carbon.*

---

<sup>6</sup> Summary of progress towards Good Environmental Status: Marine Online Assessment Tool

<sup>7</sup> State of Nature Report 2019: NBN <https://nbn.org.uk/stateofnature2019/>

<sup>8</sup> <https://jncc.gov.uk/our-work/ukbi-c5-birds-of-the-wider-countryside-and-at-sea/#:~:text=In%202018%2C%20the%20breeding%20seabird,higher%20than%20in%201975%2F76.>

<sup>9</sup> Scientific Advice on Matters Related to the Management of Seal Populations: 2020.



Both primary and secondary goals should be planned with an ultimate overall aim of generating lasting improvements in marine and coastal environments.

3. The T&F Group fully recognise the importance of the opportunity to pool funding from industry and other partners to undertake projects that would have a significant and positive impact on the marine environment, which will be important in avoiding piecemeal and possibly inappropriate or unsustainable actions. Grasping such opportunities involves not only the identification of the right strategic priorities, but also considerations such as aligning incentives and practical viability. It may be that this would be critical to the success of more ambitious projects such as those outlined in 5, 7, 8 and 9 below.
4. Targets should be presented without reference to specific timescales (unless these are evidenced). The delivery of MNG will be inherently linked to biodiversity recovery priorities, the timeframes for action, and the timescale and scale of development in the marine environment, but any argument to identify targets for immediate delivery needs some consideration. Although timing of delivery will be an important principle in determining how MNG should be delivered by developers (and will need to be addressed in statutory aspects developed by Defra) it will be important to avoid solely focusing on quick wins that do not necessarily contribute to strategic targets (see point 6 below).
5. It is accepted that where possible, MNG should ideally be secured 'in perpetuity' although the dynamic characteristics of intertidal and marine environments need to be recognised (see 6 below). However, the definition of 'in perpetuity' may alter depending upon the type of intervention in question (i.e. pressure reduction verses habitat creation), as well as the mechanism for delivery (e.g. if net gain is delivered at a project level, 'in perpetuity' would be limited to the lifetime of the project). The definition of 'in perpetuity' must also be considered in the question of custodianship/liability for ensuring delivery of gains (see point 3 in the 'Further Thoughts' section below).
6. By definition, strategic targets for MNG may be large and ambitious, reflecting the scale and opportunities for restoring and improving the marine and coastal environments. Consequently, MNG targets for individual developments should be made on the basis that rather than stand alone, they could contribute to wider delivery of agreed conservation targets and that they are just one of the mechanisms that will help restore biodiversity through partnerships:
  - a. For intertidal goals, a good example is that of the EA; they are preparing targets based on their understanding of the current status of saltmarsh, seagrass and other habitats, and these could be important opportunities where industry could assist in delivering MNG as part of the EA's own actions to manage flood and coastal defences. Such an approach also lends itself to even wider partnership working, such as that carried out at Wallasea Island by RSPB and others, and in the delivery of more ambitious campaigns for restoration. For example, Essex Wildlife Trust and the EA worked in partnership on a coastal re-alignment project in the Blackwater Estuary, where land was purchased, and the old sea wall was allowed to be breached<sup>10</sup>. This has created valuable saltmarsh habitat that now supports internationally important bird populations and acts as a fish nursery for

---

<sup>10</sup> Coastal Defence and Realignment at Abbots Hall Farm.





bass, herring and 14 other fish species, whilst also providing a natural defence against rising sea levels; and

- b. No similar examples exist for achieving marine goals and it is recognised that restoring and improving the marine environment is likely to be complex. Therefore, delivering these marine targets will require novel and innovative approaches, outside of traditional habitat restoration, in order to succeed.
7. Intertidal and marine environments are not constrained by boundaries and are very dynamic in nature. This needs to be recognised in strategic targets for MNG within these dynamic systems. As a general principle, activities and possible loss of biodiversity in the intertidal zone should deliver MNG in the intertidal area and, equally, impacts in the subtidal zone should deliver MNG in the marine environment. By extension, this should mean that Net Gain for marine and intertidal activities should not be delivered in the terrestrial environment, in particular, so that potentially easier options terrestrially are not taken to avoid more difficult marine choices. However, it should be recognised that clear exceptions exist, where opportunities may be identified to deliver ambitious strategic Net Gain projects, for example to address the upstream root cause of a failing habitat in the marine environment (e.g. water quality management to enable seagrass restoration where existing legal requirements for water quality standards do not necessarily apply, such as some farming methods).
8. Activities which create a pressure on the environment may need to be addressed, including some forms of fishing. While this may create opportunities for MNG, it is important to recognise that the responsibility to assess the removal of many pressures as a means of delivering MNG must be with Government, as this will often also require statutory intervention. An important principle of successful MNG is that external pressures resulting in loss of biodiversity may need to be addressed if the outcomes of net gain activities are to be successful and sustained. Consequently, targets need to acknowledge the complexity of the environment and examine and treat causes of loss as well as direct restoration actions. For example, simply planting seagrass, or laying native oysters or mussels, without considering the underlying reasons for the initial loss, such as nutrient enrichment, may be unsuccessful and may place a liability on the developer to maintain features which the current ecosystem is incapable of sustaining. This emphasises the importance of careful design of any proposed interventions and highlights how strategic delivery of targets could alleviate this issue.
9. 'Additionality' is considered by the T&F Group to mean providing Net Gain improvements or restoration within existing protected sites, specifically to improve the condition of failing sites. The T&F Group put the issue of 'additionality' aside for discussions as this is currently being addressed by Government. It was agreed by the group, however, that the issue of additionality would not restrict the group's thinking on where and how MNG could be applied strategically, and this would be reflected in the targets.
10. There is some potential for research and data gathering to contribute to MNG (for example a research project to investigate better MNG delivery in the future), but only if it is delivered as part of a broader strategic approach, and as a supporting action to delivering MNG. It would not be appropriate, for example, for research to determine how to deliver MNG for a specific development to be considered as MNG.





## 2.2 Further thoughts from the T&F Group on the potential delivery of Marine Net Gain

In addition to the points made above about the nature of strategic MNG, the T&F Group identified a number of points for further consideration on the delivery of MNG, the design of MNG principles and how MNG should be administered through regulation. These thoughts should not be taken as recommendations for policy, but as ideas for further consideration in the development of MNG policy:

1. MNG will have a greater impact on the recovery of the marine environment if funding is pooled into a national fund to assist in the delivery of strategic Net Gain targets. Pooled funds would allow important and large-scale, ambitious projects to be delivered, which will have the greatest contribution towards delivering the strategic targets and helping marine recovery. Any funding mechanism should be accompanied by comprehensive guidance to ensure the pooling and delivery of funds will have the greatest impact. Recognition of developer contributions to specific interventions is likely to be important to developers in demonstrating their environmental commitments as well as evidencing their compliance with legal Net Gain requirements.
2. The T&F Group also discussed the potential benefits of distributing Net Gain funds at a regional level with the assistance of regional groups including:
  - Regional strategic and project priorities developed by experts with regional knowledge to support delivery of national strategic targets;
  - Avoiding issues with regional boundaries, where appropriate, by pooling and distributing national funds to deliver strategic priorities to deliver projects across regional boundaries where this would have the biggest impact on marine recovery;
  - The opportunity for a monitoring and reporting forum to report nationally on delivery of Net Gain priorities; and
  - Consistency in the delivery of Net Gain projects against the national priorities.

Such an approach could help to ensure regional priorities for marine restoration and enhancement were delivered in an effective manner while still enabling wider scale issues to be addressed. The regional groups could also link in with other initiatives such as Environmental Land Management (ELM) and Local Nature Recovery Strategies (LNRS).

3. Ambitious restoration projects will require greater funding and therefore a strategic/ collaborative approach. The Aggregates Levy provides an example for how a funding mechanism might work. A strategic approach is also potentially better for smaller developments; they could contribute to large-scale projects through a pooled fund that could result in larger gains than several small individual projects. However, funding doesn't need to be one or the other, there could be a strategic fund as well as a developer-led approach to suit project/ industry needs. The ReMeMaRe project is preparing a series of bids to try and highlight restoration opportunities on a large scale. A strategic fund comprising Net Gain contributions could be used to help support these more ambitious projects.
4. It may be that to safeguard the permanence of MNG interventions, legal protection, or safeguarding through tenure rights, would be required. While this needs examination, there are questions about custodianship and who will have responsibility to maintain the interventions. At the same time there is a need to monitor the effectiveness and success of the interventions and overarching responsibility for this also needs to be addressed. This becomes especially important where MNG may be delivered through



partnership working, where there is more than one key player, or where Net Gain is delivered on behalf of a developer by a third party, in which case the chain of liability would need to be clear.

5. The strategic targets developed by the T&F Group are England-focused, but there will be many opportunities to use the delivery of MNG to develop good practice which can be shared with the devolved administrations, for example in cross-border estuaries. This should also be reciprocated as they develop their own approaches. For example, the development of the partnership funding approach, Scottish Marine Environmental Enhancement Fund (SMEEF), may prove to be of real value in developing practical application of funds for strategic Net Gain target delivery.



## 3. Gap Analysis

### 3.1 Introduction

To support the identification of objectives and targets to which MNG might contribute, ABPmer was contracted to carry out a gap analysis, with support and input from members of the T&F Group, to identify existing coastal and marine environmental targets and objectives, and the extent to which they are currently met or have the potential to be met in the future as a result of existing actions.

The study reviewed and summarised a wide range of international, European and national legislation and policy drivers for managing the coastal and marine environment that could directly or indirectly support habitats and species.

Some legislation and policy is specific to particular physical, chemical or ecological features/ receptors (for example the Eel Regulation applies only to the European eel) while other commitments, such as the Marine Strategy, apply to a wide range of different feature/ receptor categories. In conducting the gap analysis, it was therefore considered helpful to conduct a cross-cutting review focused on the following broad feature/ receptor categories, which broadly reflect Marine Strategy descriptors:

- Contaminants (metals, trace organics, radioactive substances);
- Eutrophication;
- Marine litter;
- Underwater noise;
- Marine habitats;
- Marine species:
  - Plants and invertebrates;
  - Fish;
  - Birds;
  - Mammals.

Where relevant, the gap analysis differentiated between intertidal/ coastal features and offshore features.

The gap analysis highlighted targets and objectives considered most relevant to MNG. The focus for this work was to identify gaps in progress towards existing targets; for example, declining condition of some inshore and offshore habitats, failure to achieve targets in relation to some fish, seabird or marine mammal populations. However, it is also clear that many existing targets have been set without taking full account of historical losses of habitats and species within the marine environment; for example, over 90% of UK saltmarshes, oyster reefs and seagrass meadows have been lost as a result of anthropogenic pressures or disease. Therefore, it is important to note that there are much wider opportunities for industry to contribute to restoring the marine environment beyond those identified in existing targets.



The T&F Group notes that the issue of 'additionality' under the Birds & Habitats Directives is currently being reviewed by Defra. Depending on the outcome of this review, there may be greater opportunity for industry to contribute to actions to improve the condition of European sites.

### 3.2 Summary of findings

A summary of key findings from the gap analysis is presented in Table 1 and highlights the initial thinking of the T&F Group; the full analysis is shown in Appendix A.

Table 1 is superseded by Tables 3 to 5 which refine the T&F Groups priorities for MNG following development of the assumptions (see Section 2) and outcomes of the stakeholder surveys (see Section 4).

**Table 1** *Summary of key gaps and opportunities for each feature category*

Marine Feature Category	Extent of Any Current or Anticipated Future Gap	Suggested Scale of Opportunity for Industry Contributions
Contaminants	Relatively few failures of WFD EQS in transitional and coastal waters. Offshore waters considered to be at GES.	<b>Low.</b> In line with 'polluter pays principle', owners of significant point source discharges should be responsible for limiting emissions.
Eutrophication	A significant proportion of transitional and coastal water bodies have elevated concentrations of dissolved organic nitrogen. A smaller number of water bodies show evidence of eutrophication. The UK has largely achieved its aim of GES for eutrophication (D5).	<b>Low.</b> Opportunity to contribute to nutrient cycling as a result of habitat restoration and enhancement is moderate.
Marine litter	GES has not been achieved for marine litter (D10). Litter is abundant on beaches and widespread on the seafloor. The OSPAR target relating to plastic litter in fulmar stomachs has not been met.	<b>Low.</b> Scope to contribute funding to litter removal initiatives or to removal specific debris.
Underwater noise	GES has been partially achieved for underwater noise (D11). The UK has set up a Marine Noise Registry to monitor impulsive noise, however, data needs to be collected into the future to be able to assess any patterns and trends. Continuous ambient noise has also been recorded which will serve as a benchmark to assess future ambient noise levels.	<b>Low.</b> Underwater noise from marine industry is increasingly being addressed through regulation and therefore unlikely to be appropriate for Net Gain. Some scope to contribute funding to underwater noise reduction research.



Marine Feature Category	Extent of Any Current or Anticipated Future Gap	Suggested Scale of Opportunity for Industry Contributions
	Overall, the achievement of GES for underwater noise, however, remains uncertain, given that the consequence of noise on populations and ecosystems is not currently assessed.	
Intertidal/ near coastal habitats	A number of habitats have been identified as in short-term decline including estuaries, mudflats, lagoons, inlets and bays, vegetated sea cliffs, <i>Spartina</i> and Atlantic salt meadows. In addition, larger historic declines of seagrass meadows, saltmarsh and native oyster reefs have been reported.	<b>High.</b> Scope for direct habitat restoration and enhancement in intertidal and near coastal areas in particular saltmarsh, intertidal mudflat and sandflat, oyster (and other bivalve) beds and seagrass beds. Possible scope for other shallow sublittoral habitats such as kelp, pink sea fan, etc through pressure removal.
Offshore habitats	<p>A number of habitats have been identified as in decline including major historic losses of offshore structuring features (native oyster reef, <i>Modiolus</i>, serpulid reef and other biogenic reef).</p> <p>Many offshore MPAs designated for benthic habitats are currently in unfavourable condition, particularly sandbanks, e.g. Dogger Bank SAC, Inner Dowsing, Race Bank and North Ridge SAC, Haisborough Hammond and Winterton SAC, North Norfolk Sandbanks and Saturn Reef SAC.</p>	<b>High.</b> Limited opportunities to restore habitat offshore directly. Pressure removal (particularly fisheries pressure removal) likely to be important to support long-term habitat recovery and ecological benefits.
Intertidal/ near coastal plants and invertebrates	A number of WFD transitional and coastal water bodies are reported to have failed for angiosperms, invertebrates and macroalgae. Numerous MCZ plant and invertebrate features need to 'restore feature to favourable condition'.	<b>High.</b> Scope for direct restoration of either associated habitat through managed realignment, etc or direct reintroduction of species (replanting saltmarsh/ seagrass, laying oysters).



Marine Feature Category	Extent of Any Current or Anticipated Future Gap	Suggested Scale of Opportunity for Industry Contributions
Offshore marine invertebrates	A number of habitats critical to marine invertebrates have been identified as in decline, including major historic losses of offshore structuring features (native oyster reef, <i>Modiolus</i> , serpulid reef and other biogenic reef features).	<b>Medium.</b> Some scope for direct restoration and enhancement of offshore invertebrates, such as native oyster, <i>Modiolus</i> , edible crab, European lobster, spiny lobster, scallop, but mostly requiring reduction in (fishing) pressures.
Intertidal/ near coastal fish	Urgent and high priority actions have been identified for six s41 fish species, namely Allis shad, Twaite shad, Arctic char, European eel, Long-snouted seahorse and Short-snouted seahorse.	<b>High.</b> Scope to contribute to direct restocking, removal of migratory barriers, or management of spawning, nursery or foraging habitats.
Offshore fish	GES has not been achieved for some commercial fish species (D1, D3 and D4) due to overfishing. A reduction in availability of small fish (Sandeel and Sprat/ Herring) has also been linked with failure to achieve GES in relation to seabirds.	<b>Medium/ High.</b> Scope to contribute to funding of fisheries measures for key food chain species such as Sandeel, Herring and Sprat but implementation of measures will need to be led by government. Industry role to ensure future project designs minimise impacts, and/ or project location does not impact essential fish habitats where practicable.
Intertidal/ near coastal birds	GES has not been achieved for bird species (D1 and D4). Of 140 seabirds/ wader's waterfowl (including breeding and non-breeding populations) some 39 have been assessed as showing long-term decline and 62 showing short-term decline. A reduction in availability of small fish (Sandeel and Sprat/ Herring) has been linked with failure to achieve GES in relation to seabirds.	<b>High.</b> Scope to provide alternative nesting and roosting sites (e.g. nesting platforms) or to create foraging habitats for waders and wildfowl (e.g. through managed realignment, regulated tidal exchange)

Marine Feature Category	Extent of Any Current or Anticipated Future Gap	Suggested Scale of Opportunity for Industry Contributions
Offshore birds	GES has not been achieved for bird species (D1 and D4). Of 140 seabirds/wader's waterfowl (including breeding and non-breeding populations) some 39 have been assessed as showing long-term decline and 62 showing short-term decline. A reduction in availability of small fish (Sandeel and Sprat/ Herring) has been linked with failure to achieve GES in relation to seabirds.	<b>High.</b> Scope to provide alternative nesting and roosting sites (e.g. nesting platforms), predator control/ removal, etc to directly support seabirds at breeding colonies. Potential to improve prey availability through fisheries management measures offshore but implementation of measures would need to be led by government.
Intertidal/ near coastal marine mammals	Latest Article 17 reports show an increasing trend for otter populations.	<b>Low.</b> Scope to create/ improve habitat for otter.
Offshore marine mammals	GES has been partially achieved for cetaceans and seals (D1 and D4). Stable or increasing trends for bottlenose dolphin and grey seal.  The level of pressure from by-catch has remained the same but there is an increasing level of pressure from underwater noise for all relevant species.  The east coast has seen the number of harbour (common) seals decline by 25% in the last year.	<b>Low.</b> Measures to support cetaceans and seals are all currently focused on pressure reduction which should be the responsibility of those industries contributing to the pressure.

Even though the issues faced by the marine environment and the pressures upon it are well documented, the gap analysis identified many areas where additional action is needed to maintain or restore marine ecosystems. However, the analysis also identified a lack of SMART targets for known failures, particularly for ecological receptors, which makes it difficult to assess whether targets have been achieved.

The findings from the gap analysis and outcomes from the first stakeholder survey, reported below, in conjunction with the assumptions outlined in Section 2, were used by the T&F Group to identify draft priorities for MNG. These draft priorities (and the accompanying assumptions paper) were the focus of the second stakeholder survey.



## 4. Stakeholder Surveys

### 4.1 Introduction

Two stakeholder surveys were carried out as informal consultation exercises to inform the T&F Group's development of priority targets to which marine industry could contribute. Both surveys were conducted on-line using SurveyMonkey. The surveys were promoted through the T&F Group, ABPmer's corporate website and LinkedIn pages, and CMS Marine News.

The first survey was deliberately broad and invited respondents to identify their priorities for restoring and/ or enhancing the marine environment and to identify those priorities to which marine industries might contribute.

The second survey solicited views on the draft priorities identified through the first survey and by the T&F Group, and also sought views on the extent to which industry might be able to contribute to those priorities. Some additional questions were included relating to specific assumptions that had been made in developing the draft priorities. The second survey also invited separate comment on an accompanying assumptions paper.

An analysis of responses to the first and second surveys is provided in Appendices B and C respectively, and a summary of key findings is presented below.

### 4.2 Responses to first survey

A total of 58 unique responses were received to the first survey, with representation from 14 out of 18 listed sectors.

Government agencies and consultancies provided the two highest sector responses.

No responses were received from the aquaculture, cables, recreation or shipping sectors.

From the 58 responses, 293 actions were identified by respondents as potential priorities and targets for marine restoration and enhancement in UK waters.

These actions were subsequently classified into a number of overarching themes (Table 2). The number of suggested actions by theme is shown in Figure 1.



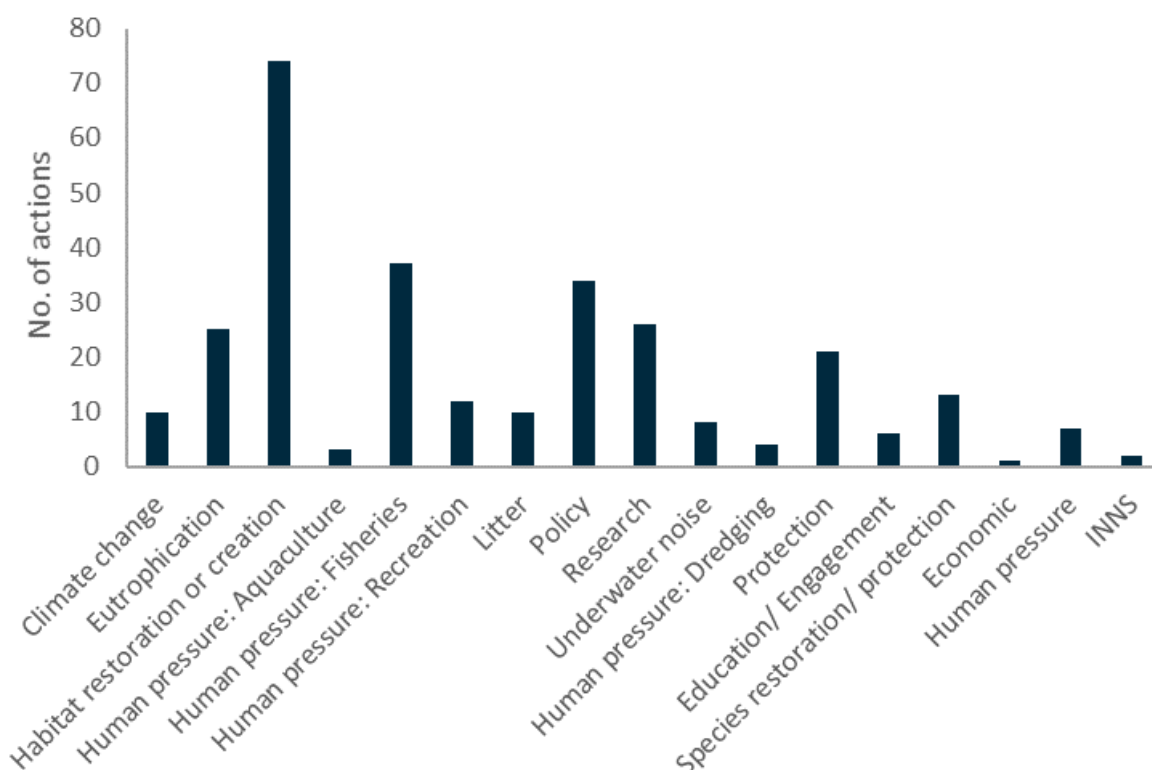


**Table 2**      **Summary of the overarching action themes and suggested actions**

Action Theme	Action Subject
Climate change	Encourage renewable energy Manage climate change impacts
Economic	Green jobs for communities
Education/ Engagement	Educate Engage stakeholders: restoration/ enhancement schemes
Eutrophication	Habitat restoration: Reduce pressure on eelgrass Reduce pollution Reduce pollution: improve sewage works
Habitat restoration or creation	Bivalve reefs (mussels, oysters) Cold-water coral reefs/ biogenic reef Estuaries General seabed habitats Identify restoration targets and priorities Improving existing infrastructure (enhancement/ 'greening the grey') Kelp forests Maerl Managed realignment to prevent rising sea level Mudflats Restoration or creation of habitats Saltmarsh Seagrass Subtidal mud (inc. sea pen and burrowing megafauna communities)
Human pressure:	Shipping
Human pressure: Aquaculture	Sustainable aquaculture
Human pressure: Aggregates	Aggregate extraction
Human pressure: Fisheries	Ecosystem-based fisheries management Fisheries management Fisheries management: By-catch Fisheries management: reduce pressure on cetaceans
Human pressure: Recreation	Manage recreational disturbance
Invasive Non-Native Species (INNS)	Prevention and monitoring of INNS
Litter	Reduce plastic/ litter Reduce plastic: screening of effluents/ sewage



Action Theme	Action Subject
Policy	Nature recovery and resilience in spatial planning Development in low quality habitat Mitigation hierarchy to development Nature-based solutions (NBS) Protect sensitive features/ areas from development
Protection	MPA creation MPA creation: collaborative areas MPA management, condition improvement
Research	Delivery of enhancement/ environmental funding Industry innovation/ sustainability
Species restoration/ protection	Birds Fish Sandeel
Underwater noise	Reduce underwater noise



**Figure 1** *Number of suggested actions by overarching theme*

Respondents highlighted that industry could contribute to actions within the majority of themes identified. In general, the most recognised way that industry could contribute was through provision of funding; however, in some areas such as intertidal/ near coastal habitat creation, there was greater scope for industry to directly implement schemes.

The actions most frequently suggested were the restoration and/ or creation of habitats, protection of bird and fish species and their habitats and the management of recreational disturbance. The provision of funding through pooled funds to support restoration was the most recognised form of industry contribution by respondents to support such actions. Types of funds could include, for example, nature recovery funds or environmental improvement funds.

Another area in which industry funding could contribute included financial support of research into environmental enhancement and sustainability (particularly in terms of plastic and marine litter).

Managing pressures from fisheries was the second most recognised priority, however such actions would likely need to be led or facilitated by government. Respondents highlighted several other actions that would also need to be led by government. These included actions in themes such as MPA designation and management, management of human pressures (e.g. aggregate dredging, recreation) and species and habitat restoration or protection. These actions mostly related to the closure of areas, the formal protection or designation of species and habitats and changing legislation/ policy. Where actions were identified as being led by government, it was often recognised that industry could potentially contribute through working with the relevant bodies to consider further opportunities, sharing of data and supporting the development of strategic goals.

The feedback received from the first survey, along with results from the gap analysis were used to inform draft priorities for MNG for consultation in the second survey.

#### 4.3 Responses to second survey

A total of 37 unique responses were received to the second survey, covering 9 of the 17 listed sectors including, consultancies, government agencies, local authorities, marine minerals, NGO's, offshore renewables, oil and gas, power generation and the recreation sector. It was noted that many responses to the second consultation were from organisations rather than individuals, accounting to some extent for the reduced overall number of responses compared to the first survey. One respondent also provided comment on the assumptions document.

A number of questions were asked as part of the second survey relating to specific assumptions that had been made in developing the draft priorities. These questions provided important context for the consideration of priorities for MNG strategic targets. While the T&F Group's work was not intended to explore matters of MNG policy, the information collected will be useful to Defra in informing its policy development.

Respondents mostly agreed (64% strongly or somewhat agreeing) with the approach to focus on BNG as opposed to ENG and explained that it would be consistent with terrestrial Net Gain and that BNG should be the priority to effectively tackle marine biodiversity loss.

There was general agreement (61% strongly or somewhat agreeing) with the approach to deliver Net Gain separately between intertidal and offshore environments. However, respondents often acknowledged that it is important to consider the high level of connectivity in the marine environment, especially where developments span coastal and offshore ecosystems. Similarly, it was identified that Net Gain in one environment could deliver benefits



to other marine environments. Implementing Net Gain targets in the offshore environment was considered difficult overall but deemed important to target Net Gain in relevant areas affected by development projects.

A number of suggestions for options for the application for MNG were provided to respondents; a levy, a metric similar to that created for terrestrial/ intertidal Net Gain, a new metric designed for the offshore (subtidal) marine environment or a combination of approaches. Half of respondents (50%) agreed that an industry levy to support a strategic fund would be beneficial. This approach was described as allowing investment into strategic or large-scale projects and avoiding the complications of a metric approach. If MNG is to encompass species and human activity pressures as well as habitat loss, it is noted that development of a metric encompassing all of these factors would be extremely challenging. It was suggested that developers would potentially prefer the use of a levy over a metric due to its ease of making payments and overall clarity. However, one industry respondent described that such a levy may reduce the willingness of offshore companies 'to go above and beyond' by reducing the credit given to industry, especially where they are already moving towards net positive models.

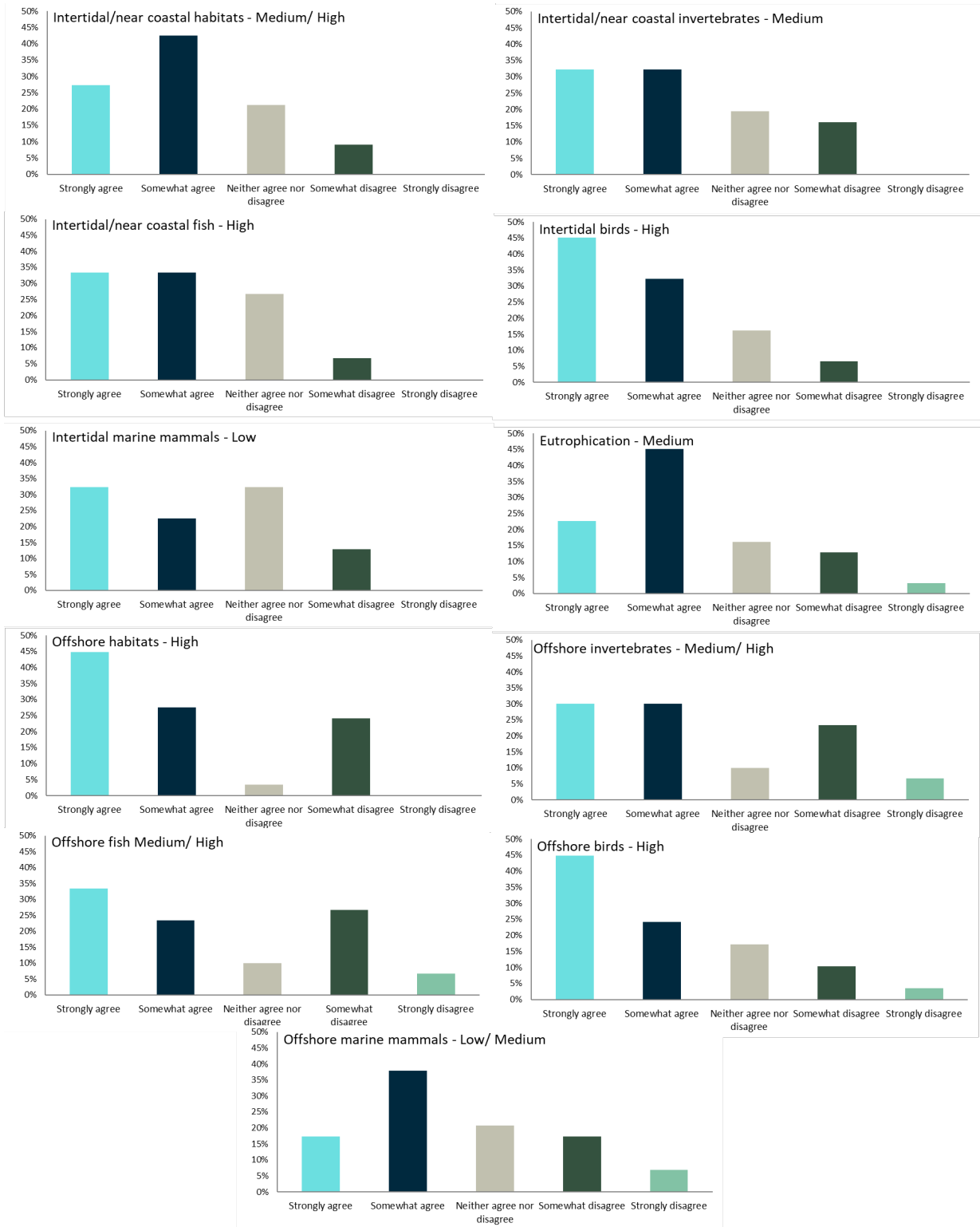
The majority of respondents agreed that species should be included in Net Gain targets (77%). The majority also agreed that all species groups, invertebrates, birds, fish and marine mammals should be included where appropriate. However, respondents explained that the focus should be on species of particular concern and that measures to benefit one species should not be detrimental to another. Respondents who did not support the inclusion of species in BNG targets indicated that the focus should be on habitats, and that the recovery and restoration of habitats would fundamentally lead to increased biodiversity of target species. However, respondents in favour of including species also raised that BNG should encompass both species and habitats, as opposed to one or the other.

Survey feedback provided broad and majority support for all of the specific draft priorities for MNG identified by the T&F Group. Respondents generally agreed that actions within the pressure categories 'contaminants', 'marine litter' and 'underwater noise' were lower priority for strategic MNG targets. There was a general consensus that measures to reduce such pressures should be the responsibility of the accountable developer/ industry.

Across all other marine feature categories there was broad consensus on the suggested overall prioritisation for Net Gain (Figure 2). This was also true for the suggested scale of opportunity and the technical feasibility of delivery for each marine feature category.

There was general agreement with the suggested scope for industry and government-led delivery of Net Gain across the different marine feature categories. However, it was highlighted that the implementation of MNG must be in addition to the delivery of existing government commitments. Industry funding should be focused on active interventions, delivered alongside the strategic management of pressures affecting marine biodiversity by government, and that there are opportunities for government-led and industry partnership projects, depending on the scale and circumstances.





**Figure 2** Respondents view on the overall prioritisation for Net Gain



## 5. Priorities for Strategic Marine Net Gain

### 5.1 Towards Priorities for Strategic Marine Net Gain

Analysis of the survey results has been refined and presented below in Tables 3, 4 and 5 as the potential strategic priorities identified for MNG. These include a suggested route for implementation to be considered by Defra at a later stage of policy development. The initial draft priorities for MNG, developed by members of the T&F Group, were consulted on in the second stakeholder survey. In light of stakeholder feedback received (see section 4.3), minor refinements were made to the draft priorities. Importantly, survey responses indicated broad and majority support for all of the draft priorities presented.

There were also some areas where there was a degree of contention including:

- Marine pressures to which the T&F Group had assigned a low priority for Marine Net Gain:
  - Water quality: some respondents highlighted nutrient issues as being relevant (although these were covered separately under eutrophication); other respondents highlighted the links between elevated concentrations of contaminants and ecological health. While the T&F Group acknowledges these linkages, it remains of the view that such measures should be a low priority for MNG, reflecting the disproportionate cost of remediating contaminated sediments and the existing legislation and mechanisms for managing point source pollution. However, the T&F Group recognises that there could be site and situation specific circumstances where water quality measures could be an appropriate contribution to MNG;
  - Marine litter and debris: some respondents made the point that it is feasible to remove substantial amounts of litter which prevents ghost fishing and other wildlife entrapment (for example, initiatives such as 'Fishing for Litter') and argued for inclusion of marine litter as a Net Gain action. The T&F Group recognises that there may be circumstances in which removal of litter and debris can contribute to localised ecological enhancement on a site-specific basis but remains of the view that such interventions are generally of lower value than other potential measures. In addition, there is possibly greater certainty of benefit where specific debris is removed or where measures address specific litter sinks. However, while the group considered litter to be a low priority for MNG it is aware of, and strongly supports, the actions of an increasing number of industries which are directly involved in litter removal activities;
  - Underwater noise: stakeholders generally agreed that this was a mitigation issue and that there was little that could be done in the context of MNG.
- Fish in offshore environments: several respondents argued that this should be assigned a high priority similar to intertidal/ near coastal fish rather than a medium-high priority, given the scale of historic impacts and the importance of certain species in marine food chains;
- Marine mammals in offshore environments: several respondents felt that this should be high priority rather than low to medium priority and that the issue of improving prey availability was particularly important in supporting population recovery.



Based on the above views, the T&F Group has increased the priority for offshore fish to 'High' and increased the priority for offshore marine mammals to 'Medium to High'. A summary of the T&F Group's views on priorities for MNG is provided in Table 3 to Table 5.

The recommended priorities are subject to a number of assumptions about the nature and form of MNG, set out in Section 2.

In particular, it is recognised that many of the priorities for restoration and enhancement of the marine environment, particularly offshore, are only likely to be achievable with government-led action/ support and cannot be delivered by industry alone. This is particularly the case where management of human activity pressures from other marine activities (such as commercial fishing) is required; for example, to restore seabed habitats or facilitate natural recovery of species. In recommending priorities for strategic Net Gain targets, the T&F Group assumes that MNG is implemented as a strategic approach with government-led action where necessary to underpin delivery of strategic measures.

The T&F Group's views on priorities for MNG is provided in Table 3 to Table 5. The opportunities have been identified based on an understanding of stakeholder views, historic losses, feasibility of measures and consideration of the extent to which marine industry might sensibly contribute to such targets. The opportunities have been split into three tables; Table 3: pressure reduction opportunities which are seen as low priority, Table 4: intertidal/ near coastal priorities and Table 5: offshore priorities. This is based on the assumption that offshore development will be required to deliver Net Gain offshore and that coastal projects will need to deliver net gain in intertidal/ near coastal areas. We have therefore sought to differentiate targets that might be relevant to offshore areas and those relevant to intertidal/ near coastal areas.



**Table 3**      **Pressure reduction opportunities which are seen as low priority**

Strategic Net Gain Opportunity	Potential Scale of Opportunity	Technical Feasibility	Method of Implementation	Overall Prioritisation for Net Gain	Additional Comments
Action to reduce contaminants	Water quality – <b>medium</b> ; Sediment quality - <b>medium</b>	Water quality: Technically feasible to deliver improvements in water quality, potential for government to work with farmers and other landowners; Sediment quality: disproportionately costly to undertake large scale remediation of contaminated sediments.	<b>Government led</b>	<b>Low</b>	Relatively few failures of WFD EQS in transitional and coastal waters. Offshore waters considered to be at GES. In line with 'polluter pays' principle, those responsible for significant point source discharges should be responsible for limiting their emissions.
Action to reduce and clean up marine litter and debris	<b>Medium</b>	Other than removal of intertidal litter for aesthetic reasons, it is not technically feasible to remove meaningful amounts of litter from the marine environment.	<b>Direct implementation by industry and Government led</b>	<b>Low/ infeasible</b>	Scope to contribute funding to litter or debris removal initiatives but this would primarily deliver ENG not BNG.





Strategic Net Gain Opportunity	Potential Scale of Opportunity	Technical Feasibility	Method of Implementation	Overall Prioritisation for Net Gain	Additional Comments
		Specific items of debris can be removed but are often small scale			
Action to reduce underwater noise	The significance of current levels of ambient anthropogenic underwater noise is uncertain.	Technically feasible to reduce anthropogenic underwater noise at source but this would be considered a mitigation measure when implemented by industry on its own projects.	<b>Direct implementation by industry</b>	<b>Low</b>	Measure to reduce industries own ambient underwater noise would be considered as mitigation.



**Table 4 Intertidal/ near coastal priorities**

Strategic Net Gain Opportunity	Potential Scale of Opportunity	Technical Feasibility	Method of Implementation	Overall Prioritisation for Net Gain (1)	Additional Comments
Action to restore and/ or create intertidal/ near coastal habitats (including characterising species)	<p><b>High</b> – major historic losses of mudflat/ sandflat, saltmarsh/ reedbed, seagrass, native oyster reef, maerl</p> <p><b>Medium</b> – kelp</p> <p>Uncertain – intertidal under-boulder communities, other bivalve beds (blue mussel, cockles, clams)</p>	<p>Feasibility of direct mudflat/ sandflat and saltmarsh/ reedbed creation well established; seagrass and blue mussel restoration likely to be feasible given suitable conditions; direct native oyster reef restoration remains challenging and experimental; kelp uncertain but potential to seed gravel to allow restoration; cockle/ clam restoration best managed through control of fishing pressure.</p> <p>Maerl restoration only possible</p>	<b>Direct implementation by industry and Government led</b>	<p><b>High</b> (mudflat/ sandflat, saltmarsh/ reedbed, seagrass, native oyster)</p> <p><b>Medium</b> (kelp, other bivalves, maerl)</p> <p><b>Low/ N/A</b> (intertidal under-boulder communities)</p>	<p>Scope for habitat restoration and enhancement in intertidal and near coastal areas in particular for intertidal mudflat and sandflat, saltmarsh/ reedbed, seagrass and native oyster. Some scope for restoration and enhancement of other features. Interventions could be led by industry or government (with industry funding).</p> <p>Opportunities for kelp restoration may be limited and likely to be site-specific and to</p>



Strategic Net Gain Opportunity	Potential Scale of Opportunity	Technical Feasibility	Method of Implementation	Overall Prioritisation for Net Gain (1)	Additional Comments
		through pressure reduction.			require management of fishing gear abrasion pressures.  Measures entailing management of commercial fishing pressure would need to be government led.
Action to restore and enhance intertidal/ near coastal invertebrates	<b>High</b> – native oyster, <i>Modiolus</i> , edible crab, European lobster, spiny lobster, scallop	Direct restoration of species remains challenging, but potential to restore edible crab, European lobster, spiny lobster populations through fishing pressure reduction and targeted restocking (e.g. lobster hatcheries).	<b>Direct implementation by industry and Government led</b> (primarily Government led as most interventions likely to require management of (fishing) pressures)	<b>Medium</b> (edible crab, European lobster, spiny lobster, <i>Modiolus</i> , other invertebrates)	Some scope for restoration and enhancement of habitats for intertidal/ nearshore invertebrates, mostly requiring reduction in (fishing) pressures which would need to be government led.



Strategic Net Gain Opportunity	Potential Scale of Opportunity	Technical Feasibility	Method of Implementation	Overall Prioritisation for Net Gain (1)	Additional Comments
		Other invertebrate species can be enhanced as a result of pressure reduction (primarily fisheries abrasion and penetration pressure).			
Action to support and restore intertidal/ near coastal fish	<b>High</b> – Atlantic salmon, sea trout, allis and twaite shad, smelt, eel, river and sea lamprey, sturgeon	Some success in restoration of salmon but more challenging in southern rivers due to climate change; some experience with allis and twaite shad (Unlocking the Severn <sup>11</sup> – removal of migratory barriers; water quality improvements); restoration of eel populations dependent on	<b>Direct implementation by industry and Government led</b>	<b>High</b>	Scope to contribute to direct restocking, removal of migratory barriers, or management of spawning and, nursery habitats.

<sup>11</sup> <https://www.unlockingthesevern.co.uk/>



Strategic Net Gain Opportunity	Potential Scale of Opportunity	Technical Feasibility	Method of Implementation	Overall Prioritisation for Net Gain (1)	Additional Comments
		pressure reduction (reduction in fishing pressure (glass eel/ elver); recovery of lamprey dependent on populations of other migratory fish.			
Action to support populations of intertidal birds	<b>High</b> - a number of intertidal birds have a long-term declining trend, in part due to climate change	Intertidal birds can be supported through habitat creation/ enhancement and through reduction in disturbance pressures.	<b>Direct implementation by industry and Government led</b>	<b>High</b>	Scope for restoration/ enhancement of intertidal habitats and funding of initiatives to reduce disturbance.
Action to support populations of intertidal/ near coastal marine mammals	<b>Low</b> - Scope to enhance coastal otter populations	Measures to improve otter habitat on land.	<b>Direct implementation by industry and Government led</b>	<b>Low</b>	Generally seen as more of a terrestrial than coastal issue and unlikely to be many issues arising for coastal developers.



Strategic Net Gain Opportunity	Potential Scale of Opportunity	Technical Feasibility	Method of Implementation	Overall Prioritisation for Net Gain (1)	Additional Comments
Action to address eutrophication	<b>Medium</b> - a significant proportion of transitional and coastal water bodies have elevated concentrations of dissolved inorganic nitrogen. A smaller number of water bodies show evidence of eutrophication. The UK has largely achieved its aim of GES for eutrophication in offshore waters (D5).	Technically feasible to deliver improvements in water quality.	<b>Government led</b>	<b>Medium</b>	In line with the 'polluter pays' principle significant sources should be responsible for limiting their own emissions. However, significant scope remains to contribute to wider projects tackling diffuse pollution that results in eutrophication. Other (direct) habitat interventions may also contribute to nutrient cycling (e.g. saltmarsh creation) and reducing nutrient pollution will benefit ongoing restoration projects



Strategic Net Gain Opportunity	Potential Scale of Opportunity	Technical Feasibility	Method of Implementation	Overall Prioritisation for Net Gain (1)	Additional Comments
					e.g. seagrass cannot grow in nutrient polluted waters.
<p>(1) An advisory group mechanism may be required to assess if projects are appropriate at a regional or national scale in meeting the objective of recovery. It is important that spatial considerations are taken into account e.g. are the projects in the appropriate locations and how will they affect existing habitats and species.</p>					



**Table 5 Offshore priorities**

Strategic Net Gain Opportunity	Potential Scale of Opportunity	Technical Feasibility	Method of Implementation	Overall Prioritisation for Net Gain	Additional Comments
Action to restore offshore habitats	<b>High</b> - major historic losses of offshore structuring features (native oyster reef, <i>Modiolus</i> , serpulid reef and other biogenic reef) particularly as a result of bottom-towed fishing gears (seabed abrasion and penetration, removal of organisms), damage of seabed habitats e.g. sandbanks).	Direct native oyster restoration remains challenging and experimental – may be more feasible offshore away from <i>Bonamia</i> infected areas; removal of abrasion pressures from fishing gears may lead to long-term recovery of biogenic reefs (serpulid reef, pink sea fan etc).	<b>Direct implementation by industry</b> (for direct restoration) but <b>Government led</b> for pressure reduction	<b>High</b>	Recognised that there are limited opportunities to restore habitat offshore directly.  Pressure removal (particularly fisheries pressure removal) likely to be important to support long-term habitat recovery and ecological benefits e.g. Sandeel recovery. Achieving this at scale would require government intervention and leadership.





Strategic Net Gain Opportunity	Potential Scale of Opportunity	Technical Feasibility	Method of Implementation	Overall Prioritisation for Net Gain	Additional Comments
	<p><b>Medium</b> – historic losses of offshore habitats within development footprints (for a relatively small area of seabed)</p>	<p>Removal of development infrastructure as part of decommissioning to restore offshore habitats. Decommissioning programmes already seek to remove most significant infrastructure. Additional removals may be disproportionately expensive or too risky.</p>	<p><b>Direct implementation by industry</b> (for removal of own infrastructure)  <b>Government led</b> (for removal of third-party infrastructure)</p>	<p><b>High</b></p>	<p>Developers may have limited opportunity to decommission their own existing structures (most decommissioning activity relates to oil and gas, but most new development relates to offshore wind).</p> <p>Enhanced removal of infrastructure may be disproportionately expensive or pose unacceptable health and safety risks. Potential for Net Gain could incentivise more decommissioning and drive</p>



Strategic Net Gain Opportunity	Potential Scale of Opportunity	Technical Feasibility	Method of Implementation	Overall Prioritisation for Net Gain	Additional Comments
					innovation of a) decommissioning techniques which are less damaging and b) encourage projects at build phase to create infrastructure which is easier to install and remove
Action to restore and enhance offshore invertebrates	<b>High</b> – native oyster, <i>Modiolus</i> , edible crab, European lobster, Spiny lobster, scallop	See comments under offshore habitats above. Direct restoration of species such as native oyster remains challenging.  Also, potential to restore edible crab, European lobster, Spiny lobster populations through fishing pressure reduction and targeted	<b>Direct implementation by industry and Government led</b> (mostly Government led as most interventions likely to require management of (fishing) pressures)	<b>High</b> (native oyster)  <b>Medium</b> (edible crab, European lobster, Spiny lobster, <i>Modiolus</i> , other invertebrates)	Some scope for restoration and enhancement of habitats for offshore invertebrates, mostly requiring reduction in (fishing) pressures which would need to be government led.



Strategic Net Gain Opportunity	Potential Scale of Opportunity	Technical Feasibility	Method of Implementation	Overall Prioritisation for Net Gain	Additional Comments
		<p>restocking (e.g. lobster hatcheries).</p> <p>Other invertebrate species can be enhanced as a result of pressure reduction (primarily fisheries abrasion and penetration pressure).</p>			
Action to support populations of offshore fish	<b>High</b> – many commercial fish species below Maximum Sustainable Yield (MSY). Populations of key food chain species such as Sandeel, Herring and Sprat significantly depleted compared to historic levels	Populations can be enhanced through fisheries management measures (including management of direct fishing pressures and seabed abrasion/ penetration).	<b>Government led</b> (measures to reduce pressure on fish stocks/ limit abrasion damage would likely need to be government led)	<b>High</b>	Scope for industry to contribute to funding of fisheries measures for key food chain species such as Sandeel, Herring and Sprat but measures would need to be led by government.



Strategic Net Gain Opportunity	Potential Scale of Opportunity	Technical Feasibility	Method of Implementation	Overall Prioritisation for Net Gain	Additional Comments
Action to support populations of offshore birds	<b>High</b> – a number of seabird species are in long-term decline due to reductions in prey availability (from overfishing and climate change) pressures at nesting colonies (predation, disturbance) and bycatch	Seabird species can be supported through measures to reduce pressures at breeding colonies (predator removal, disturbance reduction, provision of nesting sites), at sea (by-catch reduction) and through enhancement of prey abundance (fisheries measures).	<b>Direct implementation by industry and Government led</b> (measures at colonies can be directly funded, but measures to reduce fishing pressures would likely need to be government led)	<b>High</b>	Scope to directly support seabirds at breeding colonies and at sea and potential to improve prey availability through fisheries management measures offshore.
Action to support populations of offshore marine mammals	<b>Medium</b> - Cetacean populations are depleted compared to historical levels. Harbour seal populations depleted in some UK regions (e.g. East coast)	Scope to reduce fisheries by-catch mortality. Populations could also be enhanced through reductions in commercial fishing pressure on prey resources.	<b>Government led</b>	<b>Medium to High</b>	Opportunity for industry to contribute funding to fisheries management measures.



## 6. Conclusions and Recommendations

### 6.1 Conclusion

Discussions on the development of MNG are evolving rapidly, and the T&F Group has worked at pace to identify strategic targets for the delivery of MNG, recognising the importance of maximising this vital opportunity to help restore and enhance the UK's marine environment. If MNG is to contribute to national/ regional priorities for the marine environment, the responses gathered through this work consider that it should primarily be progressed as a strategically managed process led by government in partnership with industry. Marine industry would contribute funding to deliver priority projects.

If MNG is solely developer led there will be a much more limited set of options that marine industry can deliver. Particularly in offshore areas, this may lead to a paucity of actions that industry might take and limit the application and effectiveness of MNG policy. Pursuing such a strategic approach has important implications for the nature of MNG, how the requirement for MNG might be assessed and how projects might be delivered and managed. However, this work indicates there is strong consensus that this approach will deliver better outcomes for the marine environment.

The outcome of the work carried out by the T&F Group is a strong set of suggested strategic targets for MNG and that there is strong consensus and agreement about these from all sectors; industry, regulators and conservation bodies. These targets therefore set a clear direction for what MNG could deliver and how that would be widely welcomed as a significant and important contribution to the restoration and improvement of the marine environment.

It is not considered appropriate to establish overall quantitative targets for MNG nor delivery time scales because the demand for Net Gain interventions will be driven by the nature, scale and pace of marine development. However, where specific MNG interventions are being progressed, it will be important that there are clear and measurable objectives for the interventions, linked to robust monitoring plans.

Importantly, in contrast to the terrestrial environment where Net Gain is solely focused on achieving a Net Gain in habitat, our recommendations for MNG also encompass species restoration and human activity pressure reduction as important measures to support restoration and enhancement of our marine environment.

### 6.2 Recommendations from the T&F group

To support the further discussions on the topic of MNG, and to assist Defra in their development of Marine Net Gain policy, the T&F Group have identified the following recommendations for further consideration.

- The identified strategic target areas should be used by government to inform the development of MNG policy and principles of implementation;
- Strategic targets should be based on our understanding of where we are already failing intertidal and marine environments, and the need to halt and reverse marine biodiversity loss;



- MNG should as a minimum achieve BNG;
- The primary goal of MNG at a national scale should be to place marine and intertidal ecosystems into recovery;
- Multi-purpose projects providing secondary benefits that contribute to the following targets should also be prioritised, but these benefits should be delivered in addition to the primary goal of achieving ecosystem recovery: to reduce disaster risk from the continuing loss of natural coastal defences such as salt marsh (e.g. flood risk/ coastal erosion); and to combat climate change, through mitigation and adaptation;
- The T&F Group recognises the urgency in halting and reversing marine biodiversity loss, particularly in the context of accelerating pressure from climate change and the likelihood of the need to relate to planning decisions. Overall targets for MNG should be presented without reference to specific timescales as the requirement for MNG interventions will depend on the nature and pace of relevant development projects and their impacts. Where specific MNG interventions are progressed, there should be clear objectives, linked to measures of success for these interventions supported by effective monitoring;
- MNG should be secured 'in perpetuity', but this is dependent on the type of intervention, the mechanism for delivery and the custodianship of responsibility and may be subject to natural change. The aim should be to contribute to an overall recovery;
- MNG policy must be developed in the context of the dynamic nature of the marine and intertidal environments. MNG projects must be considered with an understanding of the complexities of marine systems, and that pre-existing causes of loss may need to be addressed if the outcomes of MNG activities are to be successful and sustained;
- There is some potential that research and data gathering could be considered as MNG (for example a research project to support better MNG delivery in the future), but only if it is delivered as part of a broader strategic approach as part of a package of measures;
- MNG will have a greater impact on the recovery of the marine environment if funding is pooled into a national fund to assist in the delivery of the strategic Net Gain targets. There is also a need to involve industry as a partner throughout the Net Gain process to ensure positive outcomes can be credited to developers, allowing them to build funding MNG into their business models;
- Delivery of MNG could be assisted by Regional Delivery Groups, distributing pooled funds and operating under a clear set of agreed principles. Delivery groups should be represented by a range of organisations with marine expertise including government, SNCBs, industry and eNGOs; and
- Development of MNG policy should appropriately consider the question of custodianship of responsibility to deliver Net Gain.



## 7. Abbreviations

25YEP	25 Year Environment Plan
ABPmer	ABP Marine Environmental Research Ltd
BEIS	Business, Energy and Industrial Strategy
BNG	Biodiversity Net Gain
CMS	Communications and Management for Sustainability
Defra	Department for Environment Food and Rural Affairs
EA	Environment Agency
EBN	Environmental Benefits for Nature
ELM	Environmental Land Management
ENG	Environmental Net Gain
eNGO	Environmental Non-government Organisation
EQS	Environmental Quality Standard
GES	Good Environmental Status
INNS	Invasive Non-Native Species
LIFE	L'Instrument Financier pour l'Environnement (The Financial Instrument for the Environment)
LNRS	Local Nature Recovery Strategies
MNG	Marine Net Gain
MCZ	Marine Conservation Zone
MPA	Marine Protected Area
MSY	Maximum Sustainable Yield
NBS	Nature-based Solutions
NE	Natural England
NGO	Non-government Organisation
NSIP	Nationally Significant Infrastructure Project
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic
OWEAP	Offshore Wind Enabling Actions Programme
ReMeMaRe	REstoring MEadows, MARshes and REef
ReMEDIES	Reducing and Mitigating Erosion and Disturbance Impacts affecting the Seabed



RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SMART	Specific-Measurable-Achievable- Realistic-Timebound
SMEEF	Scottish Marine Environmental Enhancement Fund
SNCB	Statutory Nature Conservation Body
SUDG	Seabed User & Developer Group
T&F Group	Task and Finish Group
TWT	The Wildlife Trusts
UK	United Kingdom
WFD	Water Framework Directive





# Appendices



## Appendix A Gap Analysis Report







