

27 June 2022

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BY EMAIL ONLY

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Dear Sir/Madam

Consultation on Environment Act 2021 Environmental Targets – Natural England Response

Natural England is the Government's statutory adviser on the natural environment established under the Natural Environment and Rural Communities Act 2006. Natural England's purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

We welcome the opportunity to respond to this consultation on environmental targets. These targets alongside the new measures in the Environment Act will be vital, placing nature recovery alongside carbon reduction at the heart of government priorities and will play an important role in driving the delivery of the 25 Year Environment Plan (Environmental Improvement Plan). We look forward to working with the government and our partners to help deliver these targets and to drive forward nature recovery from the national to the local level.

This scale of recovery will require all elements of a healthy ecosystem to be in place and thriving. The statutory targets therefore need to be both comprehensive and ambitious, working to reinforce and complement each other. We are very pleased to see ambitious targets proposed for addressing loss of species and for expanding woodland cover. There is scope to expand, and in places strengthen, the targets and thereby provide a better weighted suite of targets; and to include qualitative targets to bolster the action-based targets, including the addition of a qualitative Protected Sites target.

There is a risk that a less balanced and more limited range of targets will not drive all of the actions required to deliver nature's recovery. Alongside the risk that the pursuit of a narrow set of priorities could result in perverse or unintended consequences if these are pursued at the expense of the health of whole environmental systems.

We also note these targets do not cover the full breadth of the Environment Improvement Plan (EIP). It is therefore important that the review of the EIP by January 2023 ensures that the EIP's goals, targets and

indicators are suitably ambitious and compliment, and integrate with these new statutory targets to deliver a broader range of environmental improvements and associated benefits for people and for the planet. This will ensure that outcomes such as under the Beauty, Heritage and Engagement goal in the existing plan work alongside these new targets to help deliver the government's long-term environmental aims.

Biodiversity

Species Abundance

We welcome the target to halt the loss of species abundance by 2030 and the continuation target to increase species abundance by 10% by 2042, which we feel can be achieved through conservation action at a scale and intensity not seen before.

Although we consider the evidence and projections used to set the species abundance target to be the best available, the impact of the long-term target ambition (as worded) is dependent upon reaching the short-term abundance target to halt decline by 2030. If we were to fail to halt loss of species abundance by 2030, a 10% increase from 2030 levels will not necessarily represent a net improvement of 10% from when the targets come into force in 2022.

One option to ensure that the intended progress is made would be to ensure that abundance in 2042 would be a net increase on 2022 levels (when targets become law). This would align with the 25 Year Environment Plan ambition "to leave the natural environment in a better state than we found it". Another option would be a target that makes provision for identifying an alternative baseline date should halting decline by 2030 not be achieved, ensuring that the 10% increase by 2042 is still one of gain. The first of these options would help to make the target for the recovery of species abundance more specific and would make it easier to see what that target constitutes from the start. The target trajectory and associated indicator should also be carefully monitored to support its delivery.

Natural England would wish to see a review of the D4 indicator in (species abundance) to ensure that it adequately represents the breadth of England's biodiversity. At present it comprises 1,071 species (approximately 2% of UK species) covering a limited number of taxonomic groups and is considered an indicator of the health of widespread species in England. Marine species are particularly under-represented in the indicator as are most freshwater groups. Despite most species in the indicator being terrestrial, certain groups that provide important ecosystem services are also missing, such as fungi for decomposition and bees for pollination. Species diversity is indicative of the health of the natural environment, so it is vital to avoid a perverse scenario whereby action is confined to a narrow range of species within the indicator and consequently we fail to achieve wider nature recovery.

We would like to see the species abundance indicator reviewed at the earliest opportunity so that it better represents the breadth of species and a wider range of taxonomic groups; and represents an effective framework to measure and monitor the underlying health of the natural environment. This should run alongside appropriate investment in new structured monitoring schemes, allowing the inclusion of better-quality abundance data for more groups.

The UK Centre for Ecology & Hydrology (UKCEH) research has shown that a higher number and wider spread of indicator species will reduce the disproportional influence of some taxonomic groups over others, rather than adding any form of weighting which could lead to misleading results and interpretations. We agree with UKCEH's recommendation that no weighting should be used.

Species Extinction

We welcome this target and its level of ambition. Further work is needed on developing the underlying indicator so that it is representative of all red-listed taxonomic groups.

We believe that the IUCN Red Listing system applied at the GB scale is the most suitable framework for determining the conservation status of our threatened native species (Outcome Indicator Framework D5 indicator). Red Lists and the Red List Index (RLI) are assessments of species extinction risk, following internationally accepted methods. The index summarises Red Lists to provide a measure of average extinction risk for multiple species. Although the index values require expertise to interpret, they show relative change over time and therefore a trend which can be used to assess progress.

A preliminary indicator has been produced and comprises the following high-level taxonomic groups: mammals, birds, reptiles, amphibians, invertebrates, vascular plants, bryophytes (mosses and liverworts), lichens and fungi. The invertebrate group alone draws from 25 GB Red Lists, spanning a wide range of habitats. Nevertheless, we would like to see the indicator strategically expanded in future years to address taxonomic gaps in red listing, particularly the imbalance caused by the lack of Red Lists for marine species groups.

We are content for the England-level RLI to be used to monitor progress towards this target. The index uses GB statuses for species that occur in England but is based on an assumption that the level of threat at GB scale is the same as at England scale. For groups that have been assessed at both GB and England scales most species show the same threat status, for example nearly 80% of plants. When reporting against the indicator we would welcome information in addition to the composite RLI value. For example, the RLI trends of individual taxonomic groups are likely to differ from one another and this information can be useful in understanding pressures and directing conservation effort.

We understand that the index is useful for monitoring long-term trends but can be insensitive to change over shorter time scales. This is partly due to methodology but also because Red Lists are generally updated on a ten-year cycle. Evidence suggests that a more frequent cycle of reassessment would not make the indicator substantially more sensitive (species seldom change in threat status over short periods), although a rolling programme of Red List updates will be needed in the future to maintain the index.

Wider Habitats

The successful delivery of the species abundance and extinction targets will be dependent upon the large-scale restoration of habitats and ecosystems across England. Strong statutory targets are therefore also required to drive fundamental work to create and restore large and connected areas of land where natural processes can operate effectively, and a wide diversity of species can flourish. This supports the UK government's commitment under the Convention of Biological Diversity to protect at least 30% of our land and sea for nature by 2030. Our Protected Sites network will be critical to delivering these connected aims, in addition to land in the wider countryside.

We support the inclusion of an action-based wider habitats target, although the current proposal for a minimum target of 500,000 hectares which includes a wide range of qualifying habitat types is readily achievable.

The current level of ambition of a minimum 500,000 hectares is equivalent to the delivery rate of the Biodiversity 2020 ambition which delivered 260,469 hectares of new habitat between 2011 and 2020 outside of SSSIs. These delivery rates however have not stemmed the continuing declines in species abundance. We feel there is a need to be more ambitious to deliver the level of change we need for nature recovery, particularly as there is strong evidence that one of the main reasons species are declining is loss of habitat. By increasing the extent of habitats, improving the quality of existing ones (including our

Protected Sites) and reducing off-site pressures such as water and air pollution, species populations will increase and become more resilient against climate change.

To meet our international pledge to ensure the Convention on Biological Diversity (CBD) commitment of 30% of land delivering for nature by 2030 (30 x 30), somewhere in the region of 1.5 million hectares of wider habitat (outside of existing Protected Sites) will need better protection and improved conservation management. Whilst there will be a portion of this which will be deliverable by ensuring better long-term management of existing habitat, there will also be a requirement for an ambitious programme of restoration and creation to provide new high quality, wildlife-rich habitat. Strong delivery at the landscape scale, supported by a robust wider habitats target will be essential to achieve the necessary level of ambition, particularly where there are multiple and sometimes competing demands.

Some habitats are also easier to deliver at scale due to the types of incentives and delivery mechanisms available (woodlands, arable field margins and coastal habitats). Because of the level of ambition of the target, there is a risk that the target becomes dominated by these habitat types at the expense of the more open habitats that will be needed to deliver the Nature Recovery Network and to drive wider nature recovery and connectivity. We would therefore propose that the target figure could be raised to a minimum of 750,000 hectares, so that there is “room” in the target for the open and mosaic habitats that will be essential to help deliver the Nature Recovery Network and species targets.

Based on estimates from the new agri-environment schemes, Biodiversity Net Gain, Peat Action Plan England, Woodland Creation Offer (EWCO) and other Nature for Climate Fund delivery mechanisms and the current definition of wildlife-rich habitat, we are confident we could achieve this higher ambition. This higher target would also help us to meet Government’s net zero target and other commitments in the 25 Year Environment Plan such as creating new areas where the public can enjoy the natural environment.

We agree in principle with the wildlife-rich habitat types set out in the consultation document, with the caveat that only wildlife-rich habitats that conform to the set of principles in the Evidence Pack should count towards this target and should not include any lower quality habitats. The list of habitats, whilst not being comprehensive, reflects the breadth of habitats that will be needed to support nature recovery.

The principles defining what will count as wildlife-rich habitats need to be carefully applied to ensure that this target effectively maximises the delivery of key habitats to support nature recovery and the species abundance targets, particularly where such habitats are not otherwise covered by other delivery mechanisms or drivers. Non-priority habitat, such as scrub habitats (beyond section 41 of the NERC Act) in particular, have received less attention over the years. These habitats can provide refuge and resources for a multitude of species whose populations are decreasing and can be of strategic importance, for example by connecting-up smaller areas of habitat into a habitat network.

It is imperative that the separate and ambitious woodland cover target achieves not only delivery of net zero ambitions and increases in domestic timber production, but that this significant new woodland and tree establishment substantively drives nature’s recovery. To avoid over dominance of woodland delivery under this target further clarity is needed on what activity under the woodland cover target will also meaningfully deliver new wildlife-rich habitat.

We would therefore propose that only native woodland (i.e. greater than 80% native species) should count towards the wider habitats target, as native tree and shrub species are better able to enable the recovery of our native wildlife. Commercial conifer plantations or woodland with less than 80% native species, whilst contributing towards the net zero target and with the potential to have some biodiversity benefits (if appropriately designed and located), should not contribute.

Arable field margins can be created and removed cyclically by farmers and therefore may not be maintained in the long term. While they can provide benefits for biodiversity while maintained, we advise that only the net increase at the end of a period should count, not those already removed.

Protected Sites

Natural England supports the ambition to review and to bolster the effectiveness of our Protected Sites as set out in the government's recent Nature Recovery Green Paper. The existing framework has successfully protected species and habitats from loss and destruction in many places, but it hasn't by itself stemmed the decline in biodiversity, nor has it prevented the disconnection from nature that so many experience.

Protected Sites are our most important extant areas for nature and should form an ecologically coherent network of sites that provide the core for a wider network for nature recovery. This needs to reflect the dynamism of natural systems and be able to respond to the challenges of a changing climate.

Our Protected Sites on land and at sea make up over a million hectares of terrestrial and freshwater areas and our terrestrial Protected Sites represent about 8% of the land area of England. Improving the quality and connectivity of these sites as well as creating and restoring wildlife-rich places in the wider countryside, is fundamental to delivering Lawton's aims and recovering nature. Protected Sites will play a vital role, alongside the wider habitats target, in driving forward delivery towards the ambitious species targets and the 30x30 Convention on Biological Diversity commitment.

Protected Sites already have a recognised rigorous scientific framework for monitoring and assessing their condition. This framework provides critical intelligence on environmental quality and whether this is improving or deteriorating over time. The delivery of action-based targets alone does not necessarily equate to improvements in the overall health of our environment. A qualitative target is key to assessing and understanding the progress we are making with nature recovery.

There is also a risk that a more limited range of targets could result in perverse or unintended outcomes, which in turn could affect delivery of other targets. Co-ordinated action needs to be driven forward across our Protected Sites and wider habitats to ensure we achieve all of the biodiversity targets.

We therefore recommend that a Protected Sites target is introduced as soon as is practically possible which reflects the current 25 Year Environment Plan goal to restore 75% of our one million hectares of terrestrial and freshwater Protected Sites to favourable condition by 2042. This would give statutory weight to this critical component of nature recovery.

Marine

We support this target and agree with its level of ambition. Natural England's work with the Joint Nature Conservation Committee (as outlined in the Evidence Pack) provided the evidence for this 70% target. This evidence was based upon the current condition of the habitats and species afforded protection within our Marine Protected Area network; and scientific literature-based estimates of how long it would take for habitats and species to recover from a damaged state to favourable condition. The features that cannot be brought into favourable condition by 2042, because they are slow to recover from human impacts, will be in the process of recovering from unfavourable condition to favourable condition.

We would note that effective management of human activities within the Marine Protected Areas will need to be put in place by the start of 2025 at the latest, to allow recovery of these sites by 2042.

Water

Natural England's rationale for conserving freshwater ecosystems is focused on the critical importance of natural ecosystem function (physical, hydrological, chemical and biological). There is need for co-ordinated action across the water and biodiversity targets at scale to restore our freshwater and water dependent habitats and species to achieve the Water Framework Directive and 25 Year Environment Plan commitments, including improving at least three quarters of our waters close to their natural state. This requires us to achieve reductions in pollution in parallel with other improvements through action targeted and prioritised across a range of delivery mechanisms in catchments.

The proposed targets will help to achieve the outcomes required, but action will need to be carefully spatially targeted to help deliver the species abundance and habitats targets and to restore the condition of Protected Sites.

Our Protected Sites have been impacted to varying degrees, timescales and by different sectors and the solutions needed to address specific issues vary in specific localities. We would therefore welcome the associated development of specific targets for catchments. River Basin Management Plans set out the hydrological requirements for Protected Sites and their targets and actions already planned help achieve them. These committed measures however are not enough in themselves to achieve the targets and the Plans do not currently secure the additional delivery required to secure recovery of these sites. Natural England would welcome the inclusion of catchment specific measures in the revised 25 Year Environment Plan in relation to water and the interlinking pressures that will achieve more for nature recovery and favourable condition for these sites. This would provide a mechanism to drive progress which could be reported on an annual basis.

Natural England is also doing more to understand the impacts of toxic and emerging chemicals on Protected Sites. Where this is an issue, we will need to work closely with those sectors to reduce these impacts. Pesticides are also a significant issue for the recovery of some sites and will need to be tackled to achieve nature recovery.

Abandoned metal mines

We welcome the addition of an abandoned metal mine target to tackle the long-standing pollution caused by these sources. Metals can have significant impacts on Protected Sites and species and this target will enable the action required to reduce the risk of this.

In some instances, metal-rich sites are important because of their toxicity and "specialist" species have developed tolerances to the metals resulting in rare and distinct communities, some of which have been notified as SSSIs. For example, *Pohlia andalusica* is a nationally scarce species found on metalliferous ground as part of a wider species assemblage and is part of the species at risk under the extinction target. Such species require metalliferous substrates to be exposed and stable, and water flow in streams to be at a natural rate to maintain humid conditions and exposed banks: a key factor for populations of these bryophyte flora. We would therefore welcome the continued consideration of these species' requirements in remedial plans to achieve the target.

Nutrient pollution from agriculture

We support the target for the reduction in nitrogen, phosphorous and sediment contribution from agriculture. Nutrient pollution from agriculture is a significant pressure for different freshwater habitats including standing waters, rivers, estuarine, wetlands and coastal habitats.

The target should reflect the scale of reductions needed for Protected Sites and to deliver for wider habitats and species. We believe this needs to be spatially applied to drive the changes needed. A “flat” delivery of 40% reduction in nutrient pollution across the piece will contribute towards nature’s recovery, but it will not provide favourable condition on all our Protected Sites. There is a wide distribution in the catchment reductions of nutrient inputs needed for different freshwater habitats, with the majority requiring between a 20 - 95% reduction. This evidence underlines the need to drive action in a spatially targeted way to benefit freshwater habitats for nature recovery.

Spatially targeting the reduction target could also have positive implications for nutrient neutrality which is required in catchments where Protected Sites are already failing their objectives. To avoid nutrient neutrality conditional measures for new developments, there needs to be certainty that actions are in place and being delivered to achieve favourable condition.

Nutrient pollution from wastewater

We support this target and believe that the 80% reduction of phosphorous from wastewater is a good level of ambition. We note that limiting the phosphorous pollution from wastewater treatment works based on size through the application of technically achievable limits (TAL) could be a challenge for our current 25 Year Environment Plan Protected Site condition target. Many wastewater treatment works in smaller more rural catchments are small, serve less than 2,000 people and we would seek to consider TAL in some cases.

In managing different sources of pollution, we need to be mindful of the impact of our interventions. For example, reducing phosphorus pollution at Wastewater Treatment Works is helpful but increased chemical dosing could have negative impacts on ecology; so these impacts would need to be well understood. We would suggest that further spatial targeting of what action is required at a catchment level across sectors would help support Protected Sites.

Water demand

We support the target to reduce water demand, but it is our view that a spatially targeted approach is also needed to reflect the challenges facing water resources for the Protected Site network and the spatial and temporal variability of water stressed areas across England. This would allow more stringent actions to be applied in areas which are currently water stressed and/or have the potential to become water stressed in the future. A spatially targeted approach will also better accommodate predicted population growth, which is likely to be spatially significant and will exacerbate this pressure.

The sole use of the proposed metric of distribution input per head of population to measure the target could have limitations. By integrating a per capita factor into the metric, the target does not guarantee that there will be any reduction in water removed from the natural environment as any water savings made through demand or leakage reduction are used to potentially supply a growing population. Similarly, these impacts may be spatially significant and could disproportionately impact certain areas of England, such as in the south and east which are projected to have the largest population growth.

We also note that the proposed target only applies to water supplied through water companies’ public water supply networks. This therefore excludes all other sources of abstraction such as agricultural irrigation and industrial uses, which have been identified as having an ongoing impact on many designated sites.

All available demand reduction measures should be objectively assessed for their efficacy and feasibility, for the full range of housing stock and demographics present in England. This will then inform decision making allowing the most effective and appropriate targeting of demand reduction techniques to be used across the full range of locations and water resource scenarios.

Woodland

The increase in woodland cover sought under this target represents at least a tripling of existing planting rates. We consider this a good level of ambition to enable effective integration of trees and woodland within the landscape. As well as enhancing carbon storage and sequestration, new woodlands and trees have a pivotal role to play in supporting the recovery of nature, injecting much needed structural complexity into our landscapes.

Where and how we establish these new wooded habitats and trees profoundly influences their value for carbon, nature and the delivery of the wide range of other public benefits sought from so significant a land use change. If planted appropriately standing trees can provide a net carbon sink, but if planted inappropriately they can cause the release of carbon through water loss and soil erosion. If poorly sited, afforestation can damage peat forming communities that have the ability to continue to accrue and store ever more carbon in situ for millennia. Delivery towards the target must ensure that we avoid planting the wrong type of woodland in the wrong place, as this can be detrimental for the target's wider nature recovery aims through the destruction of existing priority habitats, such as the functionality of peatland and areas which support populations of rare and threatened species assemblages (e.g. ground-nesting wading birds).

We would urge that the current focus on the right tree in the right place established in the right way is maintained and that we work to ensure that proper pre-planting/establishment checks are in place. We would also support measures to remove inappropriately sited trees when necessary to help restore the functionality of important ecosystems such as peatlands and to also support the open habitats that will be required under the habitats target, by following the [Open Habitats Policy \(2010\)](#).

The proposed target is also a simple quantitative one and does not differentiate between broadleaves and conifers, native versus non-native species, or different types of woody habitats. We believe to meaningfully understand the role of the woodland target in enabling delivery against the species and wider habitats targets, additional data needs to be readily available at a far finer level of granularity. In the short term to 2025, it is recognised this will be needed to inform monitoring and evaluation of relevant activity funded under the Nature for Climate Fund.

Whilst we need significantly higher levels of all types of tree cover, including sustainable production focused plantations to reduce our dependency on imported timber, the maxim "it's a marathon not a sprint" is relevant to establishing new wooded habitat of high value for nature which will also provide carbon storage. The design of new woodland habitats, and how they are established substantively influences their value for nature. We consider that natural colonisation and well-designed planted schemes can make a substantive contribution to delivery of the biodiversity targets.

The principal focus on achievement of the 25 Year Environment Plan tree planting target has so far been on woodland planting and large-scale forestry. Whilst such activity is vitally important for goals such as increasing domestic timber supply, there is significant scope to complement this by integrating many more trees outside of woodlands into our farmed landscapes without necessitating whole scale land use change. These treed landscapes, be they hedgerows, scrublands, riverside trees, wood pastures or orchards, have significant nature value contributing to the habitat diversity within our landscapes. They also enhance the landscape permeability for both woodland and non-woodland species. We therefore welcome the fact that inclusion of the tree canopy measure within the target enables the important contribution of Trees Outside of Woods, orchards, wood pastures, hedgerows and within successional scrub habitat (including as a consequence of natural colonisation) to be recognised.

Natural colonisation also offers considerable benefits, especially on sites close to existing native woodland or alongside old hedgerows which can provide a ready source of seed or suckers. Structurally complex mosaics habitats of scrub, open habitat and young trees, that provide plenty of 'edge' habitat and a diverse

array of niches for invertebrates and birds are important for nature recovery. An abundance of thorny shrubs which flower profusely under the relatively open canopy also supply food for insect pollinators and berry eating birds.

We would agree that trees that are excluded from the permanency requirements should not count towards the target. Some plantations are already excluded from these requirements and the Government's Nature Recovery Green Paper is consulting on further adjustments to this requirement.

Air

The two proposed air quality targets are limited to human health protection, which is not part of Natural England's remit.

Air pollution also causes major damage to natural habitats and species, as outlined in the Government's Clean Air Strategy and 25 Year Environment Plan. Our shared evidence base (Nitrogen Futures, a partnership project initiated by Defra) indicates that a significant number of SSSIs and wider habitat areas exceed environmental thresholds (critical loads) for nitrogen impacts. This significant exceedance is predicted to continue into 2030 and 2040 unless substantial further action is taken to reduce atmospheric nitrogen deposition for these ecosystems. Without this further action it will not be possible to fully achieve our biodiversity objectives and targets.

There are many opportunities already available to help drive progress, for example through the Environment Act, Air Quality Strategy review, new regulation under the Clean Air Strategy, Future Farming and Countryside Programme and Shared Nitrogen Action Plan pilots. However, Nitrogen Futures has identified that there needs to be a significant uplift in ambition to drive the scale of action needed at a national and local level. Planned work under the Nitrogen Futures project will help to identify the nature of further action needed to meet biodiversity targets.

Research shows Ammonia plays a critical role in the formation of PM2.5, with 39% of PM2.5 derived from Ammonia (Gu et al. 2021 DOI: 10.1126/science.abf8623). If delivery of the target can reduce sources of ammonia emissions, there are co-benefit opportunities to improve habitat recovery towards the Environment Act and 25 YEP targets, alongside mitigation of PM2.5 pollution to improve human health.

We would welcome strong measures in the revised 25 Year Environment Plan relating to air pollution and ecosystems and enhanced integration between environmental targets to close the delivery gap. This will enable nature recovery, deliver Protected Site objectives and maximise synergies with water quality and soil health.

Peoples Enjoyment of the Natural Environment target

We would advise that a statutory people's enjoyment of the natural environment target is kept under review and progress is maintained to develop the indicators required to measure delivery against such a target.

The current goals of the 25 Year Environment highlight the essential benefits people receive from the natural environment. We would welcome the continuation of strong measures in the revised 25 Year Environment Plan that support the rationale for a people enjoyment target in the future. This is an important and developing area of government policy, linking wider government priorities around health, skills development, physical activity and levelling up; to pro environmental behaviours and investment in nature's recovery.

Building people engagement into the other Environment Act targets and embedding nature into other Government strategies will help integrate environmental improvement with benefits for people. Further development of the indicators in the 25 Year Environment Plan will also be vital to secure ongoing commitment and sustainability of the current programmes of Green Social Prescribing, Green Infrastructure Framework and improving access to the outdoors.

Yours faithfully

A handwritten signature in dark ink, appearing to read "Alan Law", followed by a period.

Alan Law
Deputy Chief Executive