



Department
for Environment
Food & Rural Affairs

Environmental targets consultation summary of responses and government response

Date: 16 December 2022

We are the Department for Environment, Food and Rural Affairs. We're responsible for improving and protecting the environment, growing the green economy, sustaining thriving rural communities and supporting our world-class food, farming and fishing industries.

We work closely with our 33 agencies and arm's length bodies on our ambition to make our air purer, our water cleaner, our land greener and our food more sustainable. Our mission is to restore and enhance the environment for the next generation, and to leave the environment in a better state than we found it.



© Crown copyright 2022

This information is licensed under the Open Government Licence v3.0. To view this licence, visit www.nationalarchives.gov.uk/doc/open-government-licence/

This publication is available at www.gov.uk/government/publications

Any enquiries regarding this publication should be sent to us at

environmentaltargets@defra.gov.uk

PB 14778

www.gov.uk/defra

Contents

Environmental Targets Consultation	1
Summary of responses and government response.....	1
Contents	3
Introduction	5
Background	6
Analysis methodology.....	6
Consultation responses	8
Overview	8
Total number and profile of responses	8
Considerations and final targets	9
Biodiversity on land	10
Suite of biodiversity targets	10
2030 and long-term species abundance target	10
Long-term species extinction risk target.....	12
Long-term wider habitats target.....	13
Biodiversity in the sea.....	14
Marine Protected Areas (MPA) target	14
Improve water quality and availability	16
Abandoned metal mines target	16
Suite of nutrient targets.....	17
Nutrient pollution from agriculture target	18
Nutrient pollution from wastewater target	19
Water Demand target.....	21
Woodland cover	22
Tree canopy and woodland cover	22

Resource efficiency and waste reduction24

- Reduce residual waste target.....24
- Resource productivity26

Air quality27

- Suite of air quality targets.....27
- Annual Mean Concentration.....27
- Population exposure reduction.....29

Next steps30

Introduction

This document provides a summary of responses to the Department of Environment Food & Rural Affairs public consultation on the proposed first suite of Environment Act 2021 targets for England, and the government's response.

This government is committed to leaving the environment in a better state than we found it. We are implementing an ambitious suite of targets to restore and protect our environment which will deliver on that commitment.

The suite of targets we consulted on was the result of significant scientific evidence collection and development over preceding years. It included input from evidence partners and independent experts, supported by over 800 pages of published evidence. We have full confidence in the final suite of targets, which represents the robust analysis already undertaken.

After careful consideration of consultation responses, which in the main wanted government to set even more ambitious targets, we have largely decided to proceed with the targets unchanged from the consultation. A key requirement of the Environment Act 2021 is to develop deliverable targets that will help us improve the state of the environment on land and at sea.

We are setting stretching targets to tackle some of the biggest pressures facing our environment and they will not be easy to achieve. They will ensure progress on clean air, clean and plentiful water, less waste and more sustainable use of our resources, a step change in tree planting, a better marine environment, halting and reversing the decline of nature and a more diverse, resilient and healthy natural environment.

The consultation ran from 16 March 2022 to 27 June 2022. It was wide ranging with 48 questions relating to 13 proposed targets. It received a total of 181,003 responses from a wide range of individuals and organisations, including 76,604 responses via 6 campaigns, 103,275 petition signatures, 660 individual responses and 464 responses from organisations. We have comprehensively considered all responses in our analysis.

The overwhelming response to the consultation demonstrates the strength of feeling for these important issues.

This document is structured as follows:

- methodology
- overview of consultation responses
- considerations and final targets - high level summary of consultation responses and government response for each of the proposed targets

Further analyses on the responses to each question are set out in the Technical Annexes.

Background

The Environment Act 2021 requires that at least one 'long-term' target is set in each of 4 priority areas: air, water, biodiversity, and resource efficiency and waste reduction. It also requires targets to be set for fine particulate matter (PM_{2.5}) and species abundance. The Environment Act 2021 states that a target is 'long-term' if the specified date is no less than 15 years after the date on which the target is initially set.

The public consultation sought views on proposed targets, designed to lead to action in areas where we face some of the greatest threats and pressures. This led to the consultation including more targets than the minimum number legally required. Respondents were invited to provide information and comments on the proposals.

Analysis methodology

The consultation was published on the online digital platform Citizen Space which recorded responses through an online questionnaire. Responses were also received via email and post. Most responses received via email were part of organised campaigns.

The consultation included 27 closed-ended questions, and 21 open-ended questions. All responses received within the consultation deadline were counted and the views presented were included in the analysis. All responses were read individually except:

- closed-ended responses (for example, yes or no responses) received through Citizen Space, which were analysed using automated methods
- identical responses from campaign responses, which were automatically identified based on consistency of their content – however all personal additions were read individually

A full record of all questions is available in the Technical Annexes.

6 campaigns were identified, and 2 petitions that related to the consultation were presented as responses. Campaign responses and petitions formed 99% of total responses to the consultation: petitions were 57% of the total and campaigns 42% of the total. This demonstrates a very high level of public interest in the proposed targets. These responses have been included within the analysis and consideration of the final suite of targets, in the same way as responses from organisations or individuals.

The organisations who responded to the consultation are listed in the Technical Annexes. Some organisations were umbrella groups whose responses represented the collective views of their member organisations. These responses counted as a single view in the analysis. However, their members also responded separately in some cases, and these were included in addition.

To better understand the general themes that emerged, we grouped organisations, using a best-fit based on our existing knowledge of the organisation or how it described itself on its website. This resulted in 5 broad sectors. These were:

1. academics
2. businesses
3. non-governmental organisation
4. professional body (including unions, trade associations, multi-stakeholder alliances, professional and chartered institutes)
5. public sector (including councils, waste authorities and local nature partnerships)

As we received consultation responses in a variety of forms, some responses addressed the consultation questions more directly than others. Our analysis considers all responses in relation to the consultation questions and its corresponding themes.

Reporting methodology

Table 1 includes terminology that we have used to describe the frequency of responses to individual questions:

Table 1: Frequency of responses terminology

Term	Description
Definitive response	Responses that 'agreed' or 'disagreed'.
Predominantly or most	Greater than 80%.
Majority	More than 60% and less than or equal to 80%.
Small majority	More than 50% but less than or equal to 60%.
Even	Equal to the nearest whole percentage.
Minority	More than 20% but less than 50%.
Small minority or small number	Less than or equal to 20%.

Consultation responses

Overview

There were a number of respondents who welcomed the setting of the proposed targets (the targets) by the UK government, and many consultees viewed this as a positive step in protecting the environment. There were differences of opinion between those representing the industries that will be responsible for implementing the proposed targets and consultees with a primary focus on environmental issues. The Office for Environmental Protection congratulated the government on progress so far whilst urging that statutory targets should be comprehensive and demonstrate the level of ambition needed, as required under the Environment Act 2021.

The most popular response from businesses and public sector organisations was to agree with the proposals for the majority of closed-ended questions (that resulted in a yes or no answer). Disagreeing with the proposal was the most frequent response from academics and non-governmental organisations. Professional bodies disagreed with the targets more often than they agreed.

The majority of views (in most cases with over 90% of responses) on biodiversity, Marine Protected Areas, water, waste, woodland cover and air quality targets were for higher levels of ambition.

Total number and profile of responses

In total we received 181,003 responses by citizen space, email or post made up of:

- 76,604 from environmental and health campaigns - the Big Plastic Count (60,079), Asthma + Lung UK (5,856), Royal Society for the Protection of Birds (4,343), the Woodland Trust (3,833), Friends of the Earth (2,446) and Greenpeace (47)
- 464 from organisations – categorised as academic (18), businesses (101), non-governmental organisations (151), professional bodies (69) and public sector (125).
- 660 from individuals not associated with a campaign or organisation
- 103,275 signatures agreeing to petitions - from Friends of the Earth (42,324) and the Wildlife Trust (60,951)
- 214 non-campaign responses by email and post

Figure 1: Numerical analysis of responses and petitions

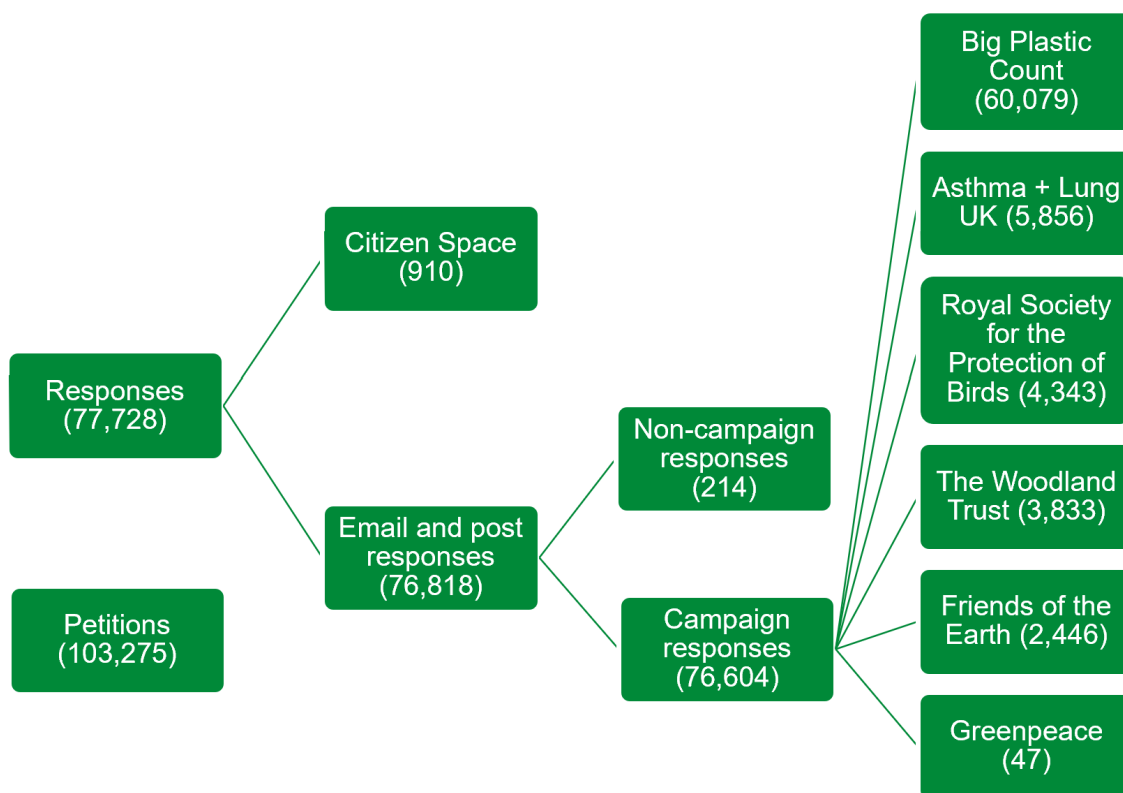


Figure 1 shows the breakdown of unique responses and responses identified as being consistent with a co-ordinated campaign. 77,728 non-petition responses were received, submitted by 75,080 respondents.

Some respondents submitted answers in more than one format (Citizen Space, email or to more than one campaign), where this occurred these were counted as single respondents. Responses from a single individual were counted as separate responses where they included different information. That is why the number of respondents is less than the number of responses.

Responses via Citizen Space were non-campaign responses. Campaign responses did not all answer every consultation question. The number of answers from specific campaigns against each question has been reported in the Technical Annex.

Considerations and final targets

We have carefully considered all of the responses to the consultation, as well as over 800 pages of evidence developed and expert opinion that was provided through the target setting process.

Targets will play an important role in driving environmental improvements and we recognise the strong public support to drive change as fast and as ambitiously as possible. Whilst we want targets to be stretching, there is a need for them to be achievable. This is a

legal requirement included in the Environment Act 2021, stating that the Department of Environment Food & Rural Affairs Secretary of State must be 'satisfied' the target can be met before making target regulations.

In considering the consultation responses, we considered if proposed changes to the targets' level of ambition were capable of being achieved. We believe that the final suite of targets is stretching and will deliver what we need to improve the state of nature and the environment in our country. The following sections set out any changes made to the targets since the consultation and the reasons why.

Biodiversity on land

Suite of biodiversity targets

Consultation responses

In the consultation, we asked 2 questions about the 3 biodiversity targets proposed to complement the Environment Act 2021 target to halt the decline in species abundance by 2030.

There were 10,479 answers to these questions. 9,306 (89%) of these were identified as campaign responses (run by Friends of the Earth, Greenpeace, Royal Society for the Protection of Birds and the Woodland Trust). Overall, most answers (92%) disagreed that these targets would be a good measure of biodiversity changes. A small majority (53%) of non-campaign answers (1,173, 11%) disagreed and a minority (34%) agreed. Respondents were invited to suggest additional indicators to be considered to measure the health of our 'biodiversity'.

The most frequently mentioned indicator that should be added was protected sites and specifically Sites of Special Scientific Interest. There were many responses calling for the introduction of a protected sites target, including that of the Office for Environmental Protection and the Royal Society for the Protection of Birds campaign.

Some answers suggested the target end dates for all the biodiversity targets should be changed from 2042 to a range from 2027 to 2032 to put in place protection for biodiversity more quickly.

2030 and long-term species abundance target

Proposed target included in the consultation:

Increase species abundance by at least 10% by 2042, compared to 2030 levels.

Consultation responses

We asked 2 questions about the proposed target to: increase species abundance by at least 10% by 2042, compared to 2030 levels.

Combined, there were 22,802 answers to these questions, 20,979 (92%) of these were identified as campaigns (run by Friends of the Earth, Greenpeace, Royal Society for the Protection of Birds and the Woodland Trust). A petition from the Wildlife Trust included 60,951 signatures related to these questions. Overall, most answers (99%) disagreed with the ambition level of a 10% increase in long-term species abundance. A majority (66%) of non-campaign answers (2,923, 8%) also disagreed, with a minority (25%) of answers agreeing with the ambition level. Most answers (99%) which provided further explanation identified a general lack of ambition as their main reason for wanting government to consider a different target.

Summary of responses

Consultation respondents wanted to see a more ambitious target. They felt that, as defined, the target could potentially be met with a level of species abundance that was lower in 2042 than it is today and that was unacceptable. The most common issues raised were with the level of ambition, the use of a 2030 baseline, and to a lesser extent, whether the indicator is representative. The Office for Environmental Protection raised concerns around the legality of basing the target on an uncertain 2030 baseline.

Government response

This government is committed to halting and reversing nature's decline. The UK has been leading international efforts in developing an ambitious and transformative framework of global targets under the Convention of Biological Diversity. We recognise concerns that the target, as previously phrased, could allow for nature being in a worse condition than it is today, which was not our intent. We have amended it accordingly. It now specifies that abundance must be greater in 2042 than it is now, addressing the Office for Environmental Protection's concern and bringing the baseline in line with the timescale for our habitat and species extinction risk targets.

Modelling for the species abundance targets was developed by UK Centre for Ecology & Hydrology, Royal Society for the Protection of Birds and Queen Mary University of London, with guidance from the Department of Environment Food & Rural Affairs and Natural England. With respect to calls to increase our ambition - such as by setting the target for an earlier year or increasing abundance by as much as a 20% increase on 2022 levels – we have considered these views but increasing ambition in this way is not supported by our extensive evidence base. These targets are already challenging, and it is important that we set an achievable level.

To halt nature's decline by 2030 we know we will need to take action to restore our protected sites, which are vital wildlife havens. As they are such a crucial part of delivering our 25 Year Environment Plan commitment, we remain committed to their restoration.

Finally, the Office for Environmental Protection and other consultation views asked that further species were included in the indicator, where the available data is of sufficient quality. This will help in making sure that the target is reliably measurable. Since the publication of the consultation, we have increased the representativeness of our indicator through 124 additional species, including previously unrepresented groups like freshwater and estuarine fish and bumblebees.

Final target:

Ensure that species abundance in 2042 is greater than in 2022, and at least 10% greater than 2030.

Long-term species extinction risk target

Proposed target included in the consultation:

Improve the England-level Great Britain Red List Index for species extinction risk by 2042, compared to 2022 levels.

Consultation responses

We asked 2 questions about the proposed target to: improve the England-level Great Britain Red List Index of species extinction risk by 2042, compared to 2022 levels.

In total, there were 18,149 answers to these questions, 16,676 (92%) of these were identified as campaigns (run by Friends of the Earth, Greenpeace, Royal Society for the Protection of Birds and the Woodland Trust). Overall, most answers (92%) disagreed with the level of ambition for the target, with a minority (40%) of non-campaign answers agreeing, and a minority disagreeing (45%). A small majority (59%) of those who provided further explanation identified lack of ambition as their main reason for disagreeing with the target. A minority (42%) of those who explained their disagreement identified issues with the target's definition and scope.

Summary of responses

There were calls for us to increase ambition and there was criticism, including from the Office for Environmental Protection, over the lack of a specified level of ambition for this target and the chosen indicator. Many of those objecting to the indicator preferred a target that focusses only on species currently threatened by extinction, while our proposed indicator includes species not currently threatened.

Government response

The proposed target indicator measures the extinction risk of 8,259 species. Changes in an extinction risk category for a specific species require significant improvements in the

condition of the species population. Therefore, modest improvements in the overall target indicator reflect significant reductions in extinction threat, so we have decided against setting a specific level of increase in the indicator.

We have explored other metrics but have concluded that our approach, in combination with our abundance indicator, will provide the most suitable measure. It is vitally important not just to reduce the extinction risk faced by our critically endangered species, but also to ensure we do not allow lesser threatened species to deteriorate to such a condition. We found that other options were less sensitive to both improvement and declines.

Final target:

Improve the Red List Index for England for species extinction risk by 2042, compared to 2022 levels.

Long-term wider habitats target

Proposed target included in the consultation:

Create or restore in excess of 500,000 hectares of a range of wildlife-rich habitats outside protected sites by 2042, compared to 2022 levels.

Consultation responses

We asked two questions about the proposed target to: create or restore in excess of 500,000 hectares of a range of wildlife-rich habitat outside protected sites by 2042, compared to 2022 levels, relating specifically to the level of ambition.

There were 22,613 answers to these questions, 20,928 (93%) of these were identified as campaigns (run by Friends of the Earth, Greenpeace, Royal Society for the Protection of Birds and the Woodland Trust). Overall, most answers (96%) disagreed with the level of ambition for the target: only a small majority of non-campaign answers disagreed (53%), whilst a minority (34%) agreed. In answers that provided further explanation, common themes included were a general perceived lack of ambition (including calling for a higher target and considering net increases) and concerns regarding monitoring the target. For example, the Office for Environmental Protection indicated that the target could be stronger from a nature recovery perspective and the Royal Society for the Protection of Birds campaign included a call for 'a net increase of 750,000 hectares of permanent, high quality, and diverse habitats'.

We asked a further 3 questions regarding which wildlife-rich habitats should count towards the proposed target.

In total, there were 1,150 answers to the above questions. Overall, the majority of answers (72%) agreed that all wildlife rich habitat types should count; a small minority of answers disagreed (13%).

Summary of responses

The majority of respondents wanted to see an increase in ambition, specifically for the target to be a net increase in habitat, while some respondents had concerns over the ability to accurately monitor this target. Both of these concerns were raised by the Royal Society for the Protection of Birds campaign and the Office for Environmental Protection.

Government response

We have considered whether we could increase the target ambition but cannot be confident that would be achievable. As the target states that we will create 'in excess of 500,000 hectares this does not limit our ambition, but it does set in law the minimum level that we should deliver. We think this represents a good balance between ambition and achievability.

With regard to calls for a net target, we do not have sufficient data to fully account for habitat lost. We intend to focus as much as possible on net increase by using reporting from live agri-environment scheme agreements and not counting compensatory habitat to ensure as far as possible that new habitat is additional.

The vast majority of respondents supported our proposal for the inclusion of a broad range of wildlife rich habitat. For woodland, we are proposing that native woodland and mixed woodland which is mainly native broadleaf are included on the list of habitats that qualify as wildlife-rich. Our policy is to ensure the right tree is in the right place to recognise the multiple benefits that different tree species can provide across carbon, nature, and water quality. This is delivered by the UK Forestry Standard which seeks to reduce planting of monocultures and maximise the multiple benefits of forests by incentivising the right mix.

Final target:

Restore or create in excess of 500,000 hectares of a range of wildlife-rich habitat outside protected sites by 2042, compared to 2022 levels.

Biodiversity in the sea

Marine Protected Areas (MPA) target

Proposed target included in the consultation:

70% of the designated features in the MPA network to be in favourable condition by 2042, with the remainder in recovering condition, and additional reporting on changes in individual feature condition.

Consultation responses

In the consultation we asked 2 questions about the proposed target for: 70% of the designated features in the MPA network to be in favourable condition by 2042, with the remainder in recovering condition, and additional reporting on changes in individual feature condition. Currently 44% of the features in the MPA network are in favourable condition.

There were 13,360 answers to these questions, 12,416 (91%) of these were identified as campaigns (run by Friends of the Earth, Greenpeace, and the Woodland Trust). Overall, most answers (91%) disagreed with the level of ambition of the MPA target, 7% agreed and 3% did not know, with the Office for Environmental Protection calling for Good Environmental Status in all seas by 2042. A minority of the non-campaign answers (39%) agreed with the ambition of the target. Most (98%) campaign answers disagreed.

Summary of responses

The majority of responses indicated a preference to increase our ambition level or to achieve the target sooner.

Government response

We have chosen 2042 to align with the 25 Year Environment Plan ambition. A consequence of bringing the target date sooner would be a lower percentage target as the percentage targets are scientifically modelled on the recovery rates of features.

We have removed the reference to 'additional reporting on changes in individual feature condition' from the target that we consulted on. We will instead be undertaking additional reporting on the extent to which pressures have been removed from MPAs, as part of our assessments into those features in a recovering condition.

The Office for Environmental Protection responded to the consultation and suggested that an additional target be brought in to achieve Good Environmental Status in all seas by 2042. We are not proceeding with this proposal as Good Environmental Status is set out through the UK Marine Strategy, which is UK wide, whereas these targets under the Environment Act 2021 are England only. The Office for Environmental Protection also recommended that we create an additional target focused on halting damaging activities by 2024. We are not taking this forward as the target to achieve favourable condition by 2042 is predicated on halting damaging activities by 2024.

Final target:

70% of the designated features in the MPA network to be in favourable condition by 2042, with the remainder in recovering condition.

Improve water quality and availability

In the consultation, we asked 11 questions about 4 targets proposed to improve water quality and availability. In total, there were 56,132 answers to these questions, 49,951 (88%) of these were identified as campaigns (run by Friends of the Earth, Greenpeace, Royal Society for the Protection of Birds, and the Woodland Trust).

Many consultation respondents wanted the Department of Environment Food & Rural Affairs to consider adding an overall target for water quality. The Office for Environmental Protection felt that the targets proposed represented a significant step change in ambition. They had however hoped for more assessment of the cumulative impact of all the targets.

The end date for all 4 of the water targets has been changed from 2037 to 2038 to meet the legal requirement that the targets span a 15-year minimum duration. This will also align the water long-term targets with the 5-year reporting cycle of the Environmental Improvement Plan.

The Government already has legally binding targets for water health in the Water Environment (Water Framework Directive) Regulations 2017.

Abandoned metal mines target

Proposed target included in the consultation:

Reduce the length of rivers and estuaries polluted by target substances (cadmium, nickel, lead, copper, zinc, arsenic) from abandoned mines by 50% by 2037 against a baseline of around 1,500km.

Consultation responses

We asked 2 questions about the proposed target to: reduce the length of rivers and estuaries polluted by target substances (cadmium, nickel, lead, copper, zinc, arsenic) from abandoned mines by 50% by 2037.

Overall, most answers (91%) disagreed with the level of ambition of the proposed target. A minority of non-campaign answers (45%) agreed with the level of ambition of the proposed target. Most campaign answers (98%) disagreed with the level of ambition. A general desire to do more and delivery and regulations concerns were cited as the leading reasons to disagree with the proposed ambition (99% and 65% of answers respectively).

Summary of responses

Responses, including the Office for Environmental Protection's, indicated they did not consider the target was a national priority. There were also calls for a higher level of ambition for the target.

Government response

Abandoned metal mines are the largest source of metal pollution in English rivers and also of metal loading into the marine environment. In the majority of catchments impacted by these mines, tackling pollution by the target substances will lead to these rivers achieving good status since there are few or no other reasons for failure.

The target to significantly reduce pollution from abandoned metal mines will improve the water environment and improve the regional economies of the areas affected, such as significant benefits to jobs in the North East from resolving sediment problems in the River Tyne.

This ambition will require at least a 10-fold increase in the number of projects operated by the current Water and Abandoned Metal Mines Programme. We considered calls to increase our target ambition, however we concluded this would not be feasible given significant additional funding required, supply chain constraints and long lead-in times to secure the additional capability and to plan schemes. Ultimately, the additional costs would reduce the cost to benefit ratio and delivery partners had low confidence that any further substantial increase in projects could be accelerated in time for 2038.

We considered using a metric that was based on the amount of metals entering the water environment (mass flux) from abandoned metal mines. Mass flux is highest during heavy rainfall as the rain washes metal pollutants from mines into rivers. However, this is also when there is less environmental damage as the rainfall dilutes the metal pollutants. Therefore, we discounted this as it would not reflect environmental damage as accurately as the metric of metal concentrations in water bodies.

Final target: Halve the length of rivers polluted by harmful metals from abandoned mines by 2038, against a baseline of around 1,500 km.

Suite of nutrient targets

Consultation responses

We asked 2 questions on whether there was agreement with the level of proposed ambition for nutrient targets.

Most respondents disagreed (92%) with the level of ambition. Most campaign responses disagreed (98%) while a minority (43%) of non-campaign answers disagreed. The reasons cited for disagreeing mostly pertained to a general desire to do more (98%), delivery and regulation concerns (64%) and target definition and scope (15%). Themes from campaign

and organisation responses included calls for an overall water health target, inclusion of additional pollutants and a lack of support to deliver.

Nutrient pollution from agriculture target

Proposed target included in the consultation:

Reduce nitrogen, phosphorus and sediment contribution from agriculture in the water environment by at least 40% by 2037 against a 2018 baseline.

Consultation responses

We asked 3 questions about the proposed target to: reduce nitrogen, phosphorus and sediment contribution from agriculture in the water environment by at least 40% by 2037 against a 2018 baseline.

Overall, a small majority of answers (53%) agreed that setting out ambition to reduce nutrient pollution from agriculture in individual catchments would strengthen the national proposed target. A majority of campaign answers (75%) and a small majority of non-campaign answers (53%) agreed with the inclusion of individual catchment alongside the national target.

Summary of responses

A large majority of respondents wanted a more ambitious agriculture target with greater pollution reductions achieved by an earlier date or inclusion of more pollutants. A small number of mostly agricultural stakeholders thought a 40% reduction by 2037 was unachievable or that inclusion of catchment specific targets would put specific farmers under greater pressure.

Respondents also wanted more pollutants included in the target scope. Most respondents agreed that the main target should be underpinned by catchment specific targets to improve the effectiveness of delivery and regulation. Those that disagreed felt that catchment targets may put specific farmers under far greater pressure.

The Office for Environmental Protection commended the proposed target and did not suggest any changes.

Government response

Tackling pollution from agriculture is crucial to improve water quality and reach our biodiversity targets, as well as ensuring a secure supply of clean water for people and business. Our evidence shows that the proposed 40% reduction is the right level of ambition to meet these other commitments and will address the agricultural drivers of freshwater eutrophication in over half of all catchments in England. This reduction requires significant changes in agricultural practices and so we do not believe a higher level of ambition is appropriate without having significant impacts on food production. Similarly,

despite concerns raised by agricultural stakeholders regarding delivery, we have not lowered the ambition of the target as we believe this high level of ambition is essential for restoring the water environment and thriving biodiversity.

Some respondents also wanted more pollutants included in the target scope. We have not expanded the scope at this time because:

- nitrogen, phosphorus and sediment are by a considerable margin the agricultural pollutants causing the most harm
- other pollutants and causes for water bodies to not achieve near natural state, such as physical modification, are already included in the scope of the Water Environment (Water Framework Directive) Regulations 2017 and River Basin Management Plans
- given sediment is the main carrier for other pollutants (for example, microplastics) the target as proposed already contains an ambitious commitment to take the steps necessary to reduce those other pollutants

Final target:

Reduce nitrogen (N), phosphorus (P) and sediment pollution from agriculture into the water environment by at least 40% by 2038, compared to a 2018 baseline.

Nutrient pollution from wastewater target

Proposed target included in the consultation:

Reduce phosphorus loadings from treated wastewater by 80% by 2037 (against a 2020 baseline).

Consultation responses

We asked 2 questions about the proposed target to: reduce phosphorus loadings from treated wastewater by 80% by 2037 (against a 2020 baseline), specifically regarding flexibility for water companies to deliver the target.

There were 13,589 answers to these questions, of these 12,428 (91%) were identified as campaigns (run by Friends of the Earth, Greenpeace, Royal Society for the Protection of Birds, and the Woodland Trust). Overall, most answers (90%) disagreed that the proposed target provides the outlined flexibility. Most campaign answers (98%) disagreed that the target provides this flexibility. A minority of non-campaign answers (44%) agreed with the outlined flexibility.

Summary of responses

Many academics and non-governmental organisations emphasised the need to consider other pollutants in treated and untreated wastewater such as nitrogen, anti-microbials, and urban pollution. The Office for Environmental Protection supported this target as it will mitigate a key pressure on the water environment however wanted to see the scope extended to other sources of phosphorus pollution.

Most campaign respondents and a minority of non-campaign respondents wanted to see more incentivisation of catchment-based approaches and to provide greater flexibility to water companies to explore the best value solutions.

Government response

We have kept this target focussed on reducing phosphorus pollution, the most common reason a water body fails to meet Good Status under the Water Environment (Water Framework Directive) Regulations 2017. We are tackling pollution from untreated wastewater through the ambitious Storm Overflow Discharge Reduction Plan which will require water companies to deliver the largest infrastructure programme in water company history. The government is also taking action on antimicrobials through the cross-departmental PATHSAFE project and reviewing the case for implementation of Schedule 3 to the Flood and Water Management Act 2010 to tackle urban pollution in runoff.

We have not expanded the scope of this target to include nitrogen. Further research is needed into the links between elevated nitrogen levels and eutrophic impacts in rivers nationally. Including nitrogen in the target in advance of this research would require significant investment from water companies for highly uncertain environmental benefits. We are addressing areas impacted by nutrient neutrality where nitrogen is the dominant source of pollution through legislation. This will require water companies to upgrade their wastewater treatment works to the technically achievable level of nutrient removal in these areas. Agriculture is the source of most nitrogen entering the water environment and is being addressed by the agricultural water target.

We are creating 2 sector-specific targets on nutrient pollution to set clear expectations from government of what the agriculture sector and water industry need to deliver. The target is framed to allow water companies to make use of nature-based solutions as part of the wastewater treatment process, while ensuring that our expectations are clear.

Final target:

Reduce phosphorus loadings from treated wastewater by 80% by 2038 against a 2020 baseline.

Water Demand target

Proposed target included in the consultation:

Reduce the use of public water supply in England per head of population by 20% by 2037.

Consultation responses

We asked 2 questions about the proposed target to: reduce the use of public water supply in England per head of population by 20% by 2037.

There were 13,629 answers to these questions, of these 12,419 (91%) were identified as campaigns (run by Friends of the Earth, Greenpeace, and the Woodland Trust). Overall, most answers (90%) disagreed with the level of ambition of the proposed target. A minority of non-campaign answers (42%) agreed with the ambition of the target. Most campaign answers (98%) disagreed.

Summary of responses

Most campaign respondents wanted more ambition and suggested an earlier timeframe to meet the target. Concerns were raised about the proposed metric, suggesting that if population increases then we may achieve the target even if total demand on water from the environment has increased. Respondents suggested a broader scope of total water abstracted from the environment. The primary issue for responses with delivery and regulation concerns was the ability to monitor the target.

Government response

The target draws together existing commitments, creating a statutory driver for delivering the level of ambition needed to meet the required reduction in water use by 2050. It will place an additional driver on the water industry which will need to be factored into their planning, targets and delivery.

We have retained the target ambition because it will provide the 2,000 million litres per day demand reduction needed to help reduce the 4,000 million litres per day projected gap between water supply and demand by 2050 (the remaining 2,000 million litres per day delivered through increased supply). We increased the leakage reduction target from 31.3% to 36.9% to align with industry targets.

We are retaining the metric for distribution input over population because it indicates level of water used per person in England per day, making it relatable to water users. It will help to measure and improve water efficiency trends over time. The target will account for uncertainty around future population, housing needs and economic growth, while still allowing us to meet the Environment Act requirement that the Secretary of State is confident the target can be met.

Public water supply represents the majority of consumptive water use across England and therefore we have retained the scope of the target rather than using total abstraction. Ofwat also conclude 'there is currently no suitable measure of sustainable abstractions, and that it may be difficult to develop a robust metric focused on future abstractions'.

Concerns around monitoring are addressed by using annual reporting data provided as part of water companies' annual reviews of their Water Resource Management Plans.

Final target:

Reduce the use of public water supply in England per head of population by 20% from the 2019/2020 baseline reporting year figures, by the end of the reporting year 2037/2038.

Woodland cover

Tree canopy and woodland cover

Proposed target included in the consultation:

Increase tree canopy and woodland cover from 14.5% to 17.5% of total land area in England by 2050.

Consultation responses

In the consultation, we asked 5 questions about the proposed target to: increase tree canopy and woodland cover from 14.5% to 17.5% of total land area in England by 2050. There were 20,104 answers to these questions; 16,262 of these were identified as campaigns (run by Friends of the Earth, Greenpeace, Royal Society for the Protection of Birds, and the Woodland Trust).

A minority of respondents (44%) agreed with the proposed details of the target including the proposed metrics. Further, a majority of respondents agreed with excluding short rotation coppice and short rotation forestry plantations (68%) grown specifically as a feedstock for biomass energy and including trees outside woodland habitats (96%). Most respondents disagreed with the level of ambition proposed (92%). A small majority (51%) of non-campaign respondents disagreed with the level of ambition whereas a small minority (34%) of non-campaign respondents agreed. Predominantly campaign responses disagreed (98%) with the level of ambition of the target. The Office for Environmental Protection did not suggest any changes to the proposed target.

Summary of responses

Respondents largely agreed with the proposed metric and scope for the tree and woodland target. A considerable number of campaign and non-campaign responses stated a preference for a target which would achieve a higher canopy cover by 2050, while others noted that achieving the proposed level of ambition would be challenging. Some responses also called for the inclusion of sub-targets for different planting or tree species types and for the target to also include a commitment to the quality of woodlands or to increase the number of woodlands under management.

Government response

Careful consideration has been given to the most ambitious target for greater tree canopy and woodland cover that can be set but which is still realistic and therefore in line with the legal requirement in the Environment Act 2021 to be considered achievable. After a review of our evidence, we believe that an appropriate level of ambition to set at this stage is 16.5%, based on the same scope and metric we consulted on which were supported by the majority of consultees. This is in line with our commitment in the 25 Year Environment Plan to increase woodland cover from 10% to 12% of land area by 2060, but with an expanded scope to include all trees rather than conventional woodland and brought forward to 2050 to align with the Net Zero Strategy.

We have considered the inclusion of statutory sub-targets and have decided not to move forward with these proposals. We intend to give a transparent picture of the contribution from each planting type towards the target through the Forestry Commission's statistics. We will use policy and incentives to encourage the planting of woodland types we want to see. The actions we are taking through the England Trees Action Plan, the suite of targets being released - especially our biodiversity targets - and the UK Forestry Standard will act as drivers for native woodland planting and ensure the woodlands we create are mixed.

In response to the request to include a statutory commitment to the quality of woodlands or the number of woodlands under active management, we have decided not to include this proposal. Bringing more woodlands into management and improving the quality of our woodlands is important and we will continue to promote and incentivise sustainable woodland management through the actions set out in our England Trees Action Plan.

Final target:

Increase total tree and woodland cover from 14.5% of land area now to 16.5% by 2050.

Resource efficiency and waste reduction

Reduce residual waste target

Proposed target included in the consultation:

Reduce residual waste (excluding major mineral wastes) kg per capita by 50% by 2042 from 2019 levels.

It was proposed to measure this as a reduction from the 2019 level, which was estimated to be approximately 560 kg per capita.

Consultation responses

We asked 2 questions about the proposed target to: reduce residual waste (excluding major mineral wastes) kg per capita by 50% by 2042, specifically pertaining to the proposed scope of the target.

There were 133,864 answers in total to these questions on the proposed scope of the target, 132,647 of these were identified as campaigns (run by the Big Plastic Count, Friends of the Earth, Greenpeace, and the Woodland Trust). Overall, most respondents (99%) disagreed with the scope of the residual waste reduction target. Of non-campaign answers, a minority (49%) agreed with the proposed scope, however a minority of non-campaign answers (30%) also disagreed. There was a substantial number of answers to this question due to the Big Plastic Count campaign attracting 60,079 responses. Predominantly (almost 100%), campaign answers disagreed with the scope of the target.

5 further questions were asked about the proposed target to: reduce residual waste (excluding major mineral wastes) kg per capita by 50% by 2042, specifically pertaining to the method of measuring the target, legal requirements of local authorities to report waste data, and the level of ambition of the target.

Combined, there were 15,688 answers to questions on the proposed metrics, Local Authority legal requirements and level of ambition for the target. A combined total of 12,538 answers were identified as from campaigns (run by Friends of the Earth, Greenpeace, Big Plastic Count, and the Woodland Trust).

On the question of metrics, overall, a minority of answers (44%) agreed with the proposition. Of the non-campaign answers 44% were in agreement, with 22% and 34% responding with disagree or don't know respectively. The one campaign response agreed with the proposition. Of these, a small minority (35%) disagreed due to the treatment-based definition of residual waste. Answers also included suggestions for sector-specific rules or targets and a per household metric rather than a per capita metric.

A majority of answers (83%) agreed that local authorities should have a legal requirement to report waste data. Overall, most answers (91%) disagreed with the level of ambition

proposed for the waste target. However, of the non-campaign answers a larger minority agreed with the target (41%) than disagreed (37%). Those that disagreed with the level of ambition of the target mainly called for greater ambition.

Summary of responses

Important themes from the consultation included calls for greater ambition and campaign responses for a separate plastic target and ending plastic waste exports. Other notable themes included disagreement with the target scope, defining residual waste as 'waste sent to residual end-of-life treatments', measurement units, and calls to address a wider environmental impact than waste treatment alone. A small number of respondents suggested excluding ferrous metals removed from bottom ash, put through incineration or used in energy recovery and then sent for recycling. Most respondents agreed that local authorities should have a legal requirement to report waste data. The Office for Environmental Protection commended the target's ambition and supported the omission of major mineral wastes, however recommended coverage under a separate target.

Government response

We set the target ambition at the upper limits of achievability based on our evidence base, satisfying the Environment Act 2021 requirements for targets to be met. The Department of Environment Food & Rural Affairs already has a commitment of ending all avoidable plastic waste by 2042. The target is holistic and will reduce all residual waste, including plastics. This approach will avoid consumers shifting to using other environmentally harmful materials in place of plastics. Major mineral wastes are excluded to focus on reducing more environmentally harmful waste at point of treatment. Despite high tonnages, their environmental impact per tonne is low when treated as waste. We acknowledge the wider environmental impact of major mineral wastes may be high, but data is less robust for these wastes, preventing a target being objectively measurable without further evidence. Defining residual waste as 'waste sent to residual end-of-life treatments' and using 'per capita' units are the most objectively measurable approaches for the target scope.

Furthermore, a target to reduce residual waste aligns with wider government priorities to maximise the value of resources and minimise the environmental impact of waste. Meeting the target will require tackling resource use both upstream and downstream.

Following consultation, we excluded ferrous metals removed from bottom ash, put through incineration or used in energy recovery and then sent for recycling. This is consistent with the Department of Environment Food & Rural Affairs reporting of Waste from Households recycling rates. We also included waste sent out of England to Scotland, Wales or Northern Ireland for treatment to ensure that the target cannot be met by sending waste outside, and excluded wastes sent into England from these nations to avoid missing the target due to waste out of England's control.

Final target:

Reduce residual waste (excluding major mineral wastes) kg per capita by 50% by 2042 from 2019 levels. This will be measured as a reduction from the 2019 level, which has been revised to 574 kg per capita following updated evidence post-consultation.

Resource productivity

We sought views via the consultation to inform future work on developing this target, alongside exploring our proposal to measure resource productivity as a ratio of economic output (gross domestic product) in money value to raw material consumption (excluding fossil energy carriers) estimated by material weight.

We asked 3 questions to inform future work on developing a resource productivity target. There were 2 questions about a proposed metric (rather than proposals for a statutory target) and a further question about the type of policy interventions that could be needed in this area.

Consultation responses

In total there were 1,544 answers to questions on a resource productivity, 150 of these were identified as campaigns (run by Greenpeace, Friends of the Earth and the Big Plastic Count). Overall, a minority (36%) of answers agreed with the proposed metric for considering resource productivity and a minority (21%) disagreed. Of the answers that specified a policy type that they believed would be most effective, most (95%) mentioned regulatory policies, followed by a minority (31%) suggesting tax-price based policies.

Summary of responses

The Office for Environmental Protection recommended that government adds a target which addresses resource use and the associated environmental impacts of consumption, including embodied carbon. Proportionately, businesses and public sector organisations agreed with the resource productivity metric. A greater number of the academics and more than half of the professional bodies and non-governmental organisations who responded disagreed with the metric. These respondents did not agree with the inclusion of an economic metric within the indicator or with the materials considered within the metric, such as the exclusion of fossil fuels. Respondents suggested including additional indicators, for example, metrics that track economic and social prosperity. They also brought up issues in relying on companies to measure their own output, and the importance of considering the full lifecycle of resources.

In terms of possible policy interventions, most respondents suggested that regulatory policies would be most effective, followed by tax-price based policies. Most respondents indicated that both these levers should be targeted at the food and drink sector to obtain maximum impact. Construction, electronics, vehicles, and furniture policies were also

recommended. There was an equal split in recommendations for product-specific and sector-specific policies. Most respondents specified that policies should be at national scale to be most effective.

Government response

The consultation helped to explore the most appropriate approach to measure resource productivity and what policies might be most effective in the future. We will consider this further.

Air quality

Suite of air quality targets

We asked 2 questions about the proposed Annual Mean Concentration target of 10 micrograms per cubic metre ($\mu\text{g per m}^3$) to be met across England by 2040. We also asked two questions about the proposed Population Exposure Reduction target of 35% reduction in population exposure by 2040 (compared to a base year of 2018).

Consultation responses

In total, there were 49,810 answers to these questions, 47,083 were identified as campaigns (run by Asthma + Lung UK, Friends of the Earth, Greenpeace and the Woodland Trust). Overall, most answers (90% for average $\text{PM}_{2.5}$ levels and 91% for population exposure levels) disagreed with the proposed level of ambition for the air quality targets. Amongst non-campaign answers, half (50%) disagreed with the ambition level of the proposed Annual Mean Concentration target whilst a minority (31%) agreed. A minority (45%) of non-campaign answers disagreed with the ambition level of the proposed Population Exposure Reduction target, a minority (33%) also agreed. Predominantly, campaign responses disagreed (93% for average $\text{PM}_{2.5}$ levels and 94% for population exposure levels) with the level of ambition for both targets. Reasons for disagreeing with the target included suggestions that the ambition was too low for health outcomes and calls for the target to be achieved earlier.

Annual Mean Concentration

Proposed target included in the consultation:

Annual Mean Concentration Target – a $\text{PM}_{2.5}$ target of 10 micrograms per cubic metre ($\mu\text{g per m}^3$) to be met across England by 2040.

Summary of responses

A majority of responses, most notably those organised by campaigns, called for greater ambition. A sizable minority of individual responses agreed with the level of ambition.

Those calling for further ambition, including the Office for Environmental Protection, typically requested an earlier compliance year, some of whom cited research undertaken by the Environmental Research Group at Imperial College London on behalf of the Clean Air Fund. This suggested that 10 µg per m³ was achievable by 2030 in most parts of the country. Others, including the Office for Environmental Protection, either called for a target of 5 µg per m³, often referring to the World Health Organisation Guidance set at the same level, or for another concentration lower than 10 µg per m³.

Some respondents also believed that a target compliance condition was overly conservative, achieving 10 µg per m³ in 3 out of the 4 years prior would be considered meeting the target. This was included to account for spikes in concentration caused by weather events.

Government response

Following consideration of the responses, we have removed the 3 out of 4 year compliance condition.

We are required to set targets that are achievable across the whole of England and which the Secretary of State is satisfied can be met. Our modelling shows that this is not reasonably possible to achieve this everywhere until 2040. The measures required to meet 10 µg per m³ by 2030, such as action on solid fuel burning and reduction of traffic, would have a disproportionate effect on individuals and small local businesses. The research undertaken for Clean Air Fund also concluded that there are still some parts of the country which would not meet the target by 2030.

As regards the World Health Organisation's Air Quality Guidelines, they are intended to inform target setting and are not ready-made targets for adoption. The WHO itself does not expect any country to adopt its guidelines without first understanding what would be required to meet the targets. Indeed, our evidence shows that 6 – 8 µg per m³ of the 2018 levels people experienced in parts of southeast England came not from man-made UK sources but from a combination of natural sources, emissions from other countries (such as air blown across the English Channel from Europe) and from shipping. Therefore, even if we removed all people from England, it would not be possible to meet a target level of 5 µg per m³.

Final target:

An Annual Mean Concentration Target for PM_{2.5} levels in England to be 10 µg per m³ or below by 2040.

Population exposure reduction

Proposed target included in the consultation:

Population Exposure Reduction Target – a 35% reduction in population exposure to PM_{2.5} by 2040 (compared to a base year of 2018).

Summary of responses

A majority of responses, most notably those organised by campaigns, called for greater ambition. A sizable minority of individual responses agreed with the level of ambition. Of those who wanted further ambition, some thought the percentage reduction was too low and a smaller number wanted an earlier compliance year.

Some respondents were concerned that the calculation of the Population Exposure Reduction target would miss geographical and temporal concentration spikes. Areas of particular concern included: locating Population Exposure Reduction target monitors away from roadsides (therefore not addressing health disparities); the national nature of the target; and the 3-year averaging period.

For both the Annual Mean Concentration target and Population Exposure Reduction target, respondents raised delivery concerns (detailed further in the Technical Annex) with respect to the granularity of the PM_{2.5} monitoring network.

The Office for Environmental Protection commended this target for its ambition and specific focus on harmful exposure to PM_{2.5}, providing the greatest overall public health benefit. It did not suggest any changes.

Government response

Following consideration of the consultation responses, we do not propose to change the Population Exposure Reduction target. The metric and level of ambition have been determined following an evidence-based process, with input from industry and internationally recognised experts, to determine a target which is stretching but achievable, and focuses on health outcomes.

The Population Exposure Reduction target is designed to work in tandem with the Annual Mean Concentration target, such that the Annual Mean Concentration target will address hotspot locations, ensuring no one is left exposed to elevated concentrations. Meanwhile the Population Exposure Reduction target will drive continuous improvement in all areas, including those which already comply with the Annual Mean Concentration target. This means any improvement to concentrations will drive health benefits.

The Population Exposure Reduction target is calculated by summing average exposure over large population groups and hence monitors are positioned in locations representative of population exposure over a significant area. Therefore, roadside monitors are not included in the Population Exposure Reduction target because they only represent population exposure in the immediate locality.

The PM_{2.5} monitoring network is currently being expanded and is expected to have at least doubled its current (November 2022) size by the end of 2025.

Final target:

A Population Exposure Reduction Target for a reduction in PM_{2.5} population exposure of 35% compared to 2018 to be achieved by 2040.

Next steps

Once we lay Statutory Instruments setting out the final targets they will proceed for approval by Parliament.

Each long-term target will be accompanied by non-statutory interim targets, of up to 5 years in duration, in the Environmental Improvement Plan, to be published by 31 January 2023.