

Title: Introducing a target for the environmental status of designated Marine Protected Areas IA No: RPC Reference No: Lead department or agency: Department for Environment, Food and Rural Affairs Other departments or agencies:	Impact Assessment (IA)
	Date: 19/12/2022
	Stage: Final
	Source of intervention: Domestic
	Type of measure: Primary legislation
	Contact for enquiries: Ellis Cameron (ellis.cameron@defra.gov.uk)
Summary: Intervention and Options	RPC Opinion: RPC Opinion Status

Cost of Preferred (or more likely) Option			
Total Net Present Social Value: £0m	Business Net Present Value: £0m	Net cost to business per year: £0m	Business Impact Target Status Qualifying provision

What is the problem under consideration? Why is government intervention necessary?
 Marine Protected Areas (MPAs) aid in creating a biologically diverse and thriving marine environment that is of high value to society. The private sector has no incentives to provide ecosystem services from a healthy marine environment due to the inability to internalise the benefits and the freedom of use of the sea. It therefore falls to government to ensure a flow of necessary public goods from the marine environment through regulation and management frameworks. MPAs have already been designated in UK seas and management measures are being brought in to ensure we have a productive marine environment. This IA considers the development of a legally binding target, not yet in place, through the Environment Act will help in ensuring long term conservation gains are secured, and that success is now measurable at the level of the overall MPA network.

What are the policy objectives and the intended effects?
 The government aims to achieve 'clean, healthy, safe, productive and biologically diverse oceans and seas', and has committed to contributing to an international ecologically coherent network of MPAs. There is already a legal requirement on regulators to undertake all necessary measures to achieve the conservation objectives of individual sites. This IA considers the introduction of a legally binding target requiring the government to achieve a state of favourable condition¹ in our MPA network. There are currently no overarching targets to ensure that our MPA network is maintained or recovered to favourable condition and a target is intended to give the intervention a clear direction and goal, and therefore make measuring success of the whole MPA network easier. The implementation of a target itself should not have any direct impact on costs, other than holding the government of the day to account because the costs and benefits are already accounted for in the designation and management.

¹ In order to predict which MPA features are likely to recover within the timescale of the 25-year Environment Plan (i.e., by 2042), the assessment has also taken account of the current condition of the feature. Condition assessments are common standards for site monitoring, where those features for which the site was designated are assessed to determine whether they are in a satisfactory condition (Williams, 2006). Key attributes of the feature (e.g., extent, quality, supporting processes) are identified and targets set for each. Each attribute is then measured and compared against the target value set. If all the targets are met, the feature is in favourable condition. The conservation measures taken to maintain or restore the site from adverse factors (including human activities) are also recorded (Williams, 2006). Williams, J.M., ed. 2006. Common Standards Monitoring for Designated Sites. First Six Year Report. Peterborough, JNCC.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Option 0 or the “do nothing option” (discounted) – the UK network of marine protected areas has been designated (aside from Highly Protected MPAs, which we currently do not intend to include in the proposed target), and management measures are in the process of implementation to ensure that these areas are managed to achieve favourable condition, as legally required by designation orders. The costs and benefits of which have already been published in previous IAs. This option would not introduce a target under the Environment Act for marine protection, although regulators would still be legally required to manage the sites to achieve their conservation objectives and monitoring of these sites would continue. This option has been discounted because setting a timeline for the recovery of features allows us to continuously monitor the state of our MPA network and intervene if there are pressures on designated sites. Therefore, an MPA target reinforces the obligations of regulators to protect MPAs.

Option 1 (preferred) – under the Environment Act, introduce a target of 70% of the designated features in MPA network to be in favourable condition by 2042, with the remainder in unfavourable but recovering condition. This target would be based on what ecological features we can say with a high degree of scientific certainty, have the potential to recover by 2042 when managed according to the site’s conservation objectives. This would be at **no additional cost to that in the baseline**. The percentage level in the target reflects the uncertainty of the scientific evidence on the rates of recovery of the marine environment, even when managed within current legal requirements.

Option 2 (discounted) – under the Environment Act, introduce a target of 88% of the designated features in MPA network to be in favourable condition by 2042, with the remainder in unfavourable but recovering condition. This target was based on modelling the most optimistic possible scenario for feature recovery. This target was discounted because of a lack of scientific evidence that the rates of recovery would be feasible.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 12/2028

Is this measure likely to impact on international trade and investment?	No			
Are any of these organisations in scope?	Micro No	Small No	Medium No	Large No
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)	Traded: N/A		Non-traded: Unquantified	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits, and impact of the leading options.

Signed by the responsible Minister:

..... Trudy Harrison

Date:

..... 15/12/2022

Summary: Analysis & Evidence

Policy Option 1

Description:

FULL ECONOMIC ASSESSMENT

Price Base Year: 2021	PV Base Year: 2021	Time Period Years: 23	Net Benefit (Present Value (PV)) (£m)		
			Low: N/A	High: N/A	Best Estimate: £0m

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	N/A	N/A	N/A	N/A
High	N/A		N/A	N/A
Best Estimate	£0m		£0m	£0m

Description and scale of key monetised costs by 'main affected groups'

This option introduces a target based on a scientific assessment on which features we expect to have the potential to recover by 2042. The sites have already been designated and management measures are being put in place currently. The costs of the introduction of the management measures (including monitoring) therefore have been included in the baseline. Additionally, as it is expected that the MPAs will recover to favourable condition within the target date, there are **no additional costs associated with this target**.

Other key non-monetised costs by 'main affected groups'

There are no additional costs which have not been monetised associated with the introduction of this target.

BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	N/A	N/A	N/A	N/A
High	N/A		N/A	N/A
Best Estimate	N/A		N/A	N/A

Description and scale of key monetised benefits by 'main affected groups'

Benefits associated with increased ecosystem services because of a well-managed MPA network are included in the baseline (but not monetised). There are not anticipated to be any further monetisable benefits associated with the specification of a target as described in this option.

Other key non-monetised benefits by 'main affected groups'

Non-monetised benefits associated with this option are focused on strategic signalling effect of the specification of targets. There is already a legal requirement on regulators to achieve favourable condition and the specification of an additional target does not change this but may increase pressure on these regulators. Further potential benefits associated with the specification of the targets include:

- Signalling domestically our intention to enhance our marine environment and improve marine ecosystem service flows, providing a framework for future marine use.
- Future governments have clear targets to work towards (noting these can be changed should they wish to) and ensuring the sustainability of the current government's policies.
- Positioning the UK internationally as a global leader in marine protection and signalling the UK's commitment to protecting and conserving our seas for future generations.

Key assumptions/sensitivities/risks	Discount rate (%)	N/A
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This IA assumes that management measures will be brought in by 2024. The legal obligation regarding management measures is already in place and therefore there are no additional costs of achieving the target. The measures assessed within the previous impact analysis will be reviewed throughout the target period to ensure an effective and adaptive management approach to the sites and therefore it is possible that measures will need to change, but we have no sight of this beyond that described in previous IAs.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m: 0
Costs: 0	Benefits: 0	Net: 0	

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Executive Summary

This Impact Assessment (IA) outlines policy options for the introduction of a legally binding target, under the suite of Environment Act targets, to assess the condition of Marine Protected Areas (MPAs). The introduction of this target will bring cohesion when assessing the condition of all MPAs through the network. This also aligns the MPA-related targets with other measures under the Environment Act. This option assesses the following option: under the Environment Act introduce a target of 70% of the designated features in the MPA network to be in favourable or recovering condition by 2042, with the remainder in recovering condition. It was determined that the introduction of this would not incur costs, and benefits have been left unmonetised.

The designation of MPAs was assessed to have business impacts. This IA, however, only considers bringing the condition of MPAs under a legally binding target, which places no new legal requirements on regulators of businesses. There are, subsequently, no new requirements or regulations on businesses. Therefore, this impact assessment, which is concerned with including MPAs under a legally binding target under the Environment Bill, carries no new impacts to businesses. It must be emphasised, however, that this IA does not state that businesses are now out of scope of MPA regulations and management measures.

The introduction of a target itself is beneficial and will allow the condition of the MPA network to be considered quantitatively, throughout time and in a holistic manner. However, given this target aligns with our established ambitious policy pathway for introducing management measures, this aligns with the current timeframe for MPAs achieving a desired condition, and so this IA reflects existing analysis on expected recovery that was determined in the IAs relating to three tranches of MPA designation.

The proposed percentage of 70% for the target has a high level of scientific certainty that biological recovery rates are not overestimated. Although these slow recovering species and habitats may recover quicker than assumed, setting the target at this level also allows for any challenges in implementing entirely effective management measures across all our MPAs.

The Environment Act creates a new statutory cycle of monitoring, planning and reporting. Long-term targets will be supported by interim targets, which will set a five-year trajectory towards meeting the long-term targets. The Act requires Government to set interim targets in the Environmental Improvement Plan. This will ensure that there is always a shorter-term goal Government is working towards, as well as the long-term target and will allow for an ongoing assessment of whether the government is on track to meet its long-term target ambitions

The *Overarching Impact Assessment for proposed Environment Act (2021) targets* provides a high-level, descriptive, and largely qualitative analysis of all the targets under the Environment Act.

1. Problem under consideration and rationale for intervention

Marine Protected Areas (MPAs) aid in creating a biologically diverse and thriving marine environment that is of high value to society. As UK waters are a common good, there is an inability to internalise its benefits. Its use is non-excludable, meaning that individuals cannot be prohibited from using the marine environment. Therefore, a free rider issue persists, as individuals can use the marine environment without paying an amount that matches this use. As common goods are rivalrous (the consumption by one individual diminishes the potential for another individual), a tragedy of the commons scenario exists. This explains an instance in which an unrestricted use of a common good leads to a downturn in its state. As a result, the private sector has reduced incentives to provide ecosystem services from a healthy marine environment. Due to this market failure, it therefore falls to government to ensure a flow of necessary public goods from the marine environment through regulation and management frameworks.

Government intervention is required to address both sources of market failure in the marine environment and supply alternative adequate solutions. If the UK government does not ensure the flow of the ecosystem services from the marine environment to individuals from specific features and habitats that MPAs protect, full benefits will not be realised. This could have negative implications and a lessening of resilience for the fishing industry, coastal access, erosion, as well as other marine economy sectors.

There is an existing commitment for regulators under the Marine and Coastal Access Act (MCAA 2009) and the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Habitats and Species Regulations 2017 to manage activities in MPAs for features to achieve favourable condition, through the achievement of conservation objectives, however there is currently no timeframe associated with this. The development of a target through the Environment Act will help in ensuring long term gains are secured.

2. Rationale and evidence to justify the level of analysis used in the IA (proportionality approach)

The problem under consideration in the IA is a reasonably straightforward one, that of whether a time bound target should be implemented to mirror the responsibilities on regulators to achieve their currently legally binding conservation objectives within the marine environment. MPAs are designated and management measures to achieve the stated target are being put in place.

The updated baseline assessment has been undertaken in Annex A and this has assumed that all previous IA analysis was robust and the analytical period could be extended to 2042 (see individual policy IAs for more detail on relevant assumptions and evidence base e.g. Tranche 3²).

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/804687/mcz-tranche3-consult-ia.pdf

3. Policy objective

To deliver the vision of 'clean, healthy, safe, productive, and biologically diverse oceans and seas', as set out in the 25 Year Environment Plan and the UK Marine Policy Statement, the government has designated an ecologically coherent UK network of MPAs, contributing to the wider Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) network. A well-designed network allows more benefits than a single individual area in terms of ecosystems service stocks and flows. It is important that the network is well managed to maximise these benefits. Bringing all MPAs in the network under a target allows assessment of progress to be easier and more consistent.

The setting of a target to achieve favourable condition within this network of MPAs will build on the legal requirements placed on regulators to manage these areas to achieve their stated conservation objectives, making these requirements time bound. This intervention only introduces a legally binding target for the monitoring of condition that is ongoing. As no additional monitoring or enforcement is being introduced, there are no added costs of enforcement.

Whilst monitoring of MPAs has and will be ongoing, bringing the condition of MPAs under a single, legally binding target will aid in assessing the condition, and ultimately the success of the whole MPA network. A target that considers the condition of an MPA will allow determining success, as well as the level of success, simpler. A target of a specified percentage, in this case 70%, means that the condition of MPAs can be looked at quantitatively and progress can be tracked throughout time.

The setting of the favourable condition target (preferred option) within the Environment Act targets will ensure that the marine and terrestrial environments are both reflected in the targets and the UK makes a statement of its commitment to protecting and recovering its marine environment.

The success of the policy will be to recognise whether the government of the UK has achieved the marine environment objectives associated with its MPA network and provide a time bound requirement to do this.

4. Description of options considered

Option 0 or “do nothing option” – discounted

- The UK network of marine protected areas has been designated (aside from Highly Protected Marine Areas³, which we currently do not intend to cover in this proposed target), and management measures are in the process of implementation to ensure that these areas are managed to achieve favourable condition status, as legally required by designation orders. The costs and benefits of these Act for marine protection, although regulators would still be legally required to manage the sites to achieve their conservation objectives and monitoring of these sites would continue. This option has been discounted because setting a timeline for the recovery of features and the Act’s statutory cycle of setting regular interim targets and annual reporting on progress, allows us to continuously monitor the state of our MPA network and intervene if there are pressures on designated sites. Therefore, an MPA target reinforces the obligations of regulators to protect MPAs.

Option 1: 70% target – preferred

- Under the Environment Act introduce a target of 70% of the designated features in the MPA network to be in favourable or recovering condition by 2042, with the remainder in recovering condition. This target would be based on the features we know, with a high degree of scientific certainty, have the potential to recover by 2042 if managed in the appropriate manner. The descriptive nature of this target makes it more appropriate than a target that aims at 100% of the designated features in MPA network to be in favourable or recovering condition. This would be at no additional cost to the baseline.

Option 2: 88% target – discounted

- Under the Environment Act, introduce a target of 88% of the designated features in MPA network to be in favourable or recovering condition by 2042. This target would be based on the features we know, with some degree of scientific certainty, to have the potential to recover by 2042 if managed in the appropriate manner. Given the lack of scientific certainty on the rates of recovery of the marine environment, this target would be inappropriate and there is a risk of it not being achieved or reported on as accurately as possible. Modelling suggested that the maximum possible percentage of the features that may be in the required condition by the target date was 88%, The 88% target is based on modelling that overestimates the rate of recovery for designated features. Given the slow growth and/or reproduction rates (for example maerl beds can take 50 years or so to recover), some features may

³ Following the Beynon Review, the Government defines HPMPAs as “areas of the sea that allow the protection and recovery of marine ecosystems by prohibiting extractive, destructive and depositional uses and allowing only non-damaging levels of other activities to the extent permitted by international law.”

not have recovered by 2042. As is the case with option 1, this would be at no additional cost to the baseline.

Non-regulatory options are not considered appropriate in this manner given the target under consideration in this IA places a requirement on government to act. Non-regulatory options were discounted due to the limited impact such approaches would have. These would have failed to achieve desired policy outcomes. Bringing the condition of MPAs under a legally binding target will have benefits to reporting and allows the MPA network to be assessed holistically. Additionally, bringing the MPA targets under the overarching Environment Act feeds into creating a suite of ambitious targets that span all environmental biomes. A non-regulatory measure would have prevented this and was therefore discounted.

5. Preferred option with description of implementation plan

The preferred option is **option 1**, to implement a target of 70% of the designated features in the MPA network to be in favourable condition by 2042, with the remainder in recovering condition.

The target proposed in the preferred option will be implemented via secondary legislation as part of the Environment Act targets legislation with the targets coming into effect in 2024. As mentioned above the legal requirement on the marine management organisations are already in place and as such no additional transitional arrangements will be needed. The target will not place additional burden on regulating organisations as these bodies are those who are already responsible for management of the UK marine area. Those regulating bodies responsible for marine management in relation to this target are the Marine Management Organisation (MMO) and Inshore Fisheries & Conservation Authority (IFCAs).

Existing legislation requires the government and regulating bodies to be able to determine whether our MPA network is reaching its conservation objectives or not. To this end the health and condition of our MPA sites are monitored on a rolling six-year basis. The success or otherwise of government meeting the proposed target will be monitored through these existing monitoring systems.

6. Monetised and non-monetised costs and benefits of each option (including administrative burden)

As discussed above the additional benefits of the introduction of the target are not monetised. We are expecting regulators to meet their already legally binding commitments to achieve the conservation objectives within our MPA network and there will be no additional ecosystem service benefits of this target.

Further, given we already monitor our MPA network for health and its condition and the cost of management measures (including monitoring) have been included in the baseline, there are no additional costs associated with this target.

We would also expect a minimal additional administrative burden to report against the target because we are already required to report on the state of our marine environment under current legislation.

Non-monetised benefits focus on the signalling role of targets and the ability to use these to hold future administrations to account.

- Signalling domestically our intention to enhance our marine environment and improve marine ecosystem service flows, providing a framework for future marine use and policy developments.
- Clear and established targets will drive forward action for future governments to restore and protect the marine environment.
- Positioning the UK internationally as a global leader in marine protection and clearly indicating in legislation the UK's commitment to protecting and conserving our seas for future generations.

7. Risks and assumptions

7.1. Assessment of costs in the impact assessment

The no additional cost basis of the target assumes that the management measures, which are in the process of implementation as legally required by designation orders, will be sufficient to achieve the relevant target.

This IA assumes that MPA management measures will be brought in across the current network by 2024. The measures assessed within the previous impact assessment will be reviewed throughout the target period to ensure an effective and adaptive management approach to the sites. Therefore, it is possible that some measures will need to change.

If current management measures are not sufficient in meeting the 70% target, the additional management measures may need to be introduced. This will bring costs to sea users and those who operate within the current MPA network that have not been considered in this IA.

This IA assumes no cost to business, and businesses are out of scope from the impact of introducing a legally binding target to assess the condition of the MPA network. However, it needs to be stressed that whilst businesses are out of scope of this specific intervention, they are still required to abide by MPA management measures in full, as are all sea users.

Additionally, should external factors (for example, climate change) cause significant shifts in condition of our seas which have not previously been accounted for, additional or alternative management measures could be needed to ensure that the target is achieved. At this time, given the uncertainties, we are unable to assess external factors that may impact the success of the MPA network reaching a target of 70% of the designated features in the MPA network to be in favourable condition by 2042, with the remainder in recovering condition.

The designation of new sites or features could impact the ability to achieve the targets and/or add to the baseline costs.

It is possible that some new sites/features may be designated in the future, however nothing is planned at present. If further MPAs are designated in the future, we propose to consider at the time whether their features should be included in the target (it would seem unreasonable to expect features in MPAs designated close to 2042 to have recovered by then).

7.2. Environmental standards and monitoring

Changes in environmental standards and monitoring will likely impact the success or failure to reach the target. However, whilst these are risks to the success of the target, they do not have implications for the analysis in this IA.

Subjective judgement and favourable condition

- One of the criteria for targets in the Environment Act is for them to be objectively measurable. Feature condition assessments will generally be objective as they will be based on data and a standardised, and accepted, method of assessment. However, this standard method of assessments is based on monitoring and evidence as well as an element of collective expert judgement and scrutiny by a scientific panel. There is no other agreed way to assess feature condition.

Composite standards/new approaches to understanding our environment

- Ensuring achievement of the standard is underpinned by objective, measurable, quantitative data as well as subjective assessments. The use of evidence from direct monitoring of features is used as far as possible in feature condition assessments. However, currently assessments of MPA site and feature condition (particularly in offshore waters) are based largely on proxy information or indirect evidence. Joint Nature Conservation Committee (JNCC) and Natural England (NE) are looking to develop an improved, more quantitative, approach that increases the use of direct evidence, as it becomes available, to meet the requirements of Environment Act reporting. This might change our understanding of the state of our marine environment and make the target more challenging to achieve.

7.3. Rationale behind target level

A target of having 88% of MPAs and their features in favourable condition by 2042 is not appropriate. It would mean there is a high likelihood that the biological recovery rates may be overestimated. Recoverability is determined using our understanding of current condition and the ability of a protected feature to recover based on the best-available evidence. Given slow growth and/or reproduction rates (for example maerl beds can take 50 years or so to recover), the remaining features may not have recovered by 2042. This also poses a risk to achievability of the target. It cannot be said with complete certainty that all MPAs are in favourable condition by 2042, as scientific uncertainty does not allow for this level of precision in reporting. Therefore, a target below 88% helps reduce this pressure and allows for more accurate reporting.

The proposed percentage of 70% for the target, has a high level of scientific certainty that biological recovery rates are not overestimated. Although these slow recovering species and habitats may recover quicker than assumed, setting the target at this level also allows for any challenges in implementing entirely effective management measures across all our MPAs .

8. Direct costs and benefits to business calculations

The target is a government managed and implemented measure where all impacts on businesses have been considered in the designation of MPAs and therefore are included in the baseline of this IA. Thus, this measure is not expected to have any impacts, direct or indirect, on businesses.

9. Impact on small and micro businesses

The imposition of a target for the environmental condition of the UK's MPA network is not expected to impact small or micro businesses beyond the impacts already accounted for in the baseline.

10. Wider impacts (consider the impacts of your proposals)

It is possible that a target could make the public more aware of the state of our marine environment and mean they alter their behaviours to protect it, as we have seen with plastic straws and plastic bags. However, significant advertising and communications is not expected and therefore additional awareness is likely to be low.

Beyond increased awareness and potential minimal behaviour change, it is not anticipated that the imposition of the target will have wider impacts or adverse incentives beyond those created because of the original designation of MPAs and the imposition of management measures in these areas.

11. A summary of the potential trade implications of measure

As an island nation the UK depends upon its marine economy to support, directly and indirectly, trade in goods and services. Commercial activities include fisheries, ports, energy, and recreation, all of which have some trade-related issues. However, the imposition of a target for achieving favourable condition within our MPA network can be expected to have no additional implications for trade. MPAs have generally been designated in locations of low commercial activity, but whilst there is significant uncertainty

as to the effect of environmental regulation on patterns of trade and investment, empirical evidence suggests these impacts are likely to be small⁴.

12. Monitoring and Evaluation

The Environment Act creates a new statutory cycle of monitoring, planning and reporting. Long-term targets will be supported by interim targets, which will set a five-year trajectory towards meeting the long-term targets. The Act requires Government to set interim targets in the Environmental Improvement Plan. This will ensure that there is always a shorter-term goal Government is working towards, as well as the long-term target and will allow for an ongoing assessment of whether the government is on track to meet its long-term target ambitions.

The MCAA 2009 requires the Secretary of State to report every 6 years on the degree to which Marine Conservation Zones (MCZs) and the MPA network are achieving their objectives, and to set out further steps that may be necessary for success⁵. The imposition of a target is not expected to change the monitoring approach required under MCAA. The current approach is expected to be sufficient to meet the requirements under MCAA and monitoring the success, or otherwise, of fulfilling the target.

⁴ Dechezleprêtre and Sato (2014)

⁵ Marine Protected Areas network report (2012 to 2018) - GOV.UK (www.gov.uk)

Annex

Annex A: Baseline update

Marine Conservation Zones (MCZs – a type of MPA) are an essential component of this network and the government has a legal duty to designate MCZs under the Marine and Coastal Access Act 2009 (MCAA). The process of designation was completed in 2019 and management measures are currently being implemented with the target of completing the implementation by 2024. Other MPA classifications already have management measures in place.

The impact of the MPA network and the costs and benefits of designation were developed during the impact assessments relevant to each of the individual policy areas. The options under consideration in this IA assume that the management measures and designation orders are sufficient to achieve the target (as regulators already have a legally binding requirement on them to do so). However, for clarity, consistency and to ensure the baseline analysis in the designation documentation match the time under consideration here we analyse the costs of designation to 2042.

The benefits in these IAs were not monetised due to the challenges in quantifying the increase in benefits arising from ecological improvements in the features following designation. It is more challenging still to estimate and monetise the network benefits from designating sites. While there is evidence to support the likelihood of an increase in ecosystem services because of designation and management measures, given the uncertainty in this no monetary value can be given to these. To overcome this, the final IA provided some illustrative benefits and qualitative commentary on the associated benefits. Therefore, whilst benefits under the implementation of a target cannot be monetised, baseline benefits are expected to persist and increase as the condition of MCZs improves over time. Ecosystem services benefits from the protection of MCZ features include non-use/bequest values, research and education, fish and shellfish for human consumption, natural hazard protection, environmental resilience, gas and climate regulation and regulation of pollution (nutrient recycling).

Costs, unlike benefits, were relatively closely assessed for each relevant industry whose activity would be impacted by the designation of a protected area. These have been updated for the period 2021 to 2042 to establish the baseline for this IA, with identical assumptions used in previous IAs relevant to this policy area (updated figures shown in Table 1). A total present value of costs across the period was estimated as £101.5m, including public costs of £87.7m and private costs of £13.8m. The public costs are largely related to the management of the sites at £35.6m and ecological survey work to monitor condition of £52.1m. It is important to note that, except for the uplift to 2021 prices, baseline costs have not changed since the third and final tranche designation of MCZs. As a result of this, costs of implementing a target for the condition of MCZs has not been included, as no additional measures are needed to ensure that the Marine target is to be fulfilled by 2042.

These data are for the MCZ programme and as a result do not include costs related to Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). SACs and SPAs have already been designated and the target will not mean any additional costs, but the baseline analysis should be considered partial. Further analysis would be disproportionate as costs are in the baseline and not associated with the target.

Table 1: Updated IA costs for MCZ designation (central estimate)

<i>Sector</i>	Undiscounted cost (£m)	Net Present Value (costs, £m)
<i>Oil and gas</i>	£4.82	£3.50
<i>Fisheries</i>	£3.41	£2.23
<i>Ports and harbours</i>	£5.23	£3.34
<i>Recreation</i>	£6.54	£4.37
<i>Renewable</i>	£0.09	£0.06
<i>Aggregates</i>	£0.28	£0.18
<i>Cables</i>	£0.18	£0.11
<i>Ecological Survey</i>	£65.19	£52.07
<i>Management and Enforcement</i>	£54.98	£35.59
<i>Defence</i>	£0.11	£0.07
<i>Total</i>	£140.84	£101.51