



Business and Regulatory Impact Assessment

Deep Sea Marine Reserve project, West of Scotland MPA, Socio-Economic Analysis

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Title of Proposal

Deep Sea Marine Reserve project, West of Scotland MPA, Socio-Economic Analysis

Background

The Scottish Government is committed to a clean, healthy, safe, productive and biologically diverse marine and coastal environment that meets the long term needs of people and nature. In order to meet this commitment our seas must be managed in a sustainable manner that balances the competing demands on marine resources. Biological and geological diversity must be protected to ensure our future marine ecosystem continues to provide sustainable economic, environmental and social benefits. The deep seas around Scotland are home to some of the most vulnerable and valued habitats and species on earth. Deep sea ecosystems provide a range of benefits to society, including nutrient cycling and carbon storage.

The introduction of the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 means the Scottish Government now has the authority to introduce statutory marine planning for Scotland's seas. The Marine (Scotland) Act 2010 provides powers to designate MPAs out to 12 nautical miles (NM), and the Marine and Coastal Access Act 2009 provides powers to designate site in the rest of Scottish waters. There are currently 31 MPAs in Scottish Waters designated under these provisions.

The programme for Government in 2017-18 committed to assessing the feasibility of creating a Deep Sea Marine Reserve. Previous work to identify sites for the MPA network began with a list of habitats and species that would benefit from protection, before going on to select appropriate locations. For this project we took a different approach. First, we identified two areas of search, as shown in figure 2 below, (West of Scotland and Faroe-Shetland) where water depths are greater than 800 metres, then considered what habitats and species were present in each location.

The West of Scotland MPA was selected for consultation as it would increase the number of vulnerable habitats and species protected in the Scottish MPA network, as well as making a significant new contribution to the OSPAR network.

The West of Scotland MPA will protect all the features currently protected in the Rosemary Bank Seamount MPA. Therefore Rosemary Bank Seamount MPA will be revoked. However the Anton Dohrn Seamount Special Area of Conservation (SAC), designated under the EU Habitats Directive, will be left in place as it protects rocky reef habitats (which are not a feature of the West of Scotland MPA). The extent of the Anton Dohrn Seamount is within the West of Scotland MPA.

Proposal and conservation objectives

The Scottish Government proposes to designate the West of Scotland MPA using the powers under the Marine and Coastal Act 2009.

The West of Scotland MPA encompasses several biodiversity features detailed in the table below.

Summary of Features and Conservation Objective – West of Scotland MPA		
Feature Type	Proposed protected feature	Conservation Objective
Biodiversity	Burrowed mud	Recover
Biodiversity	Cold-water coral reefs	Recover
Biodiversity	Coral gardens	Recover
Biodiversity	Deep-sea sponge aggregations	Recover
Biodiversity	Offshore deep-sea muds	Recover
Biodiversity	Offshore subtidal sands and gravels	Recover
Biodiversity	Seamount communities	Recover
Biodiversity	Blue Ling (<i>Molva dypterygia</i>)	Conserve
Biodiversity	Leafscale gulper shark (<i>Centrophorus squamosus</i>)	Recover
Biodiversity	Gulper shark (<i>Centrophorus granulosus</i>)	Recover
Biodiversity	Orange roughy (<i>Hoplostethus atlanticus</i>)	Recover
Biodiversity	Portuguese dogfish (<i>Centroscymnus coelolepis</i>)	Recover
Biodiversity	Round-nose grenadier (<i>Coryphaenoides rupestris</i>)	Recover
Geodiversity	Scour moats	
Geodiversity	Sediment drifts	
Geodiversity	Sediment wave field	
Geodiversity	Bioherm reefs	
Geodiversity	Biogenic sediment mounds	
Geodiversity	Parasitic cones	
Geodiversity	Slide scars	
Geodiversity	Cliff	
Geodiversity	Slide deposit	
Geodiversity	Seamount (Palaeogene igneous centre)	
Geodiversity	Erosional scour fields	
Geodiversity	Iceberg ploughmarks	
Geodiversity	Large bank (Palaeogene igneous centre)	
Geodiversity	Small scale ridges	
Geodiversity	Turbidite accumulations	
Geodiversity	Prograding wedge	
Geodiversity	Ice-proximal and ice-contact facies (e.g. mega-scale glacial lineations)	
Geodiversity	Sub-glacial tills	
Geodiversity	Ice-distal and glacimarine facies	
Geodiversity	Continental slope turbidite canyons	

Objective

The purpose of the MPA network is to safeguard important species, habitats and geology across Scotland's marine environment. Maintaining or improving biological diversity by having an ecologically coherent MPA network meets a range of obligations such as:

- the Marine (Scotland) Act 2010
- the Marine and Coastal Access Act 2009
- the Convention on Biological Diversity
- the Convention for the Protection of the Marine Environment of the North-East Atlantic (the OSPAR Convention)
- the EU Marine Strategy Framework, and Wild Birds and Habitats Directives

The West of Scotland MPA was identified through different process than for other MPAs. An area was identified and then a scientific review was undertaken to identify if there were any features that merited protection with that area, rather than identifying the feature and then searching for their location. The basis of the area was the EU Deep Sea Fisheries Regulation, which prohibited demersal trawling in waters deeper than 800m.

Evidence in this BRIA is drawn from the work of statutory nature conservation body JNCC and consultants ABPmer and eftec. It brings together the science-led arguments for management and the projected potential social and economic consequences of such action.

This BRIA examines the socio-economic effects of designating the West of Scotland MPA under the Marine and Coastal Access Act 2009. The socio-economic effects of introducing management measures are not considered here; once finalised, the introduction of any additional management measures will be accompanied by additional BRIAs.

The appraisal period for assessing the socioeconomic impacts covers the 20 year period from 2019 to 2038, although benefits will be delivered for longer if effective management measures remain in place. As with any socio-economic assessment related to environmental designations, the findings should be considered as estimates, and in cases where greater uncertainty exists, such as for fisheries, are deliberately presented as worst-case scenarios to build in necessary caution into each scenario.

In addition a range of scenarios are presented to account for the inherent uncertainty associated with such proposals. Lower, intermediate and upper scenarios have been developed to reflect the requirements for management measures, the spatial extent of features and the extent to which features are already afforded protection. The

intermediate scenario is viewed as the most representative estimate. The estimated impacts across the three scenarios commonly vary quite significantly.

Rationale for Government intervention

Scotland's marine environment provides: food; energy sources (wind, wave and tidal power, minerals and fossil fuels); harbours and shipping routes; tourism and recreational opportunities; and sites of cultural and historical interest. Scotland's seas contain important distinctive habitats and support a diverse range of species that require protection in order to be conserved or for recovery to be facilitated. There are a number of market failures evident in the ways in which the marine environment is utilised. These relate to:

- **Public goods:** A number of the benefits of the marine environment, such as the non-use value of biological diversity, have 'public good' characteristics; they are non-excludable (no-one can be excluded from enjoying the benefits) and non-rivalrous (enjoyment of the benefits they provide by one person does not diminish the benefits that are available to others). These characteristics of the benefits from the marine environment mean that private individuals do not have an incentive to voluntarily ensure the continued flow of these goods, which can lead to their under-provision.
- **Negative and positive externalities:** externalities occur when actions of marine users affect other parties positively or negatively, and this is not reflected in market prices. In many cases, the market does not account fully for the value of benefits and costs of the activities of marine users. In the case of negative externalities (positive externalities) this can lead to more environmental damage (fewer benefits) occurring from economic activity than would occur if the full cost (benefits) of economic activity was accounted for. For example, for marine harvestable goods that are traded, such as wild fish, market prices often do not reflect the potential damage caused to the environment by that exploitation.

Due to the competing demands placed upon Scotland's marine resources, market failures related to public goods provision and externalities will lead to insufficient protection of the marine environment if left to the market. This provides rationale for government to intervene to protect the marine environment.

Consultation

Within Government

Consultation has been undertaken within Marine Scotland, the Department for Business, Energy and Industrial Strategy, and with the Ministry of Defence.

Public Consultation

A public consultation ran from 27 September 2019 to 31 December 2019, including. Consultation responses have been used to finalise the proposal. Forty-four responses were received.

Options

Option 1 - Do nothing

Option 1 is the 'Do nothing' option; this is the baseline scenario. Under this option, there is no designation and no change to the management measures already in place such as the prohibition of deep sea trawling (deeper than 800m) and use of set nets (deeper than 600m). Accordingly, no additional management measures would be introduced.

Option 2: Designate site under the Marine and Coastal Access Act 2009

Option 2 involves the formal designation of the West of Scotland MPA. Designation would provide recognition and protection to the natural features of the site while also contributing to the wider Scottish, UK and OSPAR MPA network.

Sectors and groups affected

The following activities have been identified as present (or possibly present in the future) within the proposed West of Scotland MPA and potentially interact with one or more of the features:

- Commercial Fisheries
- Power Interconnectors
- Telecommunication Cables
- Oil and Gas
- Military Activities
- Deep Sea Mining

Affected sectors may be impacted to a greater or lesser degree by designation depending on which scenario is pursued and which management option is preferred. While the above sectors are all potentially operational within the West of Scotland MPA, not all will necessarily be impacted by designation and management measures.

Sectors identified as not having any significant social and economic impacts from an early scoping assessment are provided in Annex A.

Benefits

Option 1: Do nothing

No additional benefits are expected to arise from this policy option. In the absence of the proposed MPA a significant amount of Scotland's deep sea environment and a significant number of deep sea species and habitats would continue to be

unprotected, existing fisheries measures excepted. Under this option, environmental damage may occur, and therefore benefits would not be realized and long term objectives for the West of Scotland MPA would not be delivered.

Option 2: Designate site under the Marine and Coastal Access Act 2009

Designation will help to conserve deep sea biodiversity in Scottish waters. It will complement other protected areas and provide an essential contribution to establishing an ecologically coherent network of MPAs. On designation, appropriate management which builds on existing measures will reduce the risk that the extent, population, structure, natural environmental quality and processes will decrease or degrade over time. In addition, beyond a certain point of degradation, changes to ecosystems may be irreversible, resulting in a significant societal cost. Avoiding such a reduction in ecosystem services is a key benefit of designation.

Contribution to an Ecologically Coherent MPA network

Scotland's seas support a huge diversity of marine life and habitats, with around 6,500 species of plants and animals, with plenty more to be found in the undiscovered depths of the north and west of Scotland. Our seas account for 61% of UK waters and remain at the forefront of our food and energy needs, through fishing, aquaculture, oil and gas, and new industries such as renewables, as well as recreation activities and ecotourism. It is likely that an MPA network will demonstrate beneficial effects greater than the sum of the benefits from the individual areas.

Designation will help to conserve the range of biodiversity in the West of Scotland MPA and for Scotland as a whole, and will contribute to establishing an ecologically coherent network of marine protected areas.

Ecosystem services benefits

Ecosystems are very complex, and it is thought that the more complex an ecosystem is the more resilient it is to change. Therefore, if it is damaged or if a species or habitat is removed from that ecosystem, the chances of survival for those services reduce as the ecosystem becomes weaker. However, by conserving or allowing the species and habitats that make up that ecosystem to recover, we can be more confident of the continuation of the long-term benefits the marine environment provides such as nutrient cycling, water cycling, biomass production, climate regulation (carbon sequestration), waste detoxification, etc.

Non-use value of the natural environment is the benefit people get simply from being aware of a diverse and sustainable marine environment even if they do not themselves 'use it'. We take for granted many of the things we read about or watch, such as bright colourful fish, reefs and strange shaped deep sea curiosities, to lose them would be a loss to future generations that will not be able to experience them. Due to the scientific uncertainty involved it is challenging to put a true value on this, but the high quality experience and increasing knowledge of Scotland's seas can be better preserved through measures such as MPAs. It is expected that non-use value

will be attained as a result of designation both from the knowledge that the features are receiving adequate protection along with the wider conservation objectives that designation supports.

In the case of the West of Scotland MPA, it is estimated that effective management of protected features may provide wider benefits over and above these non-use values society places on a healthy and productive marine environment.

Annex B summarises the ecosystem benefits that can be derived from designation of the West of Scotland MPA.

Summary of Benefits

While it may not be possible with current levels of research to monetise benefits with a satisfactory degree of rigour, it is clear that many of the benefits relate to aspects of our lives that we take for granted and for which it is good practice and common sense to maintain through protection measures. These benefits include use values:

- Provisioning Services - stock recovery of commercial species; Genetic Resources
- Regulating Services – Carbon storage and climate regulation; waste breakdown of water and detoxification of water and sediment
- Cultural Services - Research and education; recreational activities and non-use benefits such as aesthetic, heritage, spiritual, inspirational values

An international study by Brander *et al*¹ concluded that the benefits to people of expanding MPAs generally outweighed the costs. Another study by McVittie and Moran² derived a primary estimate of benefits from the implementation of the nature conservation measures in the draft Marine Bill (specifically Marine Conservation Zones). They identified UK households' aggregate willingness to pay in the range of £487-£698 million per year (high proportion of this value could be non-use value). Though there is uncertainty associated with the quantification of ecosystem services, nevertheless the evidence does suggest that members of the public are likely to hold non-use values for deep sea protection, associated with protection of vulnerable species and habitats.

Costs

Option 1: Do nothing

This option is not predicted to create any additional costs to the sectors and groups outlined above. However, it should be noted that the societal cost of not designating could be both large and irreversible relative to the current condition of the marine environment. The absence of management measures to conserve the identified

¹ Brander *et al.*, 2015. The benefits to people of expanding Marine Protected Areas. IVM Institute for Environmental Studies.

² McVittie, A., & Moran, D., 2008. Determining monetary values for use and non-use goods and services: Marine Biodiversity—primary valuation. Final Report to Defra.

features may produce future economic and social costs³ in terms of increased marine habitat and biodiversity degradation. The option to not designate holds the potential to undermine the overall ecological coherence of the Scottish MPA Network.

Option 2: Designate site under the Marine and Coastal Access Act 2009

Costs have been evaluated based on the implementation of potential management measures.

As part of the development of the proposal, Marine Scotland developed lower, intermediate and upper scenarios for managing pressures/activities within the site should it be designated

- Lower Scenario: Existing fisheries management and consenting processes;
- Intermediate Scenario: No extractive activities that affect the seabed (e.g. demersal fisheries, oil and gas development, deep sea mining, etc.); and
- Upper Scenario: No extractive activities that affect the seabed or the water column (e.g. demersal and pelagic fisheries, oil and gas exploration and development, deep sea mining, etc.).

Where feasible costs have been quantified (expressed in 2019 prices), where this has not been possible costs are stated qualitatively. All quantified costs have been discounted in line with HM Treasury guidance using a discount rate of 3.5% to reflect preference for current consumption over future consumption.

Commercial fisheries

The proposed West of Scotland MPA lies within ICES Division VIa, VIb and Vb. The fish and shellfish landed from these ICES rectangles per annum (2013-2017) were almost 100% pelagic species by weight and over 76% were pelagic species by value, followed by demersal species, which represent 23% by value. The main gear types were midwater trawls, set nets and demersal trawls. The value of landings from the proposed site was £690,300 (from VMS data) (annual average for 2013–2017, 2019 prices). Approximately 10% of these landings have already been affected by measures adopted under the Common Fisheries Policy.

Vessel Monitoring System data indicate that the main non-UK vessels fishing in the proposed West of Scotland MPA include vessels from Norway, Ireland, Faroe Islands and France. It is not clear which gear types were used by these vessels and no information on landings is available, therefore it is not possible to estimate costs for the intermediate or upper scenarios.

UK vessels fishing in the proposed West of Scotland MPA predominantly operate from Peterhead and Lerwick using pelagic fishing gears. Landings were made

³ This potentially large and irreversible societal cost avoided is presented within the benefits section of the 'do designate' scenario (option 2) to avoid double counting the same impact.

predominantly into Peterhead (50 %), Skaagen (Denmark) (33 %) and Hantsholm (Denmark) (11 %).

Although the values for individual gear types cannot be disclosed, the impact under the intermediate scenario predominantly falls on set nets and lines, and under the upper scenario predominantly falls on midwater trawls and set nets.

Economic Costs of Designation of the West of Scotland MPA (£ 000s)				
		Lower Estimate	Intermediate Estimate	Upper Estimate
Assumptions for impacts		<ul style="list-style-type: none"> ▪ Designation as an MPA with existing management 	<ul style="list-style-type: none"> ▪ Exclusion of all demersal mobile and static gears ▪ It is assumed that hook and line gears on Rosemary Bank Seamount are managed through the measures for that MPA ▪ It is assumed there is no cost to demersal trawlers operating below 800m, as this activity is already prohibited through Council Regulation (EC) 2016/2336 	<ul style="list-style-type: none"> ▪ Exclusion of all demersal and pelagic static and mobile gears ▪ It is assumed that hook and line gears on Rosemary Bank Seamount are managed through the measures for that MPA ▪ It is assumed there is no cost to demersal trawlers operating below 800m, as this activity is already prohibited through Council Regulation (EC) 2016/2336
One-off impacts (on-site)		None	None	None
Description of quantified impacts-cost impacts per fleet segment (annual values, £000s, 2019 prices) (on-site)*	Over-12m vessels	Loss of >12m fishing income:	Loss of >12m fishing income:	Loss of >12m fishing income:
	Demersal trawls and seines	0	149	149
	Midwater trawls	0	0	472
	Total all vessels	0	149	621

Economic Costs of Designation of the West of Scotland MPA (£ 000s)			
Description of non-quantified impacts	On-site	None	Loss of value of landings from non-UK vessels at non-UK ports: Norwegian (60 vessels), Irish (24 vessels), Faroese (23 vessels), French (12 vessels), Dutch (6 vessels), German (5 vessels), Danish (4 vessels), Spanish (3 vessels), Lithuanian (3 vessels), Polish (1 vessel). None of these costs are to Scotland.
	Off-site	None	If activity is displaced rather than lost, there is potential for: <ul style="list-style-type: none"> ▪ Gear conflict. ▪ Additional impacts on species outside of site. ▪ Changes to vessel costs/revenues.

Unlike most other sectors, the potential cost of designation on commercial fisheries is a loss or displacement of current (and future) output, caused by future management measures restricting activity. Any decrease in output will, all else being equal, reduce the Gross Value Added (GVA) generated by the sector and have knock-on effects on the GVA generated by those industries that supply commercial fishing vessels. The costs estimates for this sector have therefore been estimated in terms of GVA, which more accurately reflects the wider value of the sector to the local area and economy beyond the market value of the landed catch. Costs are presented in terms of the reduction in full-time equivalent (FTE) employment. It is also possible that effort not continuing in the area could be transferred to other locations resulting in no or reduced loss of income.

Quantified Costs of site designation (£000s over period 2019-2038)			
	Lower estimate	Intermediate estimate	Upper estimate
Total change in GVA (Direct + Indirect)	0	2,213	11,115
Average annual change to GVA (Direct + Indirect)	0	111	556
Present value of total change in GVA (Direct + Indirect)	0	1,628	8,175
Direct and Indirect reduction in Employment	0	2.4	10.2

These estimates represent a worst-case scenario, based on the assumption of zero displacement of fishing activity. In reality, it is likely that some commercial fishing activity will be displaced to other grounds and hence it is likely that the impacts on employment are likely to be lower than those estimated. Vessels are likely to react to any additional management measures put in place in order to maintain profitability (i.e. by changing target species/gear type) but this could add to their costs (i.e. the extra fuel cost associated with fishing elsewhere). This uncertainty surrounding the

change in behaviour is the reasoning behind not attempting to quantify this cost impact. Other non-quantified costs include: potential conflict with other fishing vessels, environmental consequences of targeting new areas, longer steaming times and increased fuel costs, changes in costs and earnings, gear development and adaptation costs, and additional quota costs.

Telecommunication cables

There are two telecommunication cables which transits the proposed West of Scotland MPA, totalling approximately 876 km of length within the site. It is assumed existing telecom cables are designed with a lifespan of 25 years and the lifespan will be reached for both of these cables during the assessment period. The cables that need replacing will be replaced in the following years: ATLANTIC CROSSING 1 to be replaced in 2024 and TAT 14 to be replaced in 2026. The cost associated with additional assessment to support planning applications is assumed to be £5,600 per application, at the time of the cable replacement.

Oil and Gas

There is some overlap between West of Scotland MPA and oil and gas exploration. This includes 3 licensed blocks, 5 blocks from the 29th licensing and 505 blocks from the 31st licensing round. Since oil and gas activity could be conducted under the lower management scenario, the costs for the blocks that have the potential for oil and gas extraction have been estimated. In the proposed West of Scotland MPA, there is one licensed block that has an undeveloped discovery located inside the block (licence number 2138 with undeveloped discovery number 154/01-1). The costs of the additional assessments required for this block have been calculated in for the lower management scenario. Under the intermediate and upper scenarios, no oil and gas extraction would be permitted; this represents an opportunity cost to the industry that cannot be quantified.

Economic Costs of Designation of the West of Scotland MPA				
		Lower Estimate	Intermediate Estimate	Upper Estimate
Assumptions for impacts		<ul style="list-style-type: none"> ▪ New development proposals affecting MPAs will require additional assessment of impacts to protected features ▪ Additional assessment costs per licence application are estimated to be £5,600 (at 2019 prices) ▪ Costs are incurred for one licensed block that overlaps with an undeveloped discovery ▪ It is assumed that the licensed block in the West of Scotland MPA will not proceed to the Third term given how remote the site is from current oil and gas infrastructure ▪ Assessments are assumed to be required for geotechnical surveys, seismic surveys and exploration drilling 	<ul style="list-style-type: none"> ▪ Oil and gas extraction is not permitted, this represents an opportunity cost that cannot be quantified 	<ul style="list-style-type: none"> • Oil and gas extraction is not permitted, this represents an opportunity cost that cannot be quantified
Description of quantified impacts - (on-site)		Additional assessment costs for licence applications: <ul style="list-style-type: none"> ▪ Geotechnical surveys (2021 during the Initial Term) (£5,600) ▪ Seismic surveys (2024, mid-way through the Initial Term) (£5,600) ▪ Exploration drilling (2027, end of the Initial Term) (£5,600) 	• N/A	• N/A
Description of non-quantified impacts	On-site	<ul style="list-style-type: none"> ▪ Cost of uncertainty and delays to licence applications 	<ul style="list-style-type: none"> ▪ Opportunity costs of foregone oil and gas extraction 	<ul style="list-style-type: none"> ▪ Opportunity costs of foregone oil and gas extraction
	Off-site	<ul style="list-style-type: none"> ▪ N/A 	<ul style="list-style-type: none"> ▪ Future oil and gas activity displaced to areas outside of the MPA 	<ul style="list-style-type: none"> ▪ Future oil and gas activity displaced to areas outside of the MPA

Quantified Costs of site designation (£000s over period 2019-2038)			
	Lower estimate	Intermediate estimate	Upper estimate
Total costs	17	0	0
Average annual costs	1	0	0
Present value of total costs	14	0	0

Military Interest

It is assumed that there will be costs related to the need for Ministry of Defence (MoD) to amend and update its Marine Environment and Sustainability Tool (MESAT) (and other MoD environment tools) together with subsequent costs to maintain and comply with these updates.

Initial revision of MESAT (and other MoD environmental tools) and additions to electronic charting by the Hydrographic Office are estimated to cost £28,000 (at 2019 prices), and this cost would be incurred in 2020. Consideration of the site would be undertaken as part of planning for all MoD maritime activities. It has been estimated that the costs to MoD will be £11,100 per year in the first four years of the assessment period, reducing to £5,600 p.a. from year 5 onwards (at 2019 prices). This results in a total present value cost impact of £195,000 over the 20 year assessment period (2019-2038)

Public sector

The decision to designate the West of Scotland MPA would result in costs being incurred by the public sector in the following broad areas:

- Preparation of Statutory Instruments
- Preparation of Marine Management Schemes
- Site monitoring
- Compliance and enforcement
- Promotion of public understanding
- Regulatory and advisory costs associated with licensing decisions

The majority of these costs will accrue at the national level and as such have not been disaggregated to site level. Only the preparation of Statutory Instruments and regulatory and advisory costs associated with licensing decisions have been estimated at the site level.

Site-specific Public Sector Costs (£000s, 2019-2038)			
	Lower Estimate	Intermediate Estimate	Upper Estimate
Preparation of Statutory Instruments	0	4.2	4.2
De-designation of existing sites	4.2	4.2	4.2
Monitoring	2,471.5	2,471.5	2,471.5
Compliance and enforcement	0	0	0
Promotion of public understanding	0	0	0
Regulatory and advisory costs associated with licensing decisions	2.3	0.9	0.9
Total Quantified Public Sector Costs	3,307.0	3,309.5	3,309.5
Average annual costs	123.9	124.0	124.0
Present value of total costs (2019 to 2038)	2,478.0	2,480.8	2,480.8

Total costs

Total quantified costs are presented in present value terms. Commercial fisheries costs are presented in terms of GVA.

Total Present Value of Quantified Costs (£000's, 2019-2038)			
	Lower Estimate	Intermediate Estimate	Upper Estimate
Military Activities	195	195	195
Sea-bed mining	0	0	0
Oil and Gas	14	0	0
Power Interconnectors	0	0	0
Telecommunication Cables	9	9	9
Total present value	218	204	205

Gross value added Impacts (£ 000s 2019-2038)			
	Lower estimate	Intermediate estimate	Upper estimate
Commercial Fisheries (Direct+ Indirect costs)	0	1,628	8,175

Scottish Firms Impact Test

This section will be informed by evidence gathered during the consultation phase, and completed in the final BRIA. If requested, in addition to the written consultation process, there will be meetings with businesses who may be affected by the proposal. The designation of the proposed West of Scotland MPA is estimated to have some economic and social impacts on commercial fisheries under intermediate and upper scenarios. These are:

- Reduction in average annual value of output landed by the UK commercial fisheries sector between £0.1 million and £0.56 million;
- Reduction in GVA (direct and indirect) of the UK commercial fisheries sector over the 20- year assessment period between £1.6 million to £ 8.2 million (2019 prices);
- Reduction in the average employment (mean number of jobs, direct, indirect and induced) of the UK commercial fisheries sector between 2 and 16 full time equivalents (FTEs)

The designation of the West of Scotland MPA will mainly affect fishing vessels over 12 metres. The designation can also result in a number of non-quantified opportunity costs for sectors that will not be able to operate in the proposed site (oil and gas).

The distribution of the potential economic (and hence social) costs of the designation are summarised in the Annex III. The distributional analysis is based on UK fishing vessels only and their affected landings.

Competition Assessment

Designation of the West of Scotland MPA may affect marine activities where businesses operate within a given spatial area or require a spatial licence for new or amended operations. Such activities include:

Commercial fishing

There is a varying degree to which competitiveness may be affected, depending on future management. However it is not possible to quantify this, but it is expected that the most likely scenario would have little impact on competitiveness of the industries, given existing measures that are in place.

Competition Filter Questions

Will the proposal directly limit the number or range of suppliers? e.g. will it award exclusive rights to a supplier or create closed procurement or licensing programmes?

It is unlikely the designation of the West of Scotland MPA will directly limit the number or range of suppliers.

Will the proposal indirectly limit the number or range of suppliers? e.g. will it raise costs to smaller entrants relative to larger existing suppliers?

Limited / No Impact. Designation of the West of Scotland MPA could affect the spatial location of commercial fisheries activity and may restrict the output capacity of this sector. However, restrictions on fishing locations may well be negated by displacement i.e. vessels fishing elsewhere. It is expected that the distribution of additional costs will be felt more by larger existing suppliers than smaller entrants .

Designation could affect the preparation of applications, location of marine developments and activities, or requirements for marine developments which would apply to any developer of an affected licensed activity when preparing and submitting an application. Additional costs will potentially be incurred by developers submitting new licence applications, but they will apply to both new entrants and to incumbents looking to expand or alter their operations.

Will the proposal limit the ability of suppliers to compete? e.g. will it reduce the channels suppliers can use or geographic area they can operate in?

No. Designation of the West of Scotland MPA will not directly affect firms' route to market or the geographical markets they can sell into.

Will the proposal reduce suppliers' incentives to compete vigorously? e.g. will it encourage or enable the exchange of information on prices, costs, sales or outputs between suppliers?

No. Designation of the West of Scotland MPA is not expected to reduce suppliers' incentives to compete vigorously.

Test run of business forms

It is not envisaged that designation of the West of Scotland MPA will result in the creation of new forms for businesses to deal with, or result in amendments of existing forms.

Legal Aid Impact Test

It is not expected that the designation of the West of Scotland MPA will have any impact on the current level of use that an individual makes to access justice through legal aid or on the possible expenditure from the legal aid fund as any legal/authorisation decision impacted will largely affect businesses rather than individuals.

Enforcement, sanctions and monitoring

Responsibility for compliance, monitoring and enforcement of the provisions will be carried out by Marine Scotland. Reserved issues will continue to be addressed by the respective departments within the UK government.

Implementation and delivery plan

The designation order was made on 25 September 2020 and the Order will come into effect on 09 October 2020. Once designated, public bodies will have to take any authorisation or enforcement decision in accordance with the provisions defined in legislation to protect MPAs. If specific management measures are required for the site they will be developed and be subject of their own assessments, consultation, and implementation phase. Every 6 years a report is laid in the Scottish Parliament which details progress of the MPA network towards achieving its objectives.

Summary and recommendation

It is proposed that West of Scotland becomes an MPA under the Marine and Coastal Access Act 2009.

Declaration and publication

I have read the Business and Regulatory Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs. I am satisfied that business impact has been assessed with the support of businesses in Scotland.

Signed:

A handwritten signature in black ink, appearing to read 'Mairi Gougeon', written in a cursive style.

Date: 25 September 2020

Mairi Gougeon, Minister for Rural Affairs and the Natural Environment

Scottish Government Contact Point:

Marine Scotland – Marine Conservation Unit

marine_conservation@gov.scot

ANNEX A – Scoping exercise

The scoping assessment identifies the potential interactions between the deep sea marine reserve option areas, and those interactions with the potential to give rise to significant social and economic impacts. The outcome of the scoping assessment is provided in the table below. The sectors taken forward for assessment are: commercial fisheries; military interests; oil and gas; power interconnectors; seabed mining and telecommunication cables.

Sector	Scoped in/out	Reason
Aquaculture (finfish)	✗	No overlap with existing or proposed aquaculture sites
Aquaculture (shellfish)	✗	No overlap with existing or proposed aquaculture sites
Aviation	✗	No management would be required for this sector
Carbon Capture and Storage	✗	No overlap with potential CCS locations
Coast Protection and Flood Defence	✗	No overlap with coastal protection and flood defence measures
Commercial Fisheries	✓	Overlap with commercial fishing activity
Energy Generation	✗	No overlap with wind, wave and tidal Development Plan Options
Marine Aggregate Extraction	✗	No current marine aggregate licences or licence applications in Scottish waters
Military Interests	✓	Overlap of danger areas and practice and exercise areas with site
Oil and Gas	✓	Overlap with 29 th and 30 th Round areas
Ports and Harbours	✗	No overlap with ports and harbours or dredge disposal sites
Power Interconnectors	✓	Overlap with planned Icelink interconnector
Recreational Boating	✗	No management would be required for this sector
Seabed mining	✓	No seabed mining activity currently, but designation may preclude future activity
Shipping	✗	No management would be required for this sector
Telecom Cables	✓	Overlap with existing telecom cables
Tourism (including heritage assets)	✗	No management would be required for this sector
Water sports	✗	No management would be required for this sector

Annex B: Summary of Ecosystem Services Benefits arising from the Designation and Management of the Site

Services	Relevance to Site	On-site / Off-site	Baseline Level	Estimated Impacts of Management			Value Weighting	Scale of Benefits	Confidence
				Lower estimate	Intermediate estimate	Upper estimate			
Fish and shellfish for human consumption	Moderate, important spawning sites ⁴	On and Off	Many stocks' biomass are not at MSY	Nil	Deep sea species to benefit from protection	Moderate, spawning areas for commercial species such as anglerfish – specifically on continental slopes around Rockall and juveniles have been observed around the Rockall Bank area. Key habitats e.g. for elasmobranchs ⁵	Low	Moderate	
Fish and shellfish for non-human consumption			Stocks reduced from potential maximum						
Climate regulation	Moderate–high, carbon storage in deep sea habitats	On	Uncertain but potentially important services	Minimal			Moderate	Minimal	Moderate
Waste breakdown/detoxification	Low	On-site	Low–moderate	Minimal			Low	Minimal	Low

⁴ Priede, I.G. 2018. Deep-sea Fishes Literature Review. JNCC Report No. 619. JNCC, Peterborough. ISSN 0963-8091

⁵ Priede, I.G. 2018. Ibid.

Services	Relevance to Site	On-site / Off-site	Baseline Level	Estimated Impacts of Management			Value Weighting	Scale of Benefits	Confidence
				Lower estimate	Intermediate estimate	Upper estimate			
Non-use value of natural environment	Moderate, deep sea features (e.g. sponges) and sites, have non-use value	On-site	Non-use value of the site may decline	Moderate, protection of features of site from potential future decline			Low–Moderate, protection of features is valued non-users	Moderate	Moderate, extent of features, and value to society all uncertain
Research and Education Genetic Resources	Moderate, a number of biological features have research value ⁶	On-site	Value of site may decline	Low, protection of key characteristics of site from decline, improving future research opportunities			Moderate	Low–Moderate	Low, extent to which research uses site in future uncertain.
Supporting services	High	On-site and off-site	Moderate	Designation and management reduces risks of future decline			Moderate	Low	Moderate

⁶ Doggett, M., Baldock, B. & Goudge, H. 2018. A review of the distribution and ecological importance of seabed communities in the deep waters surrounding Scotland. *JNCC Report No. 625*, JNCC, Peterborough, ISSN 0963-8091.

Annex C – Distribution of quantified economic costs - (Intermediate estimate unless otherwise specified)

Distribution of quantified economic costs for commercial fisheries and fish processors by location, age, and gender

Sector/ Impact	Location			Age			Gender	
	Regions	Port (s)	Rural, Urban, Coastal or Island	Children	Working Age	Pensionable Age	Male	Female
Commercial Fisheries Reduction in landed value, GVA and employment, linked back to home port of vessels	Regional share of total reductions in landings in Scotland: North: 0.1% North East: 22% West: < 0.1% South West: 0.2% Majority of reductions arise in England for intermediate scenario (77%) (Peterhead for upper scenario)	Employment impacts in Scotland negligible under intermediate scenario. Largest absolute employment impact for intermediate estimate is at non-Scottish UK port: 2 FTEs	x Impacts concentrated in coastal areas; urban in North-East.	x Potential negative effect if parent loses job/ becomes unemployed	x	0	x 2 FTE job losses	x Potential negative effect if member of household loses job/ becomes unemployed
Fish Processors Reduction in local landings at landing ports	North-west region is most significantly affected in Scotland (intermediate scenario), North-east region in upper scenario	In all ports, affected landings represent a very low proportion (up to 0.4%) of total landings, or have very low value.	x Impacts concentrated in coastal areas; urban in North-East	x	x	0	x 60% of processors male	x 40% of processors female
Impacts: xxx: significant negative effect; xx: possible negative effects; x: minimal negative effect, if any; 0: no noticeable effect expected.								

Distribution of quantified economic costs for commercial fisheries and fish processors by group (Fishing, income, and social)

Sector/ Impact	Fishing Groups		Income Group			Social Groups		
	Vessel Category <12 m, >12 m	Gear Types/Sector	10% Most Deprived	Middle 80%	10% Most Affluent	Crofters	Ethnic Minorities	With Disability or Long-Term Sick
Commercial fisheries Reduction in landed value, GVA and employment, linked back to home port of vessels	Under intermediate and upper estimate – impacts on >12 m vessels	Main gear types affected for vessels are set nets. (Impact on pelagic vessels in upper scenario)	x Possible negative impact on 10% most deprived	x Possible negative impact on middle income group	x Possible negative impact on upper income group under upper scenario, but wage data not available to confirm	0	EU/EEA nationals account for 14% of employment on Scottish vessels, and non-EEA nationals 7% (mostly Filipino) ⁷	0 No employment data but unlikely to be employed in fishing
Fish Processors Reduction in local landings at landing ports		x Impacts are < 1% of landings at any port.	x	X	0	0	55% of employment in fish processing in Scotland is of EEA nationals, 2% of 'other/unknown' ⁸	No breakdown of fish processing employment data around disability or long-term sick
Impacts: xxx: significant negative effect; xx: possible negative effects; x: minimal negative effect, if any; 0: no noticeable effect expected								

⁷ Seafish, 2019. 2018 Employment in the UK Fishing Fleet. Available online at https://www.seafish.org/media/publications/Seafish_2018_employment_in_fleet_FINAL.pdf. Accessed 27 March 2019.

⁸ Seafish, 2018. Seafish Economic Analysis – UK Seafood Processing Sector Labour 2018. Available online at https://www.seafish.org/media/2018_seafood_processing_sector_labour_report.pdf. Accessed 27 March 2019.



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Any enquiries regarding this publication should be sent to us at
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