Partial Business and Regulatory Impact Assessment

Title of Proposal

Red Rocks and Longay – Designation of a Marine Protected Area (MPA) and associated Marine Conservation Order (MCO) – 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 by balancing the competing demands on marine resources with appropriate conservation measures. Biological and geological diversity must be protected to ensure our future marine ecosystem continues to provide sustainable economic, environmental and social benefits.

Marine Protected Areas (MPAs) in coastal waters are designated under the Marine (Scotland) Act 2010. The Red Rocks and Longay MPA in the Inner Sound of Skye was designated on an urgent basis in 2021, along with an urgent Marine Conservation Order (MCO). This action was taken after the discovery of a flapper skate egg nursery area. However, both the urgent MPA and MCO are time limited to a maximum of two years, and will end in 2023.

Proposal

The Scottish Government proposes to make the Red Rocks and Longay site an MPA on a permanent basis, no later than March 2023. Having now assessed the location against the MPA selection guidelines it has been determined that it should have two protected features – flapper skate and Quaternary of Scotland.

Alongside this, the Scottish Government proposes to implement an MCO to further the conservation objectives of the MPA by regulating particular activities, including fishing. For industries not covered by the MCO, the relevant public authority must only give consent where it can be demonstrated that the activity will not hinder the achievement of the conservation objectives.

Protected Features and Conservation Objectives – Red Rocks and Longay MPA

The Red Rocks and Longay MPA is situated on the west coast of Scotland in the Inner Sound of Skye and is identified for the nationally important flapper skate egg-laying site. There are two broad conservation objectives for the creation of a Scottish network of MPAs: either to conserve features in their current state, or to afford them protection to enable recovery to a state in which they remain healthy and productive. For the proposed Red Rocks and Longay site the conservation objectives are to conserve flapper skate and Quaternary of Scotland.

Feature	Conservation Objective
Flapper skate (*Diputurus intermedius*)	Conserve
Quaternary of Scotland (Moraines, rock drumlins and crag and tails)	Conserve

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 that 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 World Summit on Sustainable Development
- The OSPAR convention
- UK Marine Strategy
- Conservation (Natural Habitats, &c.) Regulations 1994, the Conservation of Habitats and Species Regulations 2017, and the Conservation of Offshore Marine Habitats and Species Regulations 2017

The Red Rocks and Longay site has been identified for designation as an MPA due to the confirmed presence of biodiversity features detailed above. The proposed management measures are also based on this scientific evidence base combined with fishing activity data.

Evidence in this BRIA is drawn from the work of statutory nature conservation body NatureScot (previously known as Scottish Natural Heritage). This has been updated as required. 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 Red Rocks and Longay MPA and introducing management measures. The appraisal period for assessing the socio-economic impacts covers the period from 2022 to 2042, although benefits will be delivered for longer if effective management measures remain in force. As with any socio-economic assessment related to environmental designations, the findings should be considered as estimates. Where uncertainty exists, such as for fisheries, they are deliberately presented as worst-case scenarios to build in necessary caution.

Rationale for Government Intervention

Scotland's marine environment provides: food; energy sources (wind, wave & tidal power, minerals and fossil fuels); routes and harbours for shipping; 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 a healthy marine environment such as the non-use value of biological diversity have 'public good' characteristics. No-one can be excluded from enjoying the benefits (non-excludability), and enjoyment of the benefits they provide one person does not diminish the benefits that are available to others (non-rivalry). These characteristics of a healthy marine environment mean that individuals do not have an incentive to ensure the continued flow of these goods as other people will reap those benefits. This can lead to their under-provision, or in other words the eventual decline of the marine environment.

- *Negative and positive externalities:* externalities occur when actions of marine users affect other parties positively or negatively, but 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 this can lead to more damage occurring from economic activity than would occur if the full cost of economic activity was accounted for. For example, fish are caught but market prices do not often reflect any potential damage caused to the environment by that activity. This means the incentive to fish in less damaging ways is reduced if there is no or limited pay-off to the change.

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 rational for government to intervene to protect the marine environment.

Consultation

Within Government
Consultation has been undertaken within policy colleagues within Marine Scotland, including aquaculture, nature conservation, marine renewables, compliance, and sea fisheries.

Public Consultation
This section will be updated following public consultation.

Options

Option 1 - Do nothing
Option 1 is the 'Do nothing' option; this is the baseline scenario. Under this option, the urgent designation and management measures can only remain in place for up to two years until 2023, after which time they will end. There will be no management measures implemented, and activities which could impact flapper skate could resume, which threatens the conservation of the feature.

The objective of conserving flapper skates will likely not be achieved.

Option 2: Designate site as a Nature Conservation Marine Protected Area and implement a Marine Conservation Order

Under this option, Red Rocks and Longay would be designated as an MPA and management measures would continue beyond 2023 when the urgent designation ends. This would continue the conservation of the feature, and contribute to the wider Scottish, UK, and OSPAR MPA networks. The introduction of management measures at Red Rocks and Longay would ensure that commercial use of the marine environment in the area could not hinder the achievement of the conservation objectives, in particular enabling conservation of the flapper skate nursery area, which would contribute to improving the biological diversity in Scotland's seas.

Sectors and groups affected

The following activities have been identified as present (or possibly present in the future) within the proposed Red Rocks and Longay site and potentially interact with the feature:

- Commercial fisheries
- Tourism, recreational fishing & diving

Benefits

Option 1: Do nothing

No additional benefits are expected to arise from this policy option.

Option 2: Designate site as a Nature Conservation Marine Protected Area (MPA) and implement a Marine Conservation Order (MCO)

MPA designation and introduction of an MCO and associated management measures will help to conserve the range of biodiversity at in the Red Rocks and Longay site and for Scotland as a whole, and will contribute to establishing an ecologically coherent network of marine protected areas. This would also safeguard the ecosystem services and benefits provided by the marine environment.

Appropriate management will reduce the risk that the extent, population, structure, natural environmental quality and processes of features protected will decrease or degrade over time.

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 deeps 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 individual areas.

MPA designation will help to conserve the range of biodiversity Red Rocks and Longay 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.

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 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 from the knowledge that the features are receiving adequate protection as well as the wider conservation objectives that designation supports.

In the case of Red Rocks and Longay, 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. The measures are likely to support continued egg laying by flapper skate that depend on boulder substrate located within the site as nursery habitats.

Annex A summarises the ecosystem benefits that can be derived from designation and effective management of the Red Rocks and Longay MPA and has been informed by nature conservation advisors from NatureScot.

Flapper Skate

Flapper skate (*Dipturus intermedius*) and blue skate (*Dipturus flossada*) were considered until recently to be a single species known as 'Common skate complex' (*Dipturus batis)*, however these are now known to be separate species. Flapper skate was historically abundant in the North-east Atlantic and widely distributed in the seas surrounding the British Isles, however its range has reduced significantly and catch rates declined throughout the 20th century. Flapper skate now only occurs in the northern North Sea and off Scotland's north-west coast. Common skate complex is listed on the OSPAR Threatened and/or Declining Species and Habitats

List and the IUCN Red List as Critically Endangered. Flapper skate is also a Priority Marine Feature.

This is the first flapper skate egg-laying habitat found in Scotland and is therefore of national importance. It is likely that the site has been in use for over two years and that multiple females are using the egg nursery.

Although there is a prohibition of commercial landing of flapper skate, they are a popular species for recreational anglers, due to their large size. The practice of catch-and-release fishing for flapper skate is also a useful source of data on the species' life history and a long-running tagging programme has been undertaken in the Loch Sunart to the Sound of Jura MPA.

Tourism, Recreational Fishing & Diving

Coastal areas are well represented when considering the locations of various tourist related sites within Scotland with a range of site types present in all regions including the west coast. Red Rocks and Longay and wider Inner Sound itself is a popular destination for recreational boating and tourism, including dive tourism. Where impacts to recreational diving or angling have been identified for the site, there could also be consequential impacts on tourism. However, tourism may also benefit from the designation of the MPA directly and indirectly as a result of benefits to activities such as recreational boating, kayaking, diving, angling & wildlife watching.

Anchoring of vessels is prohibited in the site which may impact tourism for diving and fishing although due to uncertainty around number of future instances, it is not possible to include a detailed assessment of these costs.

Costs

Option 1: Do nothing

This option is not expected to incur any additional costs to the sectors and groups outlined above. However, it should be noted that the societal cost of not designating Red Rocks and Longay as an MPA could be both large and irreversible. The absence of management measures to conserve the identified feature may produce future economic and social costs 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 as a Nature Conservation Marine Protected Area (MPA) and implement a Marine Conservation Order (MCO)

Costs have been evaluated based on the implementation of management measures. Where feasible costs have been quantified, where this has not been possible costs are presented qualitatively. All quantified costs have been discounted in line with HM Treasury guidance using a discount rate of 3.5% to reflect societies preference for current over future consumption. All costs are presented in 2020 prices.

Commercial Fisheries

Proposed management measures will further the conservation objectives of the protected features. The measures will apply across the entire footprint of the MPA.

Table 1: Summary of Management Measures

Gear Type	Management Measures
All demersal mobile gears	Deployment of fishing gear is prohibited
All demersal static gears	Deployment of fishing gear is prohibited
All pelagic gears	No management

The Red Rocks and Longay MPA proposal is located wholly within ICES rectangle 43E4. The tables below present the estimated loss of landings for under 12m and over 12m vessels. The loss of landings is estimated by averaging landings over the period 2015-2019, in order to smooth year-on-year fluctuations.

For vessels under 12m, the area of the MPA as a proportion of the ICES rectangle has been used as a multiplier. Red Rocks and Longay has an area of 11.85km² and the rectangle has a sea area of 643km², giving a multiplier of 0.018 for vessels under 12m. In other words, the area of Red Rocks and Longay MPA is approximately 1.8% of the total ICES rectangle.

For vessels over 12m, Vessel Monitoring Systems (VMS) data has been used to estimate the value of landings attributed to the MPA based on previous fishing activity in this area.

Table 2: Estimated annual value of under 12m fisheries in ICES rectangle 43E4 and the Red Rocks and Longay MPA as derived from iFISH (2015-2019 in 2020 prices) (£Million)

Gear/Sector	Estimated rectangle value	Estimated MPA value	Estimated loss of fishing value associated with management measures
Under 12m creels	£2.967m	£0.055m	£0.055m
Under 12m dredges	£0.003m	£0.000m	£0.000m
Under 12m trawls	£0.195m	£0.004m	£0.004m

Table 3: **Estimated annual value of over 12m fisheries in Red Rocks and Longay MPA as derived from VMS data (2015-2019 in 2020 prices) (£Million)**

Gear/Sector	Estimated MPA value	Estimated loss of fishing value associated with management measures

Over 12m creels	£0.001m	£0.001m
Over 12m dredges	£0.003m	£0.003m
Over 12m trawls	£0.000m	£0.000m

Table 4: Estimated total annual value of commercial fisheries in Red Rocks and Longay MPA (2015-2019 in 2020 prices) (£Million)

Gear/Sector	Estimated MPA value	Estimated loss of fishing value associated with management measures
Under 12m	£0.059m	£0.059m
Over 12m	£0.005m	£0.005m
Total	**£0.063m**	**£0.063m**

Note: Due to rounding, totals may not equal the sum of individual figures.

Table 5: Economic Costs of Designation & Management of Red Rocks and Longay MPA (£Million)

Scenario	Option 1: Do nothing	Option 2: Designate site
Assumptions for cost impacts	No designation and no management measures	Prohibition of mobile gears and static gears
Description of one-off costs	£0.000m	£0.000m
Description of recurring costs	£0.000m	Loss of all commercial fisheries activity within the MPA area (annual, 2020 prices) £0.063m

Description of non-quantified costs	£0.000m	Displacement effects, including conflict with other fishing vessels, environmental impacts in targeting new areas, longer steaming times and increased fuel costs, changes in costs and earnings, gear development and adaptation costs, and additional quota costs

Commercial fisheries costs are presented below in terms of Gross Value Added (GVA). GVA more accurately reflects the wider value of the sector to the local area and economy beyond the market value of the landed catch. Stating costs purely in terms of landed value would overstate the true economic cost of not fishing. Social costs are also presented in terms of the reduction in full-time equivalent (FTE) employment. It is also possible that fishing effort not continuing in the area could be transferred to other locations resulting in reduced loss of income to vessels currently operating in the Red Rocks and Longay site, but with potential for costs to areas to which effort is displaced.

The GVA impact is estimated using data on the percentage of fishing income to GVA for different vessel types[1]. The GVA impact is then divided by the value of GVA per FTE for each vessel type to estimate the employment impact[2].

It is important to note that fishing activity in the area may be linked to other economic activity, including tourism, and that such diversification is important for local economies. However, as direct impacts have been judged to be very small, it is not possible to meaningfully quantify these wider impacts for the purposes of this BRIA. GVA impacts in the table below therefore only include direct impacts.

Table 6: Quantified Costs of Designation & Management of Red Rocks and Longay MPA (£Million)

Scenario	Option 1: Do nothing	Option 2: Designate site
Average annual change to GVA (2020 prices)	£0.000m	£0.034m
Present value of total change in GVA (2022-2041)	£0.000m	£0.511m
Direct reduction in employment (FTE)	0.0 FTE jobs	0.6 FTE jobs

[1] Seafish. *Economics of the UK Fishing Fleet, 2020 (2021),* accessed 14/12/2021, Economics of the UK Fishing Fleet 2020 — Seafish

The estimates of costs are explicitly based upon conservative assumptions to ensure an appropriate degree of caution. For example:

- It is assumed that where fishing activity is impacted, it ceases altogether as opposed to relocating elsewhere. In reality, some activity is likely to be displaced rather than lost entirely.
- Activity is assumed to be evenly distributed across ICES rectangles.
- Costs are not offset against any improvement in stocks that may occur over time as a result of the MPA designation.
- They do not factor in the possible opportunity for fishers to trade quota or effort to mitigate the direct impact.

The results presented here represent a worst case scenario. In reality vessels are likely to react to any management measures in place in order to maintain profitability (i.e. by changing target species/gear type). Displacement could well negate some of the cost impacts stated above (i.e. by fishing elsewhere), but conversely could also add to them (i.e. the extra fuel cost potentially associated with fishing elsewhere). This uncertainty 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, changers in costs and earnings, gear development and adaptation costs and additional cost quotas.

Public Sector

The decision to designate Red Rocks and Longay as a Nature Conservation MPA and introduce an MCO would result in costs being incurred by the public sector in the following areas:

- Compliance & enforcement
- Site condition surveys

Site condition survey cost estimates for the ongoing monitoring of the site have been provided by NatureScot. An estimate for the annual costs associated with compliance & enforcement has been informed by Marine Scotland compliance.

Table 7: Site-Specific Public Sector Costs (£Million, 2022-2041)

Scenario	**Option 1: Do nothing**	**Option 2: Designate site**
Costs	£m	£m
Compliance & enforcement	0.000	0.900
Site condition surveys	0.000	0.160-0.200
Total quantified costs	**0.000**	**1.060-1.100**
Average annual costs	**0.000**	**0.053-0.055**

Total Costs

Total quantified costs are presented In present value terms at 2020 prices. These relate to the designation of the MPA and the implementation of the MCO. Commercial fisheries cost to Scottish vessels are presented in terms of GVA.

Table 8: Total Present Value of Quantified Costs (£Million, 2022-2041)

Scenario	**Option 1: Do nothing**	**Option 2: Designate site**
Sector/Group	£m	£m
Commercial Fisheries	0.000	0.511
Public Sector	0.000	0.780-0.809
Total Present Value of Quantified Costs	**0.000**	**1.290-1.320**

Table 9: Total Non-Quantified Costs

Scenario	**Option 1: Do nothing**	**Option 2: Designate site**
Sector/Group		
Tourism, recreational fishing & diving	None	Costs cannot be quantified but there would be estimate of loss of ecosystem benefits for these activities within the MPA.
Commercial fisheries	Possible degradation of feature which could have negative impacts on ecosystem benefits but these cannot be quantified into a monetary value	Displacement effects, including conflict with other fishing vessels, environmental impacts in targeting new areas, longer steaming times and increased fuel costs, changes in costs and earnings, gear development and adaptation costs, and additional quota costs

Scottish Firms Impact Test

Many of the businesses affected may include some small and micro-sized firms. For the commercial fisheries sector the average number of fishers per Scottish vessel in 2020 was 2.3. Additional costs imposed by the introduction of fisheries management measures at the Red Rocks and Longay MPA have the potential to fall on small businesses.

Competition Assessment

The introduction of fisheries management measures at the Red Rocks and Longay MPA may lead to competitive disadvantage for commercial fisheries actively operating within a given spatial area, potentially restricting the output capacity of the this sector. However, given that as an activity is likely to be displaced instead of lost, these impacts are negligible. It is not expected that the distribution of additional costs will be skewed towards smaller entrants relative to larger existing suppliers.

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?

No. It is unlikely that the introduction of fisheries management measures 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. The introduction of fisheries management measures 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 not expected that the distribution of additional costs will be skewed towards smaller entrants relative to larger existing suppliers.

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. The introduction of fisheries management measures 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. The introduction of fisheries management measures is not expected to reduce suppliers' incentives to compete vigorously.

Test Run of Business Forms

It is not envisaged that the introduction of fisheries management measures will result in the creation of new forms for business to deal with, or result in amendments of existing forms.

Legal Aid Impact Test

It is not expected that the management measures 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 by the management measures will largely affect businesses rather than individuals.

Enforcement & Monitoring Sanctions

Marine Scotland has responsibility for compliance, monitoring and enforcement of the measures.

Implementation and Delivery Plan

The designation and management measures are proposed to be delivered by Ministerial Order and Scottish Statutory Instrument no later than 10th March 2023.

Post Implementation Review

There is a requirement under the Marine (Scotland) Act to report and review the network every 6 yearsThis includes MPAs like Red Rocks and Longay. The need for these measures will be reviewed in 2028 and every 6 years thereafter.

Summary

It is proposed that Red Rocks and Longay becomes an MPA under the Marine (Scotland) Act 2010. In addition an MCO is proposed to ensure that the MPA (if designated) is well-managed and that the conservation objectives for each protected features are furthered.

Declaration & Publication

I have read the Business and Regulatory 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. I am satisfied that business impact will be assessed with the support of businesses in Scotland.

Signed:

Date:

Mairi Gougeon, Cabinet Secretary for Rural Affairs and Islands.

Scottish Government Contact Point:

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Annex A - Summary of ecosystem services benefits arising from designation of MPA and implementation of MCO

Services	Relevance	Baseline Level	Estimated impacts of designation and management	Value Weighting	Scale of Benefits	Confidence
Fish for human consumption	High - Support food web and contain nursery habitats.	Stocks reduced from potential maximum	Moderate – protection of site can contribute to recovery of fish and shellfish stocks	High - Commercial species supported and priority wildlife species.	Moderate	Moderate
Fish for non-human consumption		Stocks reduced from potential maximum	Moderate – protection of site can contribute to recovery of fish and shellfish stocks			
Gas and climate regulation	Nil - Low	Nil - Low	Nil-Low	Low	Low	High
Natural hazard protection	Nil - Low	Nil - Low	Low	Minimal- Increase unlikely	Nil - Minimal	High
Regulation of pollution	Nil - Low	Nil - Low	Low - If protection allows recovery of habitats, service could increase	Minimal- Increase in this service unlikely	Minimal - Low	High
Non-use value of natural environment	Moderate – High Contribution of the site to MPA network and non-use value of flapper skate.	Low-Moderate Non-use value of the site may decline	Moderate - Protection of features of site from damage, allowing some recovery of population of flapper skate.	High - strong contribution to halting damage & decline of biodiversity. Protection of features is valued by divers and anglers.	Moderate	Moderate
Recreation	Moderate - active individuals and businesses	Moderate - High Including tourism activities and wildlife watching.	High – Protection of features of site from damage, allowing recovery of population of flapper skate.	Moderate - Extensive activities	Minimal-Moderate - Enhanced visitor experience	Low – Moderate
Research and Education	Moderate – High	Moderate – High	High Protection of key characteristics of site from decline, improving future research opportunities for juveniles, flapper skate eggs and reproductive biology of adults	High - opportunity to study recovery, opportunity to study life history of flapper skate	High	High – recovery to be monitored, life history of flapper skate to be studied