

# Business and Regulatory Impact Assessment

## Title of Proposal

South Arran, Marine Protected Area (MPA).  
Introduction of Fisheries Management Measures, Socio-Economic Analysis

## Purpose and intended effect

- **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 - balancing the competing demands on marine resources. Biological and geological diversity must be protected to ensure our future marine ecosystem is capable of providing the economic and social benefits it yields today.

Marine Protected Areas (MPAs) are designated under the Marine (Scotland) Act 2010. The South Arran MPA<sup>1</sup> was designated in in 2014. These management measures are designed to further the conservation objectives of the MPA.

The waters around the southern end of Arran are home to a patchwork of benthic habitats and species characteristic of the more exposed areas of the Clyde Sea. The MPA encompasses the waters from just north of Drumadoon Point on the west coast, to Corriegills Point on the east and includes the Lamlash Bay No Take Zone.

The maerl beds, which are made up of a free-living calcified red seaweed that looks like pink branched twiglets, support an amazing array of other seaweeds as well as various sea anemones, starfish and juvenile fish and shellfish. The maerl is interspersed with coarse gravel sea cucumbers which bury their bodies in the maerl and gravel extending only their white or orange feathery tentacles up into the water column to feed. The seagrass beds that provide shelter and protection to a range of associated species also help to stabilise sediments, furthermore these areas trap and store carbon dioxide.

Burrowed mud is widely distributed around the outer regions of the MPA and supports a range of animals including Norway lobster, squat lobster, crabs, worms, ocean quahogs and the slender seapen.

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<sup>1</sup> <http://www.gov.scot/Resource/0045/00456829.pdf>

| <b>Summary of Features and Conservation Objectives - South Arran MPA</b> |          |
|--|----------|
| Maerl beds   | Recover  |
| Kelp and seaweed beds on sublittoral communities                         | Conserve |
| Seagrass beds  | Conserve |
| Burrowed mud   | Conserve |
| Maerl or coarse shell gravel with burrowing sea cucumbers                | Conserve |
| Ocean quahog aggregations  | Conserve |
| Shallow tide-swept coarse sands with burrowing bivalves                  | Conserve |

- **Objective**

The purpose of Nature Conservation MPAs is to safeguard nationally important species, habitats and geology across Scotland's marine environment. MPAs have been designed to complement existing site-based measures. The intention is to manage MPAs under the sustainable use principle.

An MPA network will support greater national and international ecological coherence as stipulated by:

- 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<sup>2</sup> convention
- the European Marine Strategy Framework Directive

Designation of MPAs are based primarily on scientific evidence, and MPA search features have been used to underpin the selection of MPA locations.

Evidence in this BRIA is drawn from the work of statutory nature conservation body SNH<sup>3</sup> and consultants ABPmer and eftec<sup>4</sup>. 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. The site has been identified for designation as an MPA due to the confirmed presence of biodiversity and geodiversity features detailed above.

This BRIA examines the socio-economic impact of introducing fisheries management measures at the South Arran MPA site. The assessment period covers the 20 year period from 2015 to 2034 - reflecting the time horizon within which the majority of impacts are expected to occur. As with any socio-economic assessment related to environmental measures, the findings should be considered as estimates.

<sup>2</sup> <http://www.ospar.org/>

<sup>3</sup> <http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/mpas/mpa-arr/>

<sup>4</sup> <http://www.scotland.gov.uk/Publications/2013/08/9645>

- **Rationale for Government intervention**

Scotland's marine environment provides: food; energy sources (wind, wave and 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. Due to the competing demands placed upon Scotland's marine resources, more effective management is required so that a balance between conservation and sustainable use can be struck. Currently there is not sufficient protection in place to ensure that the marine environment is properly protected and complex ecosystems safeguarded. An ecologically coherent network of well-managed protected areas is vital to conserve and regenerate our seas, in turn protecting the many goods and services they provide now, and for generations to come.

### **Contribution to an Ecologically Coherent 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. An ecologically coherent network of well-managed MPAs is vital to conserve and regenerate our seas, in turn protecting the many goods and services they provide now, and for generations to come. Furthermore it is likely that a network of Nature Conservation MPAs will demonstrate beneficial network effects, i.e. the benefit from the network as a whole may be greater than the sum of the benefits from the individual MPAs. These effects are potentially of great importance in marine protected areas because of the lack of barriers and mobility of species.

### **Consultation**

A public consultation ran from 11 November 2014 to 02 February 2015 and included 14 local level drop-in events. Feedback from the events and formal consultation responses helped finalise the management measures which this assessment is based on. In addition a further period of 8 weeks was provided for representations from 11<sup>th</sup> June to 9<sup>th</sup> August on the draft MCO.

### **Introduction of fisheries management measures**

The formal introduction of fisheries management measures at the South Arran site would provide recognition and protection to the natural features of the site while also contributing to the wider Scottish and UK marine conservation network.

- **Sectors and groups affected**

The following sectors have been identified as present (or possibly present in the future) within the South Arran site and are potentially affected by the management measures:

- Commercial Fisheries
- Public Sector

### **Benefits of introducing fisheries management measures**

Fisheries management measures will help to conserve the range of biodiversity in Scottish waters. Such measures will complement (not duplicate) other types of designation and provide an essential contribution to establishing an ecologically coherent network of marine protected areas. In the absence of such measures, there would be areas of Scotland's marine environment that would continue to be unprotected.

Appropriate fisheries management measures will reduce the risk that the extent, population, structure, natural environmental quality and processes of features protected will decrease or degrade over time. The risk that the features will be adversely affected by human activities is greater if not protected by management measures. In addition, beyond a certain point of degradation, changes to ecosystems may be large and irreversible, resulting in a significant societal cost. Avoiding such a reduction in ecosystem services is thus a key benefit of introducing fisheries management measures. However doing nothing is expected to result in environmental decline, with a corresponding declining benefit stream. These measures will contribute towards maintaining these 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.

### **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 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.

Whilst ecosystem services benefits at an individual site level cannot be easily calculated, the non-use value to Scottish households of marine conservation in Scottish waters generated by a well-functioning MPA network as a whole is estimated to be within the range of £239–583 million<sup>5</sup> over the 20 year assessment period.

There could be a major transformative effect on inshore habitat and a significantly enhanced flow of environmental goods and services. We know the inherent capacity of the system and the flora and fauna that it could support. This would see the expansion of recreational activities such as diving, sea-angling, and other tourism alongside sustainable methods of fishing.

The Assessing the Options for Change<sup>6</sup> report modelled a number of scenarios to illustrate potential impacts from the exclusion of mobile fishing gear within 1nm or 3nm of the coast. In both cases the assumptions in the least favourable scenario produce results which suggest a net benefit to the economy over a 20 year period due to restrictions allowing fish populations to recover such that recreational angling and other forms of marine recreation could increase substantially. The quantified results of their analysis are not directly applicable to the proposed sites, due to the different spatial areas considered for restrictions. However, their conclusions support the interpretation that increases in recreational activity could offset, or exceed, losses in the fisheries sector as a result of management measures.

At the very least, more sustainable fishing activities can replace those excluded. There would be no impediment to methods such as hand diving and creel fishing for crabs, lobsters, and nephrops being able to produce the same value to the economy over the assessment period.

#### Anticipated Benefits to Ecosystem Services, South Arran

| Summary of Ecosystem Services Benefits arising from Designation of the Site as an MPA |                            |  |                                  |              |          |                              |                   |                                 |
|---|----------------------------|--|----------------------------------|--------------|----------|------------------------------|-------------------|---------------------------------|
| Services  | Relevance to Site          | Baseline Level                         | Estimated Impacts of Designation |              |          | Value Weighting              | Scale of Benefits | Confidence                      |
|   |                            |  | Lower                            | Intermediate | Upper    |                              |                   |                                 |
| Fish for human consumption  | High. Site fishing grounds | Stocks not at MSY <sup>7</sup> , maerl | Low                              | Moderate     | Moderate | High, significant commercial | Moderate          | Moderate, uncertainty mainly in |

<sup>5</sup> <http://www.scotland.gov.uk/Publications/2013/08/9645>

<sup>6</sup> <http://www.gov.scot/Publications/2015/01/4022>

<sup>7</sup> Maximum Sustainable Yield

|   |  |   |   |  |   |   |   |  |
|---|--|---|---|--|---|---|---|--|
| <b>on</b>                                   | are valuable   | beds need to recover  |   |  |   | landings from site. Commercially valuable species supported.                                      |   | response of habitats to management measures.   |
| <b>Fish for non-human consumption</b>       | and contain herring spawning grounds and nursery habitats.   | Stocks reduced from potential maximum                                     | Protection of herring spawning grounds and shellfish beds can contribute to maintenance and recovery of stocks – benefits are higher under stronger protection measures but ecosystem response is uncertain. Protecting habitats with primary productivity (e.g. seagrass beds) also supports food webs and marine fish stocks. |  |   |   |   |  |
| <b>Gas and climate regulation</b>           | Moderate, extent of relevant benthic communities uncertain   | Low - Moderate. Extent of benthic plant communities uncertain             | Low - Moderate, protection of seagrass beds under all scenarios.  |  |   | Moderate, social cost of carbon   | Low   | Low, due to uncertain extent of seagrass beds and other benthic communities                              |
| <b>Natural hazard protection</b>            | Low  | Low   | Nil   |  |   | Low   | Nil   | High   |
| <b>Regulation of pollution</b>              | Moderate, benthic communities regulate pollution   | Low, major water quality issues to be dealt with through WFD <sup>8</sup> | Nil   | Low, if protection allows recovery of habitats, service could increase |   | Low, water quality in this area not affecting human welfare                                       | Minimal, increase in this service unlikely to substitute existing water treatment | High   |
| <b>Non-use value of natural environment</b> | Moderate - High, variety of protected features, and contribution of the site to MPA network, have non-use value. | Non-use value of the site may decline                                     | Low, maintain features of site  | Low - Moderate, Protection of features of site from minor decline      | Moderate - protection of features of site from decline, and/or allowing some recovery | Moderate – range of features means strong contribution to halting decline of marine biodiversity. | Moderate  | Low - Moderate, extent of features, responses to management measures, and value to society all uncertain |
| <b>Recreation</b>                           | Moderate - High, active dive sites, angling and recreational boating   | Moderate - High, including tourism activities. Angling may be reduced     | Low - Moderate, Angling benefits and biodiversity encountered by divers and recreational boaters are protected from possible decline, and could recover under upper scenario. Designation could enhance tourism activity.   |  |   | Moderate, extensive activities, but substitutes are available.                                    | Low - Moderate, enhancement of activities through improved angling                | Low - Moderate, extent of change from management measures  |

<sup>8</sup> Water Framework Directive

|  |          |  |   |  |  |                          |  |
|--|----------|--|---|--|--|--------------------------|--|
|  | routes   | by damage to features  |   |  |  | and visitor experiences. | uncertain  |
| <b>Research and Education</b>                | Moderate | Low, small number of biological features have research value and there are substitutes | Minimal, no change in most of the characteristics of site | Low, protection of key characteristics of site from decline, improving future research opportunities | Low for individual features. Moderate for opportunity to understand response of wide range of features to management | Low                      | Low - Moderate, extent to which research uses site in future uncertain |
| Total value of changes in ecosystem services |          |  | Low for lower scenario, moderate for upper scenarios      |  |  | Moderate                 | Low  |

These ecosystem services provided by effective management of the MPA contributes to the wider benefits that the MPA network can deliver:

### Benefits of MPAs

| <b>Benefit</b>  | <b>Habitat(s)</b>  |
|---|--|
| <p><b>Supporting fish and shellfish fisheries.</b></p> <p>Habitats within the MPA network can be important to various different aspects of fish/shellfish life history – such as for feeding, for spawning or for recruitment/ juveniles (e.g. providing shelter from predation).</p> | <ul style="list-style-type: none"> <li>• Kelp – including lobster, crab and wrasse (the latter used in aquaculture industry).</li> <li>• Maerl beds – Research showing that scallie spat preferentially settle on maerl. Also provide feeding areas for juvenile cod.</li> <li>• Burrowed mud – main habitat for Nephrop langoustine. This is the most lucrative shellfishery in Scotland's seas. Worth £64 million in 2013 and accounting for 15% of total value of all Scottish landings.</li> <li>• Seagrass beds – potential cod nursery habitat.</li> <li>• Rocky/boulder and cobble reefs – providing habitat used for European spiny lobster, velvet crabs, lobster and edible crab. Some overlap with kelp (see above).</li> </ul> |
| <p><b>Carbon capture and storage(blue carbon)</b></p> <p>MPAs with particular features play a role in storing blue carbon.</p>  | <ul style="list-style-type: none"> <li>• Kelp</li> <li>• Maerl beds</li> <li>• Seagrass beds</li> <li>• Bivalve beds e.g. horse mussels and blue mussels, flame shell beds</li> <li>• Burrowed mud</li> <li>• Cold water corals</li> </ul>   |

|  |  |
|--|--|
| <b>Coastal defence</b>   | <ul style="list-style-type: none"> <li>• Kelp and rocky reefs – reduce the wave energy reaching the shore, thus reducing coastal erosion.</li> </ul>   |
| <b>Ensuring a supply of sediment – including to beaches and machair/dune systems</b> | <ul style="list-style-type: none"> <li>• Maerl beds</li> <li>• Shallow tide-swept coarse sands with burrowing bivalves</li> <li>• Horse mussel beds</li> <li>• Flame shell beds</li> </ul>   |
| <b>Improving water clarity/quality</b>   | <ul style="list-style-type: none"> <li>• Horse mussels and blue mussels – through filtering material out of the water.</li> <li>• Seagrass beds – directly through attracting sediment onto the plants’ surface and indirectly through the filter feeders that live amongst the seagrass.</li> </ul>   |
| <b>Stabilising coastal sediment</b>  | <ul style="list-style-type: none"> <li>• Seagrass beds – through holding sediments with their roots and establishing beds.</li> <li>• Blue mussel beds – through binding sediments together through byssus threads and establishing beds.</li> </ul>   |
| <b>Providing wildlife experiences (recreation and tourism)</b>                       | <ul style="list-style-type: none"> <li>• This is more often applied to species – seabirds, whales, dolphins etc, that are the focus of most wildlife tourism in Scotland. But also applies to species that are the focus of recreational angling e.g. common skate.</li> <li>• Rockpools – particularly inspiring for children.</li> <li>• Sea caves and reefs – providing underwater adventures for divers and snorkellers.</li> <li>• Blue mussel and horse mussel beds, maerl beds</li> </ul> |

**Costs of introducing fisheries management measures**

**Fisheries management measures**

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 stated qualitatively. All quantified costs have been discounted in line with HM Treasury guidance using a discount rate of 3.5%. Discounting reflects the simple actuality that present consumption is preferred to future consumption. All costs are presented in 2015 prices.

**Commercial Fisheries:**

The management measures will further the conservation objectives of the MPA. The measures will apply across the whole footprint of the MPA.

| <b>Management Measures</b> |   |
|----------------------------|---|
| <b>Gear Type</b>           | <b>Measure</b>                          |
| Demersal trawl             | Prohibited across the whole MPA. By way |

|  |  |
|--|--|
|  | of derogation trawls may be deployed in specific zones by vessels of <120 gross tonnage. |
| Creel fishing, long lines, and set nets                  | Prohibited in 4 specific zones (and also in the existing Lamlash Bay No Take Zone)       |
| Suction dredging, mechanical dredging, and beam trawling | Prohibited across the whole MPA  |

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. Costs are also 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 reduced loss of income. GVA estimates include both direct and indirect impacts, which accounts for upstream supply chain impacts. Initial landings values, used to derive the final costs, are averaged over a period from 2010 - 2014 in order to smooth year-on-year fluctuations.

#### **Assessment of over 15m data**

This dataset is an amalgamation of logbook and landings data with Vessel Monitoring System (VMS) data. Logbook and landings data for ICES rectangles where there are protected areas is identified. The VMS data for each corresponding date and vessel in the logbook data is identified. It is filtered by speed (between 0 and 5 knots) to limit it to reports that are indicative of fishing activity. The two data sets are then merged giving each VMS report a notional value. Each VMS report is considered to be worth 2 hours of effort unless it is clear that the reporting frequency is much greater. In that circumstance adjustments have been made.

There are some potential sources of error in this estimate. If the wrong rectangle has been recorded in the logbook then data will be omitted. The total catch value for the trip is divided in proportion with the daily logged amount for a species. Therefore it is impossible to account for possible variations in catch quality which in turn influences the actual daily value.

In some cases a vessel may have a reported position outside an area in consecutive reports. If the intervening time was spent inside an area then this is missed by the analysis. By the same token a vessel may have just entered the area before a VMS report meaning it is included in the analysis.

This resulting dataset is then plotted using a Geographic Information System (GIS) and VMS reports that would be affected by a particular management approach identified. These are then summarised into the tables in this document for each site detailing the percentage of activity affected.

#### **Assessment of under 15m data**

For vessels in the range of 10 to 15m there is a requirement to keep a logbook detailing catches at ICES rectangle level. VMS is presently being rolled out to vessels in this size range but there is no industry wide dataset available yet. Following the requirement for over 12m boats to have VMS there is also one year's worth of VMS data for some 12m-15m vessels . This has been utilised as a validation test.

Marine Scotland undertook the Scotmap project to get a better understanding of the distribution of activities by under 15m vessels. It provides an improved spatial resolution of where under 15m activity occurs within a ICES rectangle data. Fishing areas were identified by fishermen during the interviews and recorded in GIS format, and the opportunity to provide an estimate value given.

All of the fishing areas were processed into an amalgamated raster layer with 800 cells per ICES statistical rectangle with an average area of ca. 4.20 km<sup>2</sup>. This results in each of the 800 cells having a share of the overall value of the ICES rectangle. However not all vessels participated in Scotmap meaning that the values are an under estimate of total fleet activity, but can be used on a proportional basis. For under 15m vessels, where VMS data is not available, it provides a better spatial resolution of data than looking at values at an ICES rectangle level. However given that it provides an aggregated average value it does not present data at an individual vessel level there will be limits to its accuracy.

In order to analyse data to finer spatial scales to assess the value of MPAs and the potential impact of management measures each Scotmap grid has been divided further into 25 equally sized smaller grids (this assumes that value is uniformly distributed across the Scotmap grid cell). From the Scotmap data the total value of each ICES rectangle for a particular gear type was calculated. In the same manner the value of each MPA was calculated using each smaller grid, and then the value of the management measures. This allows the percentage of an ICES rectangle catch that is within an MPA and/or management zone to be calculated. These percentages are then multiplied against all under 15m recorded landings for that ICES rectangle to ascertain the estimated value of the MPA, and the impact of the management measures. This provides a more robust estimate than the previously adopted approach of estimating the proportion of activity affected using the same percentage identified from over 15m vessel data.

There are potential sources of error within this estimate. As mentioned it assumes that vessels which did not participate in Scotmap have the same distribution of activity in an ICES rectangle. It also assumes that the proportion of fishing effort in the same as the proportion of value. This may not always be the case due to variations in catch quality. Finally all data is apportioned to the ICES rectangle recorded in the logbook, meaning any errata at this point cannot be accounted for.

| <b>Costs, Scottish vessels (£)</b> |                        |                        |
|------------------------------------|------------------------|------------------------|
|                                    | <b>&gt;15m vessels</b> | <b>&lt;15m vessels</b> |

|   |   |   |
|---|---|---|
| Average Annual Revenue Affected (2010 – 2014, 2015 prices)                              | Nephrops Trawls 169,324<br>Other Trawl 241<br>Dredge 42,570 | Whitefish trawls 401<br>Nephrops Trawls 228,679<br>Other Trawl 221<br>Dredge 30,276<br>Pots 420 |
| Revenue affected (present value, 2015-2034, 2015 prices, Scottish vessels)<br>6,710,135 |   |   |
| GVA affected (present value, 2015-2034, 2015 prices, Scottish vessels)<br>3,971,051     |   |   |

The total economic impact for Scottish vessels (measured in GVA, across the twenty year assessment period) is **£3,971,051**. By comparison, for all UK vessels the total is £4,532,185.

For under-15m vessels costs presented are likely an overestimate given the level of aggregation within the data (i.e. the data does not allow for the identification of specific gear-type attributes beyond their headline categorisation).

**Combined impact in relation to site, Scottish vessels (£)**

|  |            |
|--|------------|
| Average annual revenue site total                    | 930,063    |
| Average annual revenue impact of measures            | 472,132    |
| Estimated annual revenue of the 137 vessels affected | 19,237,793 |
| Total combined revenue impact                        | 2.45%      |

Total revenue for all gear types within the MPA site is £930,063. The impact on revenue as a result of management measures within the MPA is £472,132 (50.76% of the total site revenue). For this MPA, the overall revenue impact on the 137 affected vessels is just 2.45% (based on their total combined revenue of £19,237,793).

|   |
|---|
| <b>Employment (direct and indirect reduction)</b> |
| 9.9 jobs  |

It should be borne in mind that these costs are based on the affected vessels stopping fishing. Within the dataset used for these calculations there were more than 100 vessels. This means a relatively small impact on many individuals. Therefore it is anticipated that these vessels will make adjustments to their fishing practices to comply with the measures. In other words they will still have the ability to take the same economic value from relatively nearby fishing grounds.

Employment impacts<sup>9</sup> presented assume a linear relationship between output and employment. In reality such a relationship may not hold. 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.

### Public Sector:

The decision to introduce fisheries management measures would result in costs being incurred by the public sector in the following areas:

- Preparation of Statutory Instruments
- Compliance and enforcement

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 has been estimated at the site level.

| <b>Site-specific Public Sector Costs (£m)</b>                                   |       |
|---|-------|
| Preparation of Statutory Instruments<br>(present value, 2015-2034, 2015 prices) | 0.005 |

### Total Costs:

Total quantified costs are presented in present value terms at 2015 prices. Commercial fisheries costs to Scottish vessels are presented in terms of GVA.

| <b>Total Costs (£m)</b> |              |
|-------------------------|--------------|
| <b>Sector</b>           | <b>Cost</b>  |
| Commercial Fisheries    | 3.971        |
| Public Sector           | 0.005        |
| <b>Total Costs</b>      | <b>3.976</b> |

### 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 fishermen per Scottish vessel in 2013 was 2.5. Additional costs imposed by the introduction of fisheries management measures at the South Arran site have the potential to fall on small businesses.

<sup>9</sup>Employment impacts are derived from the Scottish Government's Input-Output tables - <http://www.scotland.gov.uk/Topics/Statistics/Browse/Economy/Input-Output>

## Competition Assessment

The introduction of fisheries management measures at the South Arran site may impact commercial fisheries activity operating within a given spatial area.

### 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 businesses 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.

Discussions with Scottish Government Legal colleagues are on-going but at this stage it is not envisaged that the introduction of fisheries management measures will have any legal aid impacts.

### **Enforcement, sanctions and monitoring**

Responsibility for compliance, monitoring and enforcement of the measures will be carried out by Marine Scotland.

### **Implementation and delivery plan**

The management measures will be delivered by Statutory Instrument on 08 February 2016.

### **Post-implementation review**

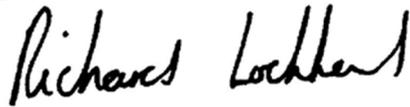
There is a 6 yearly marine protected area network review cycle and this includes MPAs like South Arran. The need for these measures will be reviewed as part of that wider review in 2024 and every 6 years thereafter. However an interim review will take place if it is considered necessary.

### **Summary**

The South Arran MPA was designated under the Marine (Scotland) Act 2010 in August 2014. These measures are proposed to ensure that the MPA is well-managed and that the conservation objectives for each protected feature are furthered.

**Declaration and 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:**A handwritten signature in black ink that reads "Richard Lochhead". The signature is written in a cursive style with a large initial 'R'.**Date: 18/12/15**

Richard Lochhead, Cabinet Secretary for Rural Affairs, Food and the Environment

**Scottish Government Contact point:**

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