Scottish MPA Project

Management options

GEIKIE SLIDE AND HEBRIDEAN SLOPE POSSIBLE MPA

This is a working draft which has been produced to support early discussions with stakeholders about management.

Following a decision by Scottish Ministers this site may be subject to formal consultation, at which point it will become a possible MPA. This document is largely aimed at supporting discussions during the formal consultation process and therefore we have used the term 'possible MPA' throughout.

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DEVELOPMENT OF MANAGEMENT OPTIONS FOR THE GEIKIE SLIDE AND HEBRIDEAN SLOPE POSSIBLE MPA

Management Options Summary

The following table summarises the management options considered for the Geikie Slide and Hebridean Slope possible MPA to eliminate or manage the risk of not achieving the conservation objectives for the features designated. For more detail on these options, please read the full Management Options Paper. It is recommended that discussions take place between sea users, scientists and managers to determine which of these management options is the most appropriate.

Activity	Management options
Mobile bottom contact gear (e.g. beam and otter trawling)	**No additional management**: There is a risk of not achieving the conservation objectives for **burrowed mud, offshore deep sea mud,** and **offshore subtidal sands and gravels**. **Reduce/limit pressure**: This option would reduce, but not entirely eliminate, the risk of not achieving the conservation objectives for **burrowed mud, offshore deep sea mud,** and **offshore subtidal sands and gravels.** Likely management measures could include restrictions on fishing with damaging gears over a proportion of each feature's area. The location of areas to be covered by management restrictions would be decided in consultation with fishers. **Remove/avoid pressure:** This option would reduce the risk of not achieving the conservation objectives for **burrowed mud, offshore deep sea mud,** and **offshore subtidal sands and gravels** to the lowest possible levels.
Static bottom contact gear (e.g. line fishing and set netting)	**No additional management**: This option is considered to be sufficient to achieve the conservation objectives for **burrowed mud, offshore deep sea muds, and offshore subtidal sands and gravels.**
Ministry of Defence activity	**No additional management:** Should seabed activities occur that interact with the proposed protected features occur in the future, management will be coordinated through the Ministry of Defence Environmental Protection Guidelines.

Introduction

The Geikie Slide and Hebridean Slope possible Marine Protected Area (MPA) is located off the north-west of Scotland, and covers an area of the continental slope as it descends down into the Rockall Trough. A range of different habitats are present within the site, influenced by the changing environmental conditions with depth.

Further details of the possible MPA can be found in the Geikie Slide and Hebridean Slope site summary document.

A number of fisheries overlap the Geikie Slide and Hebridean Slope possible MPA. Trawling for deep sea species occurs in the deeper northern area of the possible MPA, whereas monkfish are the principal target of the UK demersal otter trawl fishery over the shallower shelf edge area of the possible MPA. Trawling and long lining for shelf species such as hake and haddock also occurs in the shallower shelf edge area of the possible MPA. No licensed activities are believed to take place within the possible MPA at the current time; however, a small part of the south of the possible MPA overlaps with an MOD practice area.

This document has been produced to provide background information on the development of management for the Geikie Slide and Hebridean Slope possible MPA. It will be used during discussions as part of the formal consultation. The aim of these discussions is to explore current activities and the potential interactions these may have with the proposed protected features.

The document describes the known location and extent of proposed protected features and the current knowledge of where various activities take place. It also presents the management options for each of those activities that are considered capable of having an effect on the proposed protected features. The document provides those with an interest in the area a chance to input into the early stages of working out appropriate management of activities to ensure that the Geikie Slide and Hebridean Terrace possible MPA makes a genuine and long-lasting contribution to the protection of Scotland's marine environment.

Options within the network

The Geikie Slide and Hebridean Slope possible MPA makes an equivalent contribution to the network for the representation of features to the South-west Sula Sgeir and Hebrides Slope possible MPA. Both possible MPAs have been included as it was not possible for JNCC to recommend one area over another on the basis of the evidence available. Only one of the options will be designated to fulfil the network requirements. This provides the opportunity to consider socio-economic information when determining which of the possible MPAs will represent the features in the MPA network.

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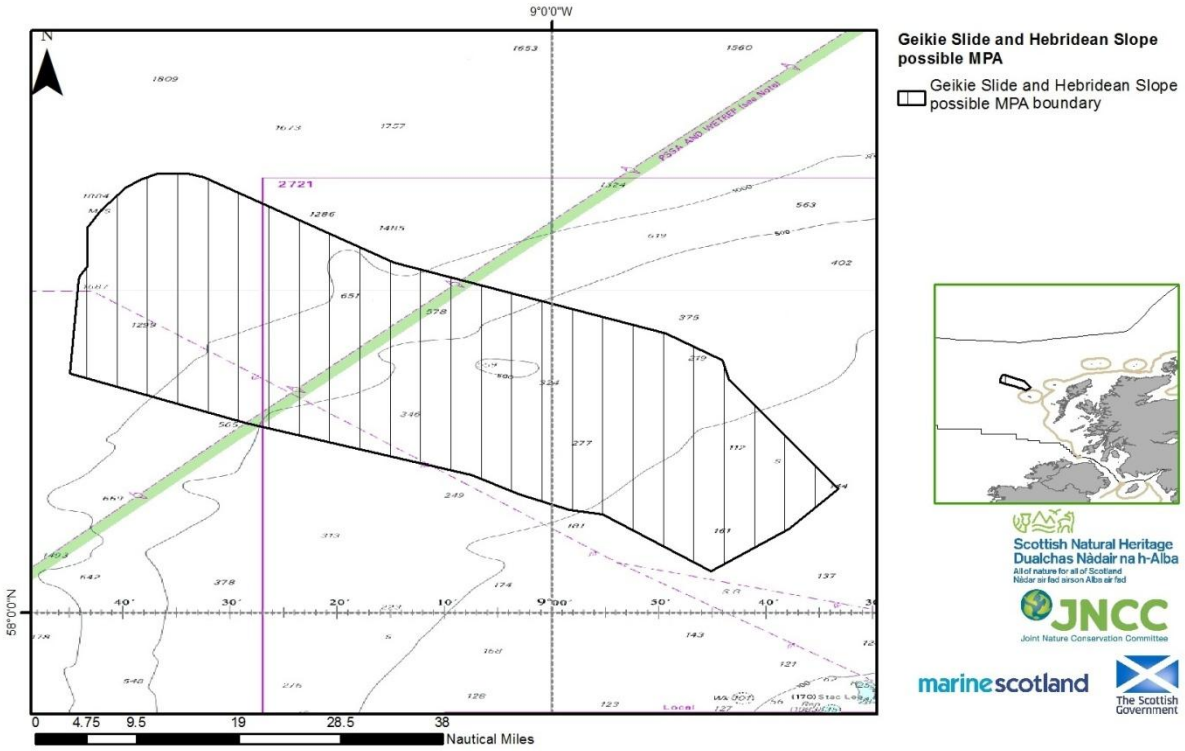
Map 1 *Location of the Geikie Slide and Hebridean Slope possible MPA*



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Roles

The role of JNCC is to advise Scottish Government on management options for the Geikie Slide and Hebridean Slope possible MPA. In doing this, our aim is to ensure the conservation objectives for the proposed protected features are met.

Marine Scotland will lead the discussions on management with stakeholders. They will consider JNCC's advice and will lead on the development of specific management measures. They will be responsible for making recommendations to Scottish Ministers on these measures. Scottish Ministers will decide whether to implement these measures.

Stakeholders can provide additional evidence to support the development of management options including local knowledge of the environment and of activities. Discussions with stakeholders will be one way of highlighting the implications of any management options to both JNCC and Scottish Government. This will contribute to the development of well-designed and effective management measures.

Protected features and conservation objectives

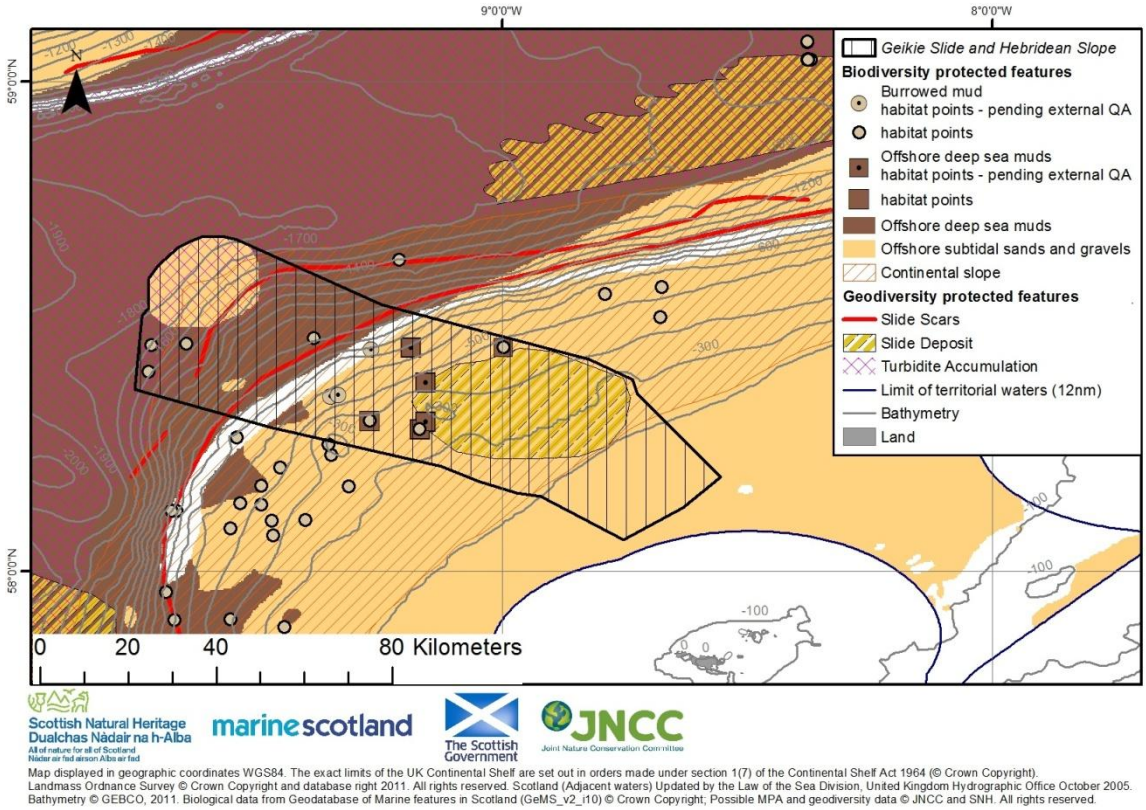
The Geikie Slide and Hebridean Slope possible MPA is being considered as part of a network of new Nature Conservation MPAs. These are being established to help conserve a range of Scotland's important marine habitats, wildlife, geology and landforms. The Geikie Slide and Hebridean Slope possible MPA is being considered for the following proposed protected features, as shown in map 2:

- Offshore deep sea mud
- Offshore subtidal sands and gravels
- Continental slope*
- Geodiversity feature – slide deposits*

*The continental slope and slide deposit geodiversity feature are considered to have a low sensitivity to the pressures associated with marine activities taking place within the possible MPA[1]. As such, there is not considered to be a significant risk to the features achieving their conservation objectives and so the feature has not been considered further in the context of the management options presented below.

Conservation objectives set out the desired quality of the proposed protected features within each possible MPA. They will form part of the designation order for Nature Conservation MPAs and will therefore be in place at the time that a site is formally designated. We have recommended that the conservation objectives for the proposed protected features within the Geikie Slide and Hebridean Slope possible MPA are '*conserve'* for all features. The condition of the features has not been verified so the conservation objectives are uncertain.

M***ap 2*** *The distribution of protected features within the Geikie Slide and Hebridean Slope possible MPA*



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Overview of activities

Table 1 below lists the activities[2] which take place within or close to the Geikie Slide and Hebridean Slope possible MPA. Further discussions with those who use the area are required to improve our understanding of these activities (e.g. distribution and intensity etc.).

Those activities which the proposed protected features are sensitive to are explored in detail in the next section. Activities which the proposed protected features are not thought to be sensitive to (i.e. any interaction between the activity and the features is considered to be

1 Brooks, A.J., (2013). Assessing the sensitivity of geodiversity features in Scotland's seas to pressures associated with human activities. *Scottish Natural Heritage Commissioned Report No. 590.*

2 Initial lists do not include <15 m vessel activity. Information on fishing activity from the <15 m fleet is not routinely recorded and we are keen to improve our understanding of relevant activity with this possible MPA through discussions with stakeholders

minimal) will not be considered further within this document. Future or other activities not identified within the table would need to be considered on a case-by-case basis.

Table 1: *Overview of existing activities believed to take place within or close to the Geikie Slide and Hebridean Slope possible MPA*

Activities considered capable of affecting the protected features	**Activities *not* considered capable of affecting the protected features***
Fishing activities:[3] - Beam trawling - Line fishing - Otter trawling - Set netting Ministry of Defence: - Surface activity	Commercial shipping Fishing activities: - Pelagic trawling and purse seining

*Only the specific examples of activities listed in this column have been excluded, rather than the broad activity types.

Development of management options

Management options are being developed where we consider that some form of management may be necessary to achieve the conservation objectives for each proposed protected feature. The approach to identifying management options for each activity will be risk-based i.e. we are focussing on providing advice where we believe there is a risk to achieving the conservation objectives. To do this, we are using existing data and information on proposed protected features and relevant activities, and also our understanding of the relationships between the proposed protected features and activities. The management options may be informed by discussion with stakeholders. If new information becomes available during the consultation, the management options may be revised.

Management options are focussed on the activities that cause a pressure that a proposed protected feature is sensitive to. Pressures can be physical (e.g. abrasion of the seabed), chemical or biological. Different activities may cause the same pressure, e.g. fishing using bottom gears and aggregate dredging both cause abrasion which can damage the surface of the seabed. The proposed protected features of a possible MPA are considered sensitive to activities that could adversely affect them (because of the associated pressures) especially if they are unable to or are very slow to recover.

The online sensitivity tool (insert weblink) reflects our current understanding of the interactions between activities, pressures and features and supports the first steps of the assessment of risk to the features in the possible MPAs. The tool highlights that activities can give rise to a range of pressures, which the proposed protected features of the possible MPA may be sensitive to. Please use the online tool on the Marine Scotland web site for more detailed information including the evidence we have used in developing our recommendations.

We have identified risks to achieving the conservation objectives where there is an overlap between proposed protected features and activities associated with pressures the features are sensitive to. We have recommended management options to manage this risk. Specific details of the recommended management options for each activity are provided in the following sections. Overlap between different activities/planned developments and the

[3] Vessels >15m, based on Vessel Monitoring System (VMS) data from 2006 – 2009.[3]

proposed protected features is described and where appropriate mapped. The text focuses on interactions in terms of physical overlap but the assessment of risk in the future should also take account of the intensity and frequency of activities within the possible MPA.

JNCC has identified a range of management options that may be applied, including:

- no additional management required
- management to reduce/limit pressures
- management to remove/avoid pressures

All of the management options provided are based on knowledge of the existing activities taking place within the possible MPA. The options do not preclude introducing management for any activities, or an increased intensity of activities beyond levels currently taking place, in the future.

We recognise that stakeholders can provide local environmental knowledge and more detailed information on activities, including in relation to intensity, frequency, and methods. This additional information will help us to develop more specific management options, focussed on interactions between features and activities.

Management options

Management options have been considered by activity, please click on the activities below to be directed to the relevant section:

1. Fishing activity

Mobile bottom contacting gear

- Beam trawling
- Otter trawling

Static bottom contacting gear

- Line fishing
- Set netting

2. Ministry of Defence activity

- Practice area

Fishing activity

JNCC has evaluated management options to support achievement of the conservation objectives for the proposed protected feature of the possible MPA. A gradient of management options have been considered to reduce exposure to pressures, these have been described under three potential management option categories. Proposed protected features may require a combination of these options to ensure they achieve their conservation objectives.

a) No additional management

b) Additional management to reduce/limit pressures – where fisheries managers may wish to consider a range measures that could be used to reduce the risk to features by reducing fishing pressure or preventing its increase to unacceptably high levels. These could include:

- Area restrictions (permanently closing some or the entire extent of the feature)
- Temporal restrictions (closing parts of the extent of the feature on a rotational basis)
- Seasonal restrictions
- Gear restrictions (eg. restriction on the use of more damaging gears)

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Ideally, any measures would generally apply only to the part of the site where the feature is present. However, there may be some circumstances in which it could be desirable to extend management measures beyond the known area of feature distribution, for example, where conditions are suitable for a feature to exist but there are insufficient data to confirm its presence.

c) Additional management to remove/avoid pressures – where fishing activities known to adversely affect the feature would be excluded and prevented from occurring in the future. Such exclusion would generally apply only to the part of the site where the feature is present, unless it was necessary to apply to the whole MPA.

The likely effects on the feature condition and the risk to the conservation objectives were assessed using the evidence described in the JNCC/SNH MPA fisheries management guidance.

JNCC have used all available data to evaluate the extent of fishing activities within all offshore possible MPAs. Where possible this data has been presented in accompanying maps. However, to ensure anonymity of the data source, discrete VMS ping data is only presented in instances where it is not considered disclosive to do so (i.e. there are multiple vessels operating in the same area).

Fishing activity: Mobile bottom contact gear

Otter trawling

Apart from the deepest sections of the possible MPA, demersal otter trawling activity occurs across most of the site, down to 1400m (see map 3). The trawl fishery in the area is conducted by a number of EU member states including the UK, France and Spain. The majority of UK otter trawling activity is concentrated on the upper slope portion of the possible MPA (maximum effort in any fishing grid <125 hours between 2006 and 2009) with lower intensity effort (maximum effort in any fishing grid <67 hours between 2006 and 2009) overlapping the deeper section of the slope down to 900m. Spanish demersal otter trawl activity (maximum effort in any fishing grid <142 hours between 2006 and 2009) is concentrated on the upper slope (200-700m depth). By contrast, the evidence suggests that French demersal otter trawl activity occurs in two discrete bands across the upper slope (200-400m; maximum effort in any fishing grid <87 hours between 2006 and 2009) and in deeper waters down to 1400m. The majority of French demersal trawl effort (maximum effort in any fishing grid <230 hours between 2006 and 2009) occurred between 500m and 1000m. There is also some evidence of Norwegian effort (maximum effort in any fishing grid <39 hours between 2006 and 2009) in the possible MPA, concentrated along the 200-800m depth contour. However, based on the VMS data available it has not been possible to distinguish between Norwegian demersal otter trawl and long-line vessels. Further validation of this data is required.

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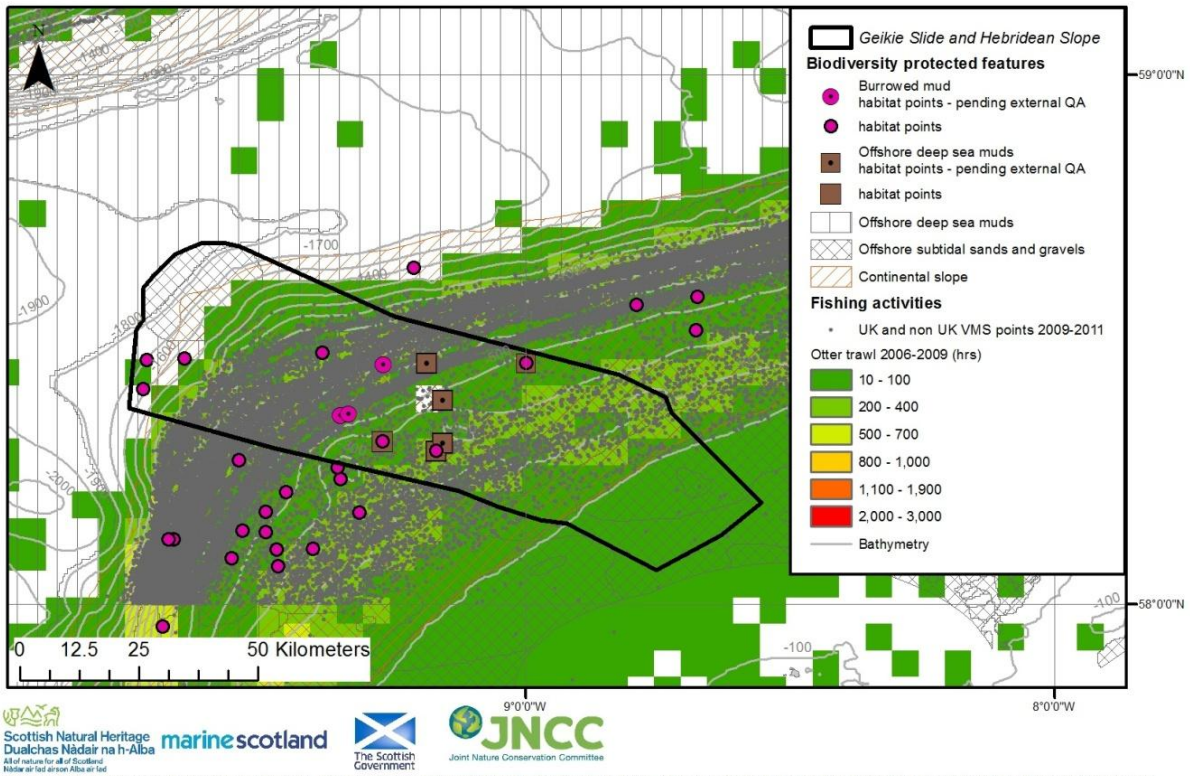
Map 3: Location of otter trawling activity in relation to proposed protected features



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Beam trawling

Although there is evidence of over-15m UK beam trawling activity in the Geikie Slide and Hebridean Slope possible MPA, the extent of the activity is negligible (maximum effort of 3 hours in a single grid between 2006 and 2009). The available data suggests that any potential activity is limited to the upper continental slope (<300m) portion of the site, as shown in map 4, however, validation of the presence/extent of the activity is required.

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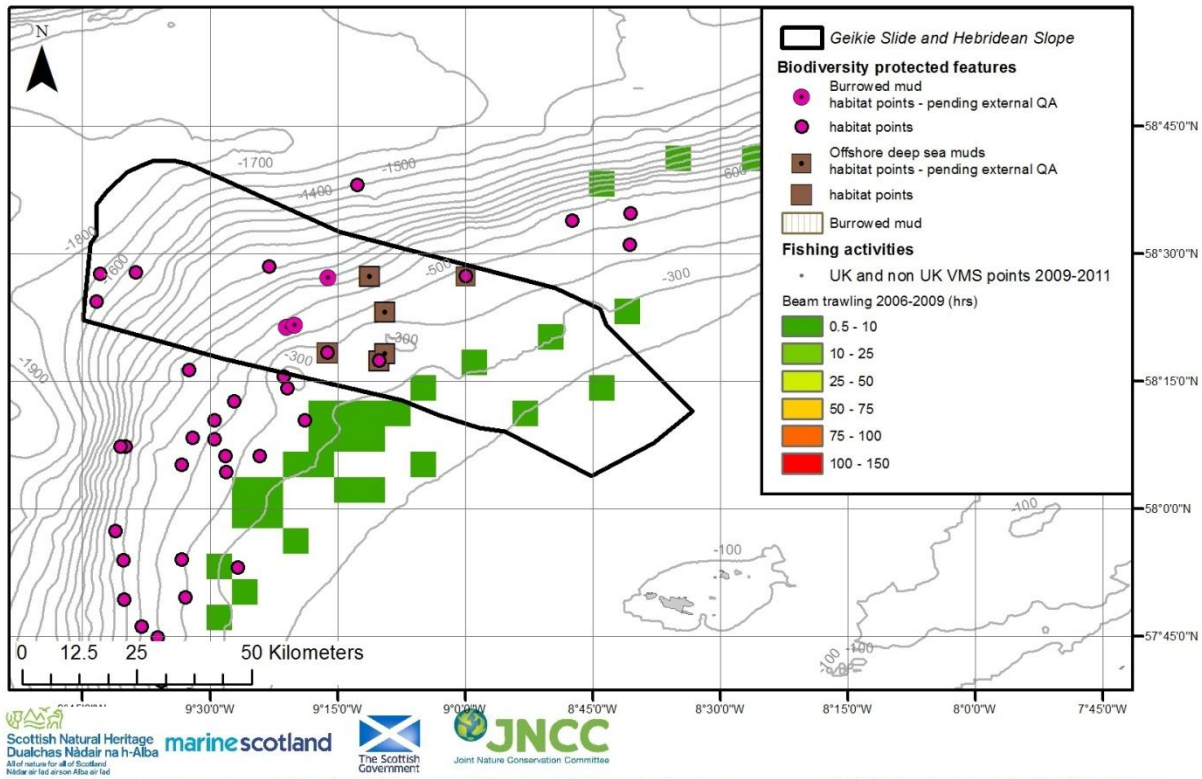
Map 4: Location of beam trawling activity in relation to proposed protected features



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Management options (e.g. beam trawling, otter trawling)	**No additional management**: There is a risk of not achieving the conservation objectives for **burrowed mud, offshore deep sea mud,** and **offshore subtidal sands and gravels**. **Reduce/limit pressure**: This option would reduce, but not entirely eliminate, the risk of not achieving the conservation objectives for **burrowed mud, offshore deep sea mud,** and **offshore subtidal sands and gravels.** Likely management measures could include restrictions on fishing with damaging gears over a proportion of each feature's area. The location of areas to be covered by management restrictions would be decided in consultation with fishers. **Remove/avoid pressure:** This option would reduce the risk of not achieving the conservation objectives for **burrowed mud, offshore deep sea mud,** and **offshore subtidal sands and gravels** to the lowest possible levels.

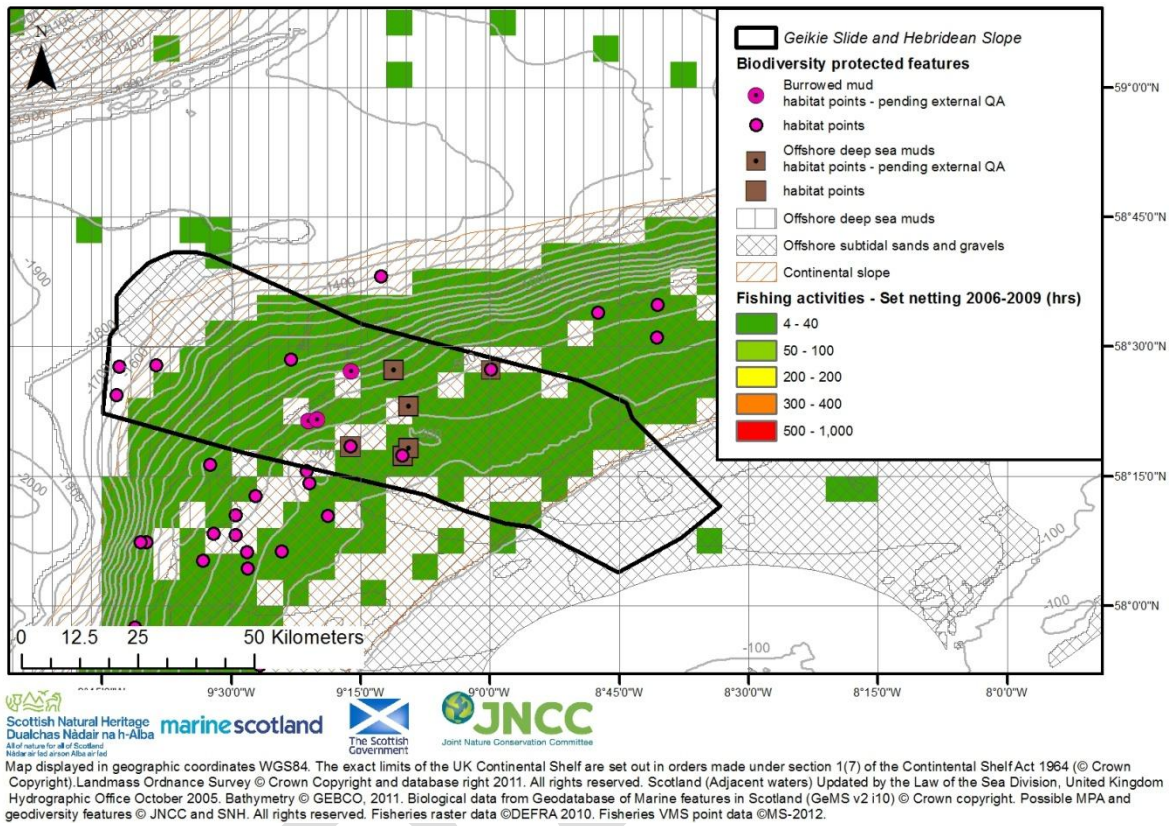
Static bottom contact gear

Set netting

There is some evidence of French gill netting vessels operating in the possible MPA (see map 5), both across the upper slope and in deeper water (600-1200m) sections of the site.

However, the scale of the activity is limited (maximum effort in any overlapping fishing grid <32 hours 2006-2009) and the activity requires further validation.

Map 5: Location of set netting activity in relation to proposed protected features



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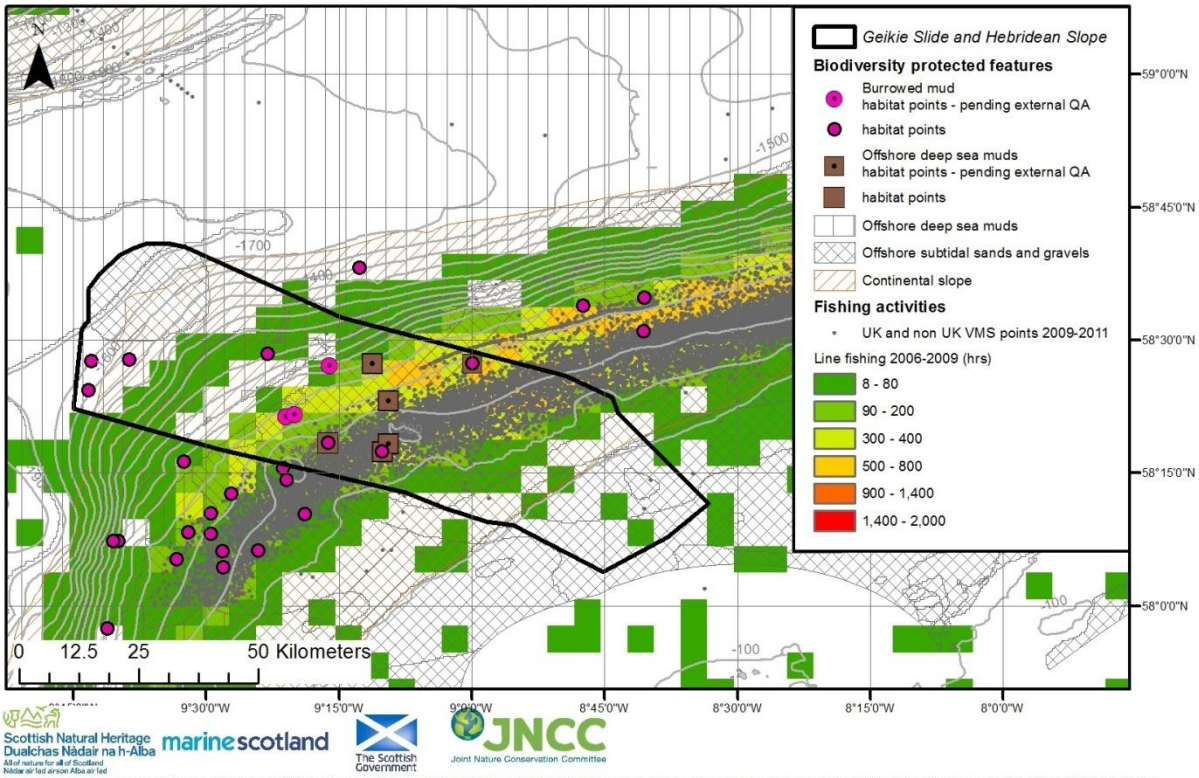
Line fishing

Long-lining in the possible MPA is concentrated on the upper slope predominantly between 300 and 600m depth contours and is conducted by UK (maximum effort in any overlapping fishing grid <344 hours 2006-2009), Spanish (maximum effort in any overlapping fishing grid <548 hours 2006-2009), and French (maximum effort in any overlapping fishing grid <59 hours 2006-2009) registered vessels. There is also evidence of a lower intensity deep water (800-1200m) UK registered long-line fishery (maximum effort in any overlapping fishing grid <24 hours 2006-2009), as shown in map 6.

There is also some evidence of Norwegian effort (maximum effort in any fishing grid <39 hours between 2006 and 2009) in the possible MPA, concentrated along the 200-800m depth contour. However, based on the VMS data available it has not been possible to distinguish between Norwegian demersal long-line and otter trawl vessels. Further validation of this data is required.

Map 6: Location of line fishing activity in relation to proposed protected features



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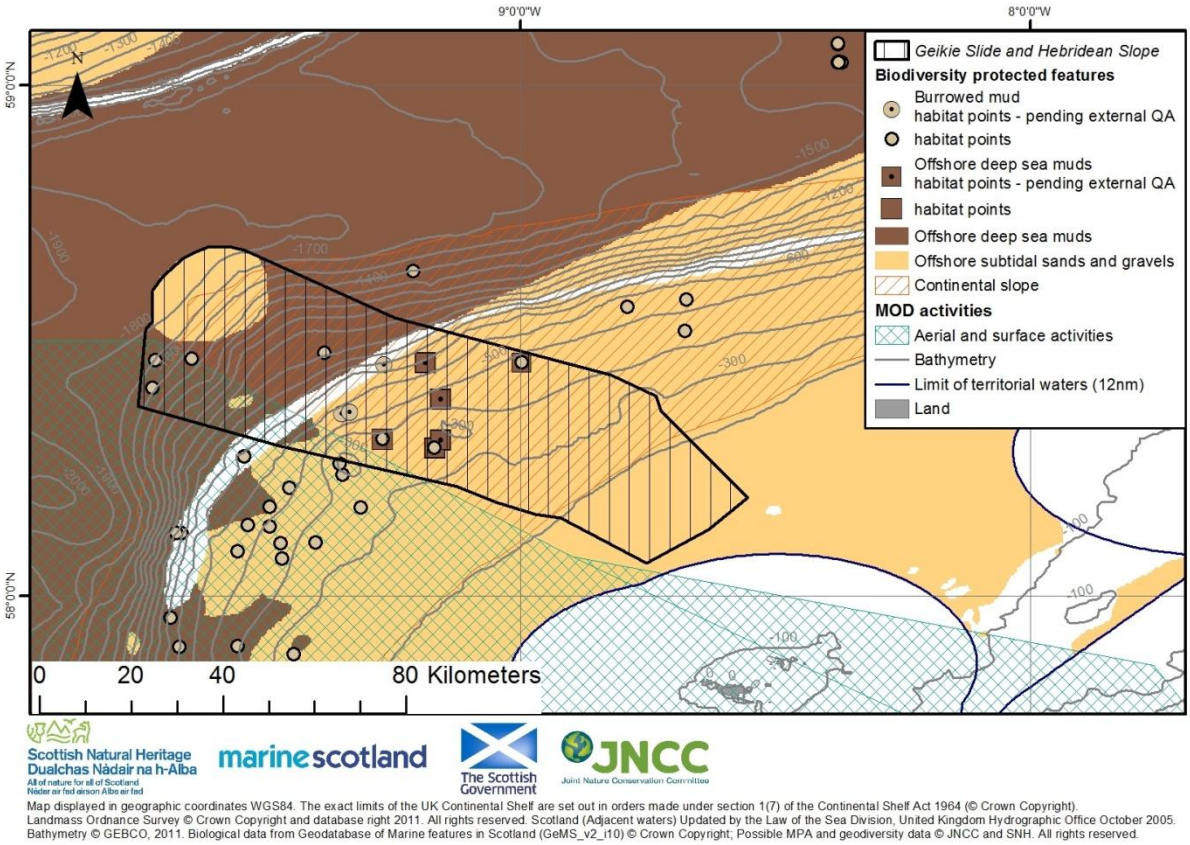
Management options (e.g. set netting, line fishing)	**No additional management**: This option is considered to be sufficient to achieve the conservation objectives for **burrowed mud, offshore deep sea muds, and offshore subtidal sands and gravels.**

Ministry of Defence activity

A small area of the south-western boundary of the possible MPA overlaps with a Ministry of Defence practice area, as shown in map 7. This area is thought to be mostly used for surface activity such as vessel transiting and aerial use, and so is unlikely to interact with the proposed protected features. However, should seabed activities occur in the future, management would need to be considered to ensure the conservation objectives can be achieved.

Map 7: Location of Ministry of Defence surface activity in relation to proposed protected features



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Management options (e.g. MOD activity)	**No additional management:** Should seabed activities occur that interact with the proposed protected features occur in the future, management will be coordinated through the Ministry of Defence Environmental Protection Guidelines.

Conclusions and further recommendations

Before any firm recommendations are made, discussions should be held with stakeholders to ensure that the there is a good understanding of the features and the likely interactions with activities. Marine Scotland will lead the discussions on management with stakeholders. These discussions will start during the formal consultation and, if necessary, may continue after the consultation. The discussions should lead to an improved understanding of the risk to the proposed protected features. The options presented here will then be reviewed by JNCC and a preferred way forward may be recommended. This will form the basis of advice from JNCC to Marine Scotland on management requirements for this possible MPA should it be designated as a Nature Conservation MPA.

Marine Scotland will be responsible for making recommendations to Scottish Ministers on any management measures that may be required. The development of these measures will be done through discussion with stakeholders after the formal consultation on the possible MPA. Should any management measures require statutory underpinning, Marine Scotland will undertake further consultation.

Further information

The following documents are available for background information:

- SNH and JNCC MPA network advice (December 2012)
- Marine Scotland Report to Parliament on progress in establishing an MPA network
- The draft MPA Management Handbook
- The online sensitivity matrix tool
- Draft fisheries guidance

The following documents about the possible Geikie Slide and Hebridean Slope possible MPA are also available:

- Site summary
- Data confidence assessment
- Detailed assessment against the MPA Selection Guidelines

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