Impact Assessment Screening

Summary	
Site name:	Braemar Pockmarks
Designation type:	Special Area of Conservation
Summary of change:	Amendment to existing site boundary to reflect a change in understanding of the extent and distribution of the interest feature.
Conclusion:	No more detailed Impact Assessment needed
Justification:	Total estimated costs of the proposed boundary amendment equate to less than £100,000 per year for the private sector and £200,000 per year for the public sector. Plans for the implementation of fisheries management measures within the site already account for the proposed boundary amendment and there are no active oil and gas extraction activities that are currently planned. We conclude that an Impact Assessment is not required.

1. Basic Screen

1.1 Site background and reason for boundary change

The UK submitted the Braemar Pockmarks candidate Special Area of Conservation (cSAC) to the European Commission in 2008 for the protection of the Annex I habitat 'Submarine structures made by leaking gases'; the European Commission confirmed the site as a Site of Community Importance (SCI) in 2009 and the site was subsequently designated a SAC in 2015.

Previous surveys identified the presence of pockmarks at the site to be shallow, ovoid, seabed depressions several metres across, which were probably formed by the venting of biogenic/petrogenic fluids or gases into the water column. Judd (2001) concluded that large blocks, pavements slabs and smaller fragments of methane-derived authigenic[1] carbonate (MDAC) have been deposited in this location through a process of precipitation during the oxidation of methane gas (Judd, 2001).

JNCC commissioned the British Geological Survey (BGS) to compare survey data from 2012 (Rance *et al.,* 2017) with earlier geological data to assess changes in pockmark morphology and condition (Gafeira and Long, 2015). Forty-nine pockmarks were identified, mapped and characterised by this study. Twenty-seven lie within the Braemar Pockmarks SAC boundary, a further 21 lie up to 1km away and one is over 1 km away from the original SAC boundary. Fourteen of the pockmarks mapped outside of the existing site boundary show strong acoustic reflections that are indicative of the Annex I habitat type Submarine structures made by leaking gases; one pockmark has verified evidence for the presence of the Annex I habitat Submarine structures made by leaking gases. There are five pockmarks with verified records of Submarine structures made by leaking gases recorded within the existing SAC boundary.

[1] An authigenic sedimentary rock deposit is one that was generated where it is found or observed. Sedimentary authigenic minerals include calcium carbonate.

JNCC reviewed these new data and concluded the seabed in the area outside of the original site boundary is a continuation of the Annex I feature Submarine Structures made by leaking gases in the existing site. JNCC therefore advised Scottish Government that the boundary of the current SAC should be amended to better reflect the more recent evidence on the presence and extent of the Annex I feature.

The proposed amendment to the SAC boundary is a polygon enclosing the minimum area necessary to ensure protection of the Annex I habitat feature, following the known extent of the habitat feature as closely as possible in line with JNCC's marine SAC boundary definition guidelines (JNCC, 2012). The area within the existing site boundary is currently 5.18km^2 but if the proposed boundary amendment is approved then this will increase by 6.25km^2 or approximately 120%.

It is particularly important that the additional potential occurrence of the feature to be incorporated in the site boundary from an ecological point of view because it is a continuation of the Annex I feature outwith the current boundary and this feature is known to be sensitive to activities currently taking place. Submarine structures made by leaking gases have a restricted distribution in European waters due, in part, to their relationship to sources of shallow gas.

2. Detailed screen

2.1 Summary of original Impact Assessment

JNCC consulted on the first seven offshore SACs between December 2007 and March 2008, including Braemar Pockmarks SAC. There were 114 responses from 38 individuals and organisations contacted for sites covered by the consultation. As a result of the general comments received during the consultation on these seven possible offshore SACs, JNCC modified the recommended boundaries to five of these, including Braemar Pockmarks, to reduce the area of seabed included within the site boundary which was not known to be Annex I habitat. An Impact Assessment was undertaken for the original site consultation[2].

2.2 Overview of activities capable of affecting the protected feature of the site

JNCC have used best available data to evaluate the activities taking place within, or in close proximity to, the Braemar Pockmarks SAC against our understanding of the sensitivity of Submarine structures made by leaking gases to pressures associated with these activities:

Bottom-contact fishing

Fisheries activities data (2009-2015) from Vessel Monitoring Systems (VMS) indicate that the feature has been exposed to pressures to which it is sensitive. The VMS data show that demersal trawling has occurred within the current site boundary and within the proposed boundary amendment. The level of exposure to the activity appears to be low, however the 2012 survey indicated trawl scars and sidewall slumping which may be due to anthropogenic or natural factors (Rance *et al.,* 2017).

JNCC advise that bottom-contact fishing practices would need to be managed within the existing and proposed extension to the site boundary.

Licensable activities

There is an inactive telecommunications cable which runs across the north of the site. There are currently no active licensable activities taking place within or in close proximity to the

[2] SAC consultation December 2007 to March 2008. Documentation available online here: http://jncc.defra.gov.uk/page-4169

existing or proposed extension to the site boundary. However, the area is within a single oil and gas license block – suggesting activity may take place in the future and therefore may be subject to management.

Shipping

The Lerwick to Hanstholm ferry route crosses the south-west corner of the site. There is also low density of commercial shipping in this area, but due to its offshore location vessel anchorage is unlikely. As such, JNCC do not consider that shipping activity requires management.

2.3 Estimate of maximum likely impact

Private Sector (total cost per annum should not exceed £100,000)

Bottom-contact fishing

Marine Scotland have assessed the estimated value of fishing activity occurring within the existing site boundary and proposed boundary amendment to estimate the cost to the fishing industry for the proposed boundary amendment. The methodology used is outlined in the Marine Scotland Northern North Sea proposal[3]. Fishing effort was analysed for each gear type using Vessel Monitoring System (VMS) data reports (2011-2015) and calculated as an annual average. The total effort for each ICES rectangle and the subsequent fishing within MPAs was calculated by country and gear type. From these analyses, the estimated value of fishing activities within both the existing site boundary and the proposed boundary amendment is £3,500. As the proposed boundary amendment is approximately 55% of the total area of the proposed amended site, then the value of only the extension area is approximately £1,925 in terms of loss of earnings to the fishing sector as a result of the proposed boundary amendment per annum.

TOTAL ESTIMATED COST: £1,925

Licensable activities

There are no licensable activities currently occurring within either the existing site boundary nor the proposed boundary amendment. However, the existing and proposed boundary overlaps a licensed oil and gas production block (16/3c) and the proposed extension to the north overlaps a block recently awarded in the 28th Round (9/28c). Therefore, if licensable activities were to occur within the site, there would be potential additional cost to industry. In the initial Impact Assessment conducted for the site in 2008 there were proposals of one or potentially two future developments within the existing site boundary. The potential additional cost to the industry of the original SAC designation was estimated at £35,000 based upon the costs of additional EIA or monitoring within the boundary if developments were to take place. As the proposed boundary amendment is approximately the size of the initial site, the same cost can be estimated of the proposed site extension to the oil and gas industry.

TOTAL ESTIMATED COST: £35,000

[3] Marine Scotland Northern North Sea Proposal, April 2017. Available online: http://www.gov.scot/Resource/0051/00516433.pdf

Public Sector (total cost per annum should not exceed £200,000)

Monitoring and enforcement

This cost is already associated with the Impact Assessment conducted for the original site and therefore additional cost to monitoring and enforcement is considered to be negligible with regards to the proposed site amendment.

TOTAL ESTIMATED COST: £0

3. Conclusion

JNCC have reviewed available information on activities taking place within the existing SAC and the area of the proposed boundary amendment. We conclude that there may be an additional cost to the private sector of £36,925 per annum as a result of combined costs to the fisheries sector and oil and gas industry. Costs to the public sector are considered to be already covered by the original site Impact Assessment and any additional costs associated with the boundary amendment would be negligible.

Overall – there are unlikely to be costs in excess of £100,000 in any one year for the private sector and £200,000 for the public sector and therefore a we conclude that a full impact assessment is not required for the proposed boundary amendment.

4. References

Dando, P.R. (2001). A review of pockmarks in the UK part of the North Sea, with particular respect to their biology. Technical report produced for Strategic Environmental Assessment – SEA2. UK: Department of Trade and Industry.

Gafeira, J. and Long, D. (2015). Geological investigation of pockmarks in the Braemar Pockmarks SCI and surrounding area. JNCC Report No 571. JNCC Peterborough.

JNCC. (2012). UK Guidance on defining boundaries for marine SACs for Annex I habitat sites fully detached from the coast. JNCC, Peterborough. [online] Available at: http://jncc.defra.gov.uk/pdf/SACHabBoundaryGuidance_2012Update.pdf.

Rance, J., Frojan, C. B. and Schinaia, S. (2017). CEND 19x/12: Offshore seabed survey of Braemar Pockmarks SCI and Scanner Pockmark SCI. Centre for Environment, Fisheries & Aquaculture Science, Leeds, UK.