

# Screening and Record Document



## Natura 2000 Impact Assessments

<b>Pre Impact Assessment Screening and Record Document – N2K Designations</b>	
Designation Name:	Croker Carbonate Slabs cSAC/SCI
Designation Type: (delete as appropriate)	cSAC/SCI - amendment of existing site boundary
Document Number:	1
Date document completed:	
Responsible JNCC Officer:	Hannah Carr
Role:	Senior MPA Advisor
<i>This document is an accurate description of JNCC's understanding of the possible economic impacts of this amendment to a European site at this time.</i>	
Signature:	
<b>Screening Meeting</b>	
Date of screening meeting:	15/02/2016 – Niall Malone (Defra), Louise Val (Defra), Marilena Pollicino (Defra), Sarah Jones (Defra); Jon Davies (JNCC) and Hannah Carr (JNCC).
Stage: (delete as appropriate)	Pre-consultation
Present at screening meeting:	TBC
<b>Conclusion</b>	
Conclusion: (delete as appropriate)	Detailed screen only <del>/Detailed Screen/IA/</del> No more detailed Impact Assessment needed?
Responsible Defra Officer:	Niall Malone
Date of decision:	
Signature:	
<b>Justification</b>	
Are there any changes to the management measures required for the designated area?  (Including changes to spatial coverage and advice on Habitat Regulations Assessments)	Yes – management measures will need to be considered for the area within the extension created by the proposed boundary amendment.
Is there a significant chance of either:  a) Private sector costs in excess of £100,000 in any one year, or b) Public sector costs in excess of £200,000 in any one year?	No
Are there particular sensitivities from businesses or other Government Departments that an Impact Assessment (IA) would help to clarify?	No
Brief explanation of the sensitivity and how an IA will help.	N/A

## Basic Screen

### Step 1. Site description, features and reason for designation

Croker Carbonate Slabs candidate Special Area of Conservation (cSAC) and Site of Community Importance (SCI)<sup>1</sup> was submitted to the European Commission (EU) in 2012 for the protection of the Annex I habitat 'Submarine structures made by leaking gases'<sup>2</sup> and was subsequently adopted as a 'Site of Community Importance' (SCI). The seabed surface is composed of extensive areas of exposed methane-derived authigenic<sup>3</sup> carbonate (MDAC). These carbonate blocks and pavement slabs form when methane is released from the seabed and reacts with water and are known as 'submarine structures made by leaking gases' - a listed habitat under Annex I of the EC Habitats Directive. The seabed habitats created by these MDAC structures are distinctive, supporting a diverse range of marine species that are absent from the surrounding sedimentary seabed characterised by coarse sediment. Areas of 'high relief' MDAC support a diverse range of soft corals, erect filter feeders, sponges, tube worms and anemones whilst the 'low relief' MDAC is colonised with scour-resistant hydroids and bryozoans.

Data were gathered in during a site verification survey of the North St Georges Channel recommended Marine Conservation Zone in 2012 and 2013 (Defra 2013) that indicated the MDAC extends significantly to the east outside of the original cSAC boundary. These new data prompted JNCC to assess whether the existing cSAC boundary remained appropriate for the protection of MDAC in the region.

JNCC reviewed these new data and concluded the seabed in the area much further to the east beyond 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 Defra that the boundary of the current cSAC/SCI should be amended to better reflect the more recent evidence on the presence and extent of the Annex I feature. The proposed revised cSAC 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 66km<sup>2</sup> but if the proposed boundary amendment is approved then this will increase by 42km<sup>2</sup> or approximately 60%.

It is particularly important that the additional MDAC is 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 highly sensitive to certain pressures<sup>4</sup>. Submarine structures made by leaking gases have a restricted distribution in European waters due, in part, to their relationship to sources of shallow gas, which occur in the North Sea, a small portion of the Irish Sea and part of the Mediterranean Sea<sup>5</sup>. In addition, the total area of the habitat in UK waters is unknown due to the practical difficulties of detecting MDAC remotely and insufficient data. When JNCC reported on the marine SAC network in 2013, it concluded that the existing four designated sites protecting this feature were sufficient for the known

1 Croker Carbonate Slabs site information centre. Available: <http://jncc.defra.gov.uk/page-6530>

2 Further information on Annex I submarine structures made by leaking gases, available here: <http://jncc.defra.gov.uk/page-1453>

3 An authigenic mineral or sedimentary rock deposit is one that was generated where it is found or observed. Authigenic sedimentary minerals form during sedimentation by precipitation or recrystallisation.

4 Croker Carbonate Slabs cSAC – Conservation objectives and advice on operations. Available here: [http://jncc.defra.gov.uk/PDF/CrokerSlabs\\_ConservationObjectives\\_AdviceonOperations\\_V5.0%20final.pdf](http://jncc.defra.gov.uk/PDF/CrokerSlabs_ConservationObjectives_AdviceonOperations_V5.0%20final.pdf)

5 JNCC habitat account - 1180 Submarine structures made by leaking gases. Available online: <http://jncc.defra.gov.uk/ProtectedSites/SACselection/habitat.asp?FeatureIntCode=H1180>

distribution, with the caveat that this conclusion might change if further data were secured to show the presence of the habitat in other locations<sup>6</sup>.

JNCC have also advised the feature's Conservation Objective is changed from 'Maintain in favourable condition' to 'Maintain in/Restore to favourable condition'. Whilst the feature condition assessment does not have high confidence due to a paucity of direct evidence, updated fisheries activities data (2009-2013) from Vessel Monitoring Systems (VMS) indicate that the feature has been exposed to pressures to which it is sensitive. The VMS data show that otter trawling has occurred within the current site boundary and within the proposed new site boundary. The level of exposure to the activity is Low (it was previously 'none'). However, the presence of the activity even at low levels risks damage to or deterioration of the feature. JNCC advised that the use of bottom contacting gear should be managed as soon as possible to minimise risk of further damage or deterioration. This change in extent of exposure and the associated increased risk prompted the revision of the conservation objective.

## Step 2. Justification for no additional management or changes in boundaries

- *If there are additional management measures or changes to boundaries go straight to step 3, at the beginning of the Detailed Screen*

N/A

- *If there are no additional management measures or changes to boundaries go straight to step x, for sign-off*

## Detailed screen

### Step 3. Description of activities which could possibly be affected by the change in management or boundaries (compared to the counterfactual)

- *Include measures which could be affected even if there is no expected additional impact, noting why.*
- *Include future assessments which may be required.*

JNCC completed a full Impact Assessment of the Croker Carbonate Slabs cSAC/SCI to support the original consultation & designation process in 2011<sup>7</sup>. The Advice on Operations for the existing site identifies those activities that pose a threat to achieving the conservation objective of the features – see the JNCC site information centre for full details<sup>8</sup>.

<sup>6</sup> Progress towards completion of the UK network of marine Special Areas of Conservation for Annex I qualifying features (v1.1) 2013, available here: [http://jncc.defra.gov.uk/PDF/Comm13P03\\_v1.1.pdf](http://jncc.defra.gov.uk/PDF/Comm13P03_v1.1.pdf)

<sup>7</sup> SAC consultation June to September 2011. Documentation available online here: <http://jncc.defra.gov.uk/page-4169>

<sup>8</sup> Croker Carbonate Slabs cSAC/SCI site information centre is available at: <http://jncc.defra.gov.uk/page-6530>

### ***Original site consultation in 2011***

JNCC consulted on three cSACs including Croker Carbonate Slabs between June and September 2011. There were very few comments received in relation to the site at the time of the original consultation and none of these comments related to the original site boundary. There were only 15 responses from 508 organisations contacted for all three sites covered by the consultation. An Impact Assessment was undertaken for the original site consultation.

### ***Activities***

JNCC have reviewed both the activities taking place in the existing MPA and the proposed area of the extension and conclude that there is relatively little activity occurring within this area of the Irish Sea that would adversely impact the feature on the seabed<sup>9</sup>. There is an inactive BT telecoms submarine cable which lies across the site, running approximately east to west across the feature distribution. Three possible wrecks are located within the site boundary in close vicinity to the mapped feature extent. The site also lies in an area of busy shipping activity between Holyhead and Dublin and other routes running north-south through the Irish Sea but there are no known anchorages within the site; passing ship traffic will not affect the feature on the seabed. Both mobile demersal fishing and static fishing occur within the site.

#### ***Mobile demersal fishing***

Fishing Vessel Monitoring System (VMS) data 2009-13 indicate that beam trawling and dredging have occurred within the existing site boundary, however as this activity is by non UK vessels the gear type attributed to the VMS ping is not derived from the logbook (it comes from the EU vessels register) and so confidence is lower. The MDAC feature presents a considerable snagging obstacle to mobile towed gear however and so it is therefore likely that trawlers would seek to avoid fishing on the feature to prevent damage to their fishing gear. Activity is not considered to be widespread across the MPA. When considering mobile demersal fishing activity in the proposed extension to the site, the situation is very similar with fishing activity occurring around the periphery of the new feature extent and proposed boundary, with the same one instance in 2012 of benthic trawling occurring over the feature in the north east.

#### ***Static fishing***

There is uncertainty over the location and quantity of static fishing on the feature but this activity is considered to be widespread across the MPA. Field survey work recorded static fishing gear (mainly crab pots) throughout the site, coincident with the MDAC feature<sup>10</sup>. During the survey, static fishing gear was recorded as coinciding with the presence of significant amounts of MDAC. It is likely that the rocky terrain formed by MDAC provides suitable habitat for crabs and lobsters. As such, it is highly likely that this activity also occurs over the new known extent of the feature within the extension that would be formed through the proposed new boundary. A recent monitoring survey in 2015 noted static gear from the Irish fleet within this area. However, VMS data does not reflect and static gear fishing activity at all, and so it is possible that this is undertaken by vessels not covered by VMS.

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<sup>10</sup> Whormersley, P., Wilson, C., Limpenny, D. and Leslie, A. 2008. Understanding the marine environment – seabed habitat investigations of submarine structures in the mid-Irish Sea and Solan Bank Area of Search (AoS) – cruise report. JNCC Contract No: F90-01-1200. *CEFAS Cruise Report* CEND 11/08, 120pp.

## ***Licensed activities***

There are currently no known licensed activities within the existing cSAC/SCI or the extended area within the proposed boundary. JNCC do not foresee any significant impact on activities occurring within the site or significant change to the planned management regime for licensed activities as a consequence of this proposed boundary amendment beyond management measures for fisheries.

## **Step 4: Estimate of maximum likely impact**

- *This step should identify all stakeholders likely to be affected.*
- *Estimates of maximum impact are to be provided where possible, using calculations based on published evidence and local NE staff input*
- *Estimates are the maximum impact in any year. Where these impacts are initial costs and fall significantly after the first few years, this should be recorded under notes/assumptions*
- *Include impacts which cannot be monetised qualitatively.*
- *Total to include quantified impacts only*

The Impact Assessment (IA) undertaken for the original site consultation<sup>7</sup> in 2011 was based on the original site boundary. Initially, the following assumptions were considered:

- The original site IA considered two scenarios, one with minimum management just incurring public enforcement costs and another considering maximum potential impacts which would close the site to all forms of towed, demersal fishing gear in order to prevent possible damage to the feature. This maximum scenario would incur costs both in terms of enforcement and monitoring of the site and loss in fisheries revenue.
- Croker Carbonate Slabs cSAC/SCI spans two ICES rectangles (35E4 and 36E4) but covers only a very small proportion (1.25%) of both areas. The original IA explained that within 35E4 and 36E4 the vast majority of vessels fishing are registered to Northern Ireland (85% by value), with significant landings also being made by Belgian vessels (11%). Total landings from the two rectangles averaged £5.98m pa from 2006-9. Most vessels use Nephrops trawls (76% by value of gear types) to target *Nephrops norvegicus* (68% by value of target species). Other vessels use beam and otter trawls to target demersal fish species including haddock (midwater otter) (6%), cod (midwater otter) (6%), sole (5%), anglers (3%), and skates and rays (2%). Due to the small size of the site and a lack of detailed VMS data for Irish waters, it was impossible to use an effort calculation to estimate the landings coming out of the site.
- From a pro-rata area calculation, £74.8k of landings were estimated to come from the site. However the original IA highlighted that this value is likely to be a significant overestimate as Nephrops fishing is only carried out over muddy habitats since the prawns live in sediment burrows. Croker Carbonate Slabs is a hard substrate and therefore fishing for Nephrops is very unlikely to occur over any part of feature within

the site. A ban on all towed, demersal gear within the site would therefore potentially result in a loss of total net profit (estimated at 30% of UK landings (£74.8k)) (from 2012) of £22.4k per annum but in reality, will have a significantly lower impact on net profit.

- There will be administrative costs to Government in the form of further work to develop, implement and communicate site specific management measures. The MMO estimated that this may require 2 person years of officer time plus related expenses for the existing site. This was estimated to cost £90.5k per FTE year, giving a total estimated cost as a one-off £181k.
- With regards to monitoring and enforcement, for the existing site the MMO assessed that an additional 3 days boat time and 6 hours air surveillance might be necessary to enforce measures effectively. This would cost £39.6k per annum.

More recently the Marine Management Organisation (MMO) was consulted to provide updated figures in relation to the costs set out above from the maximum scenario from the original IA. The following assumptions are therefore considered for the purpose of this Impact Assessment:

- UK annual average impact from original site boundary: £34,999.42. UK annual average impact for current boundary and proposed site extension boundary: £57,509.17. UK annual average impact for just the proposed extension: £22,509.75. The updated UK figures have been calculated by taking the average ICES totals of demersal fishing from 35E4 and 36E4, and then taking a percentage based on the size of the MPA in relation to those rectangles, to provide an estimate of the value from the site. Original site = 0.89% of ICES (35E4 and 36E4) and Extension = 1.462400% of ICES (35E4 and 36E4). As explained above and in the original IA, Croker Carbonate Slabs cSAC/SCI covers only a very small proportion of the two relevant ICES rectangles and there is significant amount of Nephrops fishing occurring in the mud habitat in these rectangles but outside of the site boundary which is likely to significantly overestimate the costs of the proposed extension<sup>11</sup>;
- Administrative costs to Government would no longer be applicable since the site is designated;
- The MMO will operate a risk based, intelligence led approach to monitoring and ensuring compliance with management measures. Standard targeted monitoring of a site at sea will cost a maximum of £4500 a year (this does not include staff costs). This cost will increase significantly if non-compliance is identified or where specific bespoke monitoring is required.

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<sup>11</sup> The costs to the non-UK fleet were received from each Member state. Belgium £775,512 (ICES level), France £ 2,527 (MPA level), and Ireland £ 2,674,334 (MPA level). These figures were provided for the existing site and so a pro-rata by area approach would need to be applied to these figures based on the size of the proposed extension to Croker Carbonate Slabs to calculate the impact of the extension. It is worth noting these figures were provided in relation to a Defra data call and do not align with any particular management scenario. As such impacts could be less if these figures relate to activities not considered under the current management scenario i.e. static gear. Please note that Non-UK PLC does not need to be considered in this IA screening. These figures have been presented for information only and will not contribute to the total estimated maximum impact in any year.

The information provided below assumes that the current advice on proposed measures for the existing site are implemented and in place. Current fisheries management proposals are likely to consider exclusion of mobile bottom contacting gears (to remove the risk of impact on the feature - MDAC has high sensitivity to the pressures associated with towed demersal gears) and no additional management was proposed for static gears. Therefore the impacts set out below are based on the assumption that mobile bottom contacting gears only are further restricted within the proposed extension.

JNCC's conservation advice states that static gear can cause, albeit to a lesser extent than towed gears, physical disturbance and abrasion of the feature and its associated biological communities. There is no VMS evidence of static demersal fishing activity from vessels over 15 metres within the existing site or the proposed extension, however it is likely that some is undertaken by vessels of less than 15 metres as pots have been observed during surveys of the site<sup>10</sup>. The actual activity level and exposure has been assessed as unknown due to no VMS evidence. Should our understanding of the impacts of static gear on the feature change, our advice regarding management may change accordingly. If the levels are considered to be detrimental to the feature's condition we may advise the activity is restricted or removed to reduce associated impacts to the protected feature. As such, it is worth bearing this in mind when considering potential future impacts of the extension.

As the maximum scenario from the original site IA most closely aligns with the likely management of this site, the updated cost estimates from this scenario provided by the MMO have been used to inform the likely impacts of the proposed extension set out in the tables below. Please note that the impacts have only been considered for the proposed extension and not the whole site including the extension.

Activity	Estimated maximum impact in any year (£ per year, total of stakeholder group)	Notes/assumptions
Mobile demersal fishing (UK)	£22,509.75 per annum	Estimate based on updated figures provided by the MMO in 2016 (on 2009 – 2013 data). Note that pro-rata cost based on whole ICES rectangles and likely to be a significant over-estimate since the majority of revenue comes from Nephrops fishing that does not occur over the feature.
Static fishing	None.	If this activity is not managed within the existing site then no additional management would be needed within the area of the proposed extension. Should our understanding of the impacts of static gear on the feature change, our advice regarding management may change accordingly but the costs of any potential future restrictions are

		currently unknown.
Monitoring and enforcement	£ £0 per annum	The cost of monitoring and enforcement is likely to be a maximum of £4500 per site. This overhead will already be associated with the current existing site and so we can assume that no additional cost will be incurred by a site boundary extension. As such, costs have been estimated here as £0.
<b>Total</b>	<b>£ 22,509.75 per annum.</b>	

### Step 5: Estimate likelihood of maximum impact

Activity	Likelihood of maximum impact (high/med/low)	Notes/assumptions
Mobile demersal fishing	High	It is likely that any management measures implemented within the existing site will also be applied to the proposed extension. As such, it is highly likely that the maximum impact set out in step 4 will occur.
Static fishing	High	It is likely that any management measures implemented within the existing site will also be applied to the proposed extension. As such, it is highly likely that the maximum impact set out in step 4 will occur.
Monitoring and enforcement	High	The MMO have confirmed that it is unlikely that any additional costs to those already relevant to the existing site will be incurred as a result of the proposed extension.

### Step 6: Site sensitivities, areas of possible Other Government Department Concern

- *This section is for describing other impacts that may be of concern, for instance impacts on a key stakeholder group, or disproportionate impacts on certain businesses.*

On the basis of our current knowledge of activities, JNCC conclude that there are no other known activities that may be impacted by the proposed extension of the Croker Carbonate Slabs cSAC/SCI. It appears unlikely that other Government Departments will have any concerns about the proposal. JNCC will liaise with other Government Departments via the UK Marine Biodiversity Policy Steering Group to test our conclusion.

However, the proposal to devolve additional responsibility for waters offshore of Wales to Welsh Government under the St David's Day agreement will necessitate further consultation with Welsh Government officials. JNCC will circulate appropriate material to seek their views.

## **Conclusion**

JNCC reviewed the available information on activities in the existing cSAC/SCI and the area covered by the proposed amended boundary, in conjunction with updated cost figures for any potential impact on stakeholders provided by the MMO in 2016. The most likely scenario will be that any management measures implemented within the existing site will also be applied to the proposed extension. Estimated costs of the proposed extension are £22,509.75 per annum but are very likely to be an over estimate due to the way figures for impacts to UK mobile demersal fishing fleet have been calculated. JNCC conclude that there are unlikely to be costs in excess of £100,000 in any one year for the private sector or costs in excess of £200,000 in any one year for the public sector and therefore a full impact assessment is not required for the proposed boundary amendment.

## Version control

Version	Date	
1.0		First draft submitted to Defra for discussion. Incorporated comments from Defra, MMO and Defra to create version 2.0.
2.0	03/05/2016	Clean version for circulation. Final review and edits by JNCC to create version 3.0.
3.0	20/05/2016	Final draft version. Circulated to Defra and the UK Marine Biodiversity Policy Steering Group
3.1	15/07/16	Updated version taking into accounts comments from Defra on version 3.0.
4.0	15/07/16	Final version.