



Department
for Environment
Food & Rural Affairs

'Consultation on Spatial Management Measures for Industrial Sandeel Fishing'

Consulting on management measures for
industrial sandeel fishing in English waters of the
North Sea

Date: March 2023

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Foreword

Sandeel stocks are impacted by industrial fishing in the North Sea and this has subsequent consequences on the marine ecosystem. English waters of the North Sea are a key area for industrial sandeel fishing, where various marine species, including commercially valuable species of fish, rely on sandeels as their main dietary source. To reduce any further impact on the marine ecosystem, protection measures are required. This consultation proposes options that may help the management of sandeel stocks and the marine ecosystem, as well as potentially help consent marine renewable energy projects which are vital for addressing the climate crisis. These options are based upon expert scientific evidence and now we would value stakeholder views on them.

1.0 Executive summary

This consultation is seeking views on the introduction of spatial management measures for sandeels in English waters. Sandeels have been described as the most important forage fish in the North Sea, contributing to the marine ecosystem and forming a large component of the diets of marine mammals, seabirds, and predatory fish (including commercially valuable species). As such, they require appropriate protection measures to maintain or improve their stocks. This protection will help deliver Good Environmental Status and potentially help combat the climate crisis. Defra have identified three potential spatial management measures to improve the status of both sandeels and their dependent predators, as well as the wider ecosystem. We seek stakeholder views on these management options to inform Defra's next steps in early 2023, the consultation will be open for 12 weeks.

2.0 Purpose of consultation

This consultation follows a Call for Evidence (CfE) on the impacts of industrial fisheries on sandeel stocks that was undertaken from 22 October to 19 November 2021. A summary of the responses to the CfE was published on GOV.UK.

Sandeels are integral to the marine ecosystem of the North Sea. They are highly sensitive to changing environmental conditions and the increased effects of climate change can negatively impact the health of the North Sea sandeel stocks. This pressure combined with the continued removal of sandeels through industrial fishing methods risks further declines of threatened and vulnerable species in the wider marine environment, which rely on sandeels as a food source. Defra are considering new spatial management measures to provide additional resilience and protection for the North Sea sandeel stocks to reduce the impacts of industrial sandeel fishing on the wider ecosystem. We would value your input on the three proposed spatial management measures within this consultation.

3.0 Background on the importance of sandeels

3.1 UK Marine Strategy Regulations

The UK Marine Strategy Regulations 2010 require the UK to take the action to maintain Good Environmental Status (GES) in its seas as of 2020. GES entails a clean, healthy, safe, productive, and biologically diverse ocean and seas. However, at the last assessment cycle in 2019, the target of GES had not been met for seabirds and fish¹.

In the Greater North Sea frequent and widespread breeding failures have been seen in 35% of seabird species². The assessment of the GES target for marine sea birds, notes that the reduced availability of small fish, on which the seabirds feed, has been largely responsible for declines in seabird breeding abundance and the frequent widespread breeding failures in some species¹.

3.2 Importance of sandeels to the ecosystem

Sandeels are forage fish – a term used to describe small to intermediate sized fish that form a key component within the ecosystem. They represent a major channel of energy that transfers from lower trophic levels (for example, plankton) to higher trophic levels including seabirds, marine mammals, and commercial fish species. Within the North Sea, sandeels are the most important forage fish species³. They are essential for the diet of many marine species. For example, sandeels make up to 50% of the diet for Baleen whales, up to 30% of the diet for seals, and up to 29% of the diet of seabirds. The decline in sandeel abundance has been shown to negatively impact the survival, condition, and reproduction of commercially and ecologically important species – such as seals, porpoises, seabirds, and commercial fish species including, whiting and haddock⁴. The importance of improving or maintaining the sandeel stock biomass as a prey resource for seabird species has been further highlighted in the context of other uses of the marine environment for example, where spatial management measures for sandeels may be considered as part of a suite of measures to facilitate offshore renewables consenting.

Sandeels are particularly important prey to many seabird species and their contribution to the seabird's diet has been linked to breeding success and survival⁵. Previous studies have shown that the presence of an active sandeel fishery can have detrimental impacts on seabird populations⁶, with the breeding success of some seabirds being reduced dramatically when sandeel abundance decreases⁷. Evidence has shown that closure of sandeel fisheries in the UK waters could offer increased resilience to many seabird species – including, kittiwakes, common guillemots, razorbills, and Atlantic puffins⁸.

3.3 Industrial Sandeel fishing in the North Sea

North Sea sandeel populations have been separated into seven sandeel assessment (SA) and management areas based on their spatially distinct populations (Figure 1). Four of the seven sandeel stock management areas are within the UK Exclusive Economic Zone (EEZ), and three of these areas lie within English waters:

- Sandeel Area 4 (SA4) is fully within UK EEZ and lies across both English and Scottish waters.
- Sandeel Area 3 (SA3r) lies across the UK, EU and Norwegian EEZs. The majority of SA3r lies in Scottish waters.
- Sandeel Area 1 (SA1r) lies across UK, EU and Norwegian EEZs. The UK EEZ of SA1r lies largely in English waters.

Due to these defined areas, a spatial approach to managing industrial sandeel fishing is considered most appropriate.

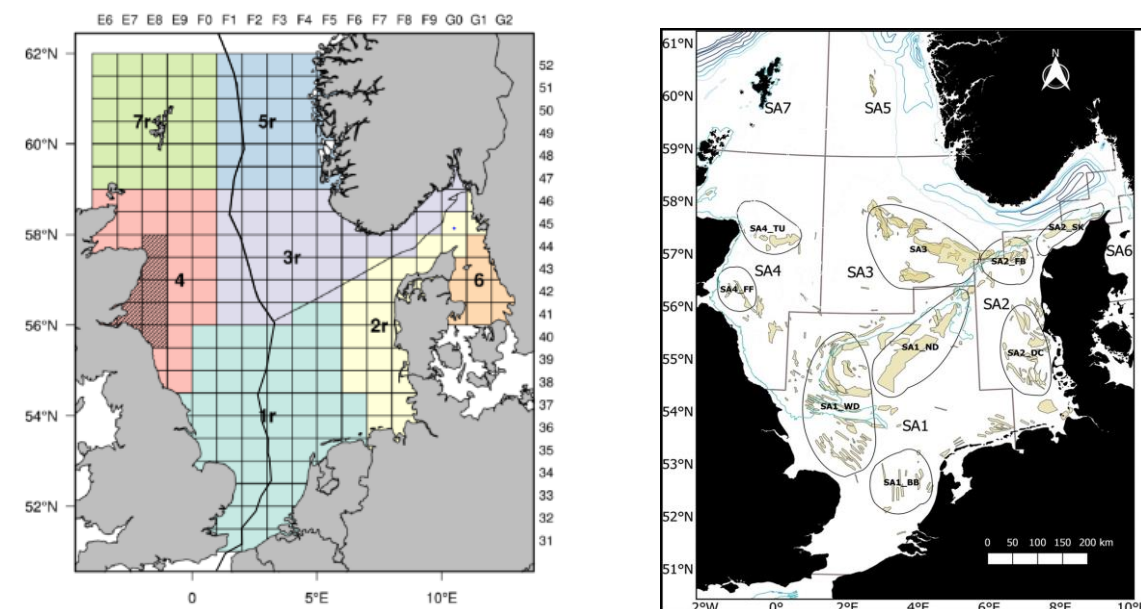


Figure 1: 1a (left): Sandeel assessment and management areas in the North Sea. The borders of the UK, EU, and Norwegian Exclusive Economic Zones (EEZ) are shown as black lines. The closed part of Sandeel Area 4 is shown with hatched markings (adapted from ICES, 2022). 1b (right): Sandeel habitat areas across the seven sandeel stocks⁹.

Landings and commercial value of sandeel

Over 300,000 tonnes of sandeels are landed from the North Sea annually. Between 2003 and 2020, the average proportion of sandeel landings from UK waters within the North Sea was 58% (Figure 2), with the greatest landings found in SA1r. In terms of quota share with the EU, the UK holds less than 3% of the total quota for sandeels in the North Sea.

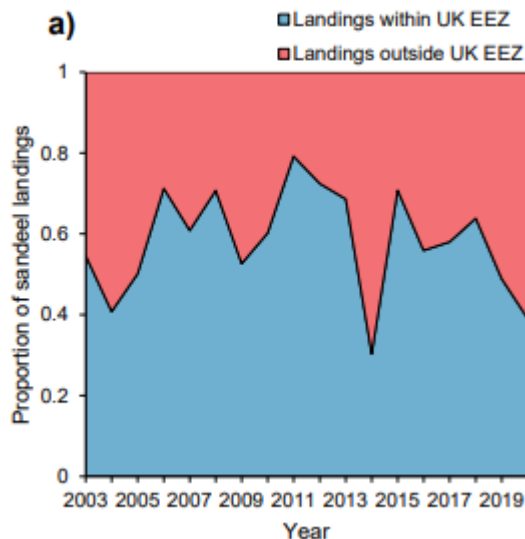


Figure 2: The proportion of Sandeel landings from 2003 to 2020 from within and outside of the UK EEZ within the North Sea.

Overall impact on business

The measures could impact up to five UK businesses, depending on which spatial measures are introduced and bearing in mind that vessels (businesses) are already free to diversify to other species provided they have a fishing licence. This has an estimated cost to businesses of between £0 and £0.5 million annually, through reduced annual profits for fishers who are no longer able to industrially fish sandeels in the proposed management areas. The impacts are estimated to be ongoing as they will affect fishing activity for the lifetime of the measures. The key non-monetisable costs that could not be included in the estimations above are the effect of displacement.

Although the focus of Defra’s assessment has been on UK businesses, vessels registered in other countries, such as Denmark, also industrially fish sandeels in UK waters. EU vessels landed 240,000 tonnes of sandeels from English waters on average between 2015 and 2019, worth £41.2 million annually in 2021 prices. The estimated direct cost to non-UK businesses are the reduced profits, considered a small proportion of the annual £41.2 million revenue, for fishers who are no longer able to industrially fish sandeels in the proposed management areas. There will also be indirect impacts to overseas sandeel processing sectors.

Exact quantification of the impact of the spatial measures is unknown, particularly in reference to non-UK businesses. A more detailed assessment of the economic impact is set out in the De-Minimis Assessment, accompanying this consultation. This consultation process is needed to help understand those impacts.

3.4 Background of spatial measures

In 2000, sandeel fisheries off the north-east UK coast were closed as a precautionary measure to support seabird colonies which were in decline (this can be seen in Figure 1a).

There have been reviews on the effectiveness of this closure in relation to both sandeel populations and the predators they support. One of the most recent reviews highlighted the initial benefit to sandeel abundance and kittiwake breeding success from the closure of the fishery¹⁰. However, it also demonstrated the subsequent declines found in sandeel abundance were the result of a period of poor environmental conditions.

Defra has commissioned scientific experts to model the ecosystem risks and benefits of full spatial closures of industrial sandeel fishing in the UK waters of the North Sea⁴. This evidence is published alongside this consultation for reference, and shows that the ecosystem benefits of enhanced spatial management measures include:

- Increased sandeel resilience
- Increased seabird resilience
- Improved body condition of other commercially valuable fish
- Increased abundance of marine mammals within UK EEZ

The report generated by Defra’s scientific experts also simulated the average risks and benefits of full spatial closure of industrial sandeel fishing on the biomass of commercial stocks and groups within the North Sea. The modelled evidence shows that within 10 years an increased biomass for seabirds, seals, whiting and haddock (Table 1) could be realised with full spatial closure in the UK waters of the North Sea, and even greater biomass benefits realised with full spatial closure across the North Sea.

Commercial stocks and biomass guilds	Biomass response to prohibition in the North Sea	Biomass response to prohibition in UK waters of the North Sea
Seabirds	+11%	+7%
Seals	+6%	+4%
Baleen whales	+1%	+2%
Toothed whales	0%	0%
Whiting	+5%	+2%
Haddock	+5%	+3%
Cod	+2%	+1%
Saithe	-3%	-2%
Demersal fish	+1%	+1%
Pelagic fish	+1%	0%
Benthos	0%	0%
Zooplankton	-1%	-1%

Table 1: summary of the predicted biomass of stocks and groups in the North Sea with full prohibition of industrial sandeel fishing in all waters of the North Sea and in UK waters of the North Sea.

Following on from the partial spatial closures in North East UK waters in 2000, partial spatial closures of industrial fishing has been considered as a management measures, however evidence suggests greater benefits with the closure of larger areas. Partial closures of industrial fishing may increase fishing effort on other currently unfished or lightly fished locations as fleets seek to maintain landings. Closure of SA4 and SA3r could result in fishing effort to be redirected into Scottish, EU, and Danish waters, as well as into sandeel areas not closed belonging to English waters. SA4 and SA3r overlap with Scottish waters, so a closure of the fishery within the English waters of this area may be anticipated to result in significant displacement of fishing effort to Scottish waters, as well as to SA1 in English waters, as well as displacement of fishing effort to the Norwegian area of SA3r. Partial closure may also result in potential displacement onto other forage fish stocks, these species could include Norway pout, blue whiting, European sprat, Atlantic herring, horse mackerel, boarfish, sardine, and greater silver smelt.

4.0 Management measure options

Defra is consulting on management measures to increase the resilience of sandeel stocks and the wider ecosystem within English waters of the North Sea. We would welcome your views on this objective, as well as the potential measures we should adopt to achieve this aim. Following the Call for Evidence and Defra's scientific expert advice, Defra considers the most effective management measure to be:

- 1. Full Closure of English Waters within the North Sea. This option would see full closure of industrial sandeel fishing within the English waters of SA1r, SA3r and SA4.**

Defra would welcome your view on this management option, as well as the two alternative options below that look at partial closures of English waters in the North Sea. However, Defra believes these options are unlikely to achieve our stated aim for the reasons set out below

- 2. Closure of English waters within SA4 and SA3r. This option would be a partial closure in English waters, with Industrial fishing prohibited in English areas of SA4 and SA3r.**
- 3. Closure of English waters within SA1r. This option would be a partial closure in English waters, with Industrial fishing prohibited in English area of SA1r.**

Partial closures. A partial closure of, for example, one sandeel management area such as SA1, or subdivision of it, say the Dogger Bank, would lead to displacement of fishing effort. This is likely to increase fishing activity outside the closed area creating a risk of sandeel depletion in certain locations.

This is a recognised issue and ICES for example caveated their advice for sandeels in SA4 by acknowledging the closed area off the east Scotland and Northeast England. They advise that this closure should be considered and that full advised catch limits for SA4 should not be taken as it could increase the risk of local depletions (ICES 2017, 2018).

Partial closures therefore may reduce the ecosystem benefits of any closures and potentially cause additional problems if the abundance of sandeels in the remaining open area falls below levels critical for successful predator foraging.

Alternative technical and temporal measures

Defra has also considered alternative technical and temporal management measures, which could be applied to reduce fishing pressure on sandeels. Defra believes these options are unlikely to achieve our stated aim for the reasons set out below. However, the consultation process would like to hear your views on whether other additional evidence-based measures are available which would achieve our stated aim.

Technical measures. Sandeels caught for industrial purposes are targeted with highly specific otter trawls of a pelagic or semi-pelagic design with cod end mesh sizes of ~20mm. Changes to the mesh design or gear configuration would continue to allow the removal of substantial quantities of sandeels and would not increase the abundance of sandeels available to other marine creatures which are dependent on them as a food source. In addition, technical management measures, such as increasing the mesh size, would in effect render the fishery unviable due to the small size of Sandeels and therefore have the same outcome as option 1.

Temporal measures. For biological reasons the annual availability of sandeel is limited to a relatively short period from April to the end of June, during which time it is targeted. There is not a viable sandeel fishery outside of this period. Allowing fishing even during part of the April to June period would serve to concentrate fishing activity and removals; and not deliver benefits to the marine ecosystem from reducing fishing mortality.

5.0 Consultation rationale

Defra would like to consider implementing spatial management measures to increase the resilience of sandeel stocks and the wider ecosystem within English waters of the North Sea. We would welcome your views on the three options provided in section 4. These will be available for consultation in the period of 6th March 2023 to 30th May 2023.

6.0 Consultation questions

We would be grateful for your views on the spatial management measure of full closure, as well as the two alternatives proposed. We welcome your views, as well as alternatives we may not have covered.

Option 1: Full Closure of English Waters within the North Sea

Question 1. Do you agree with this approach of full closure of industrial sandeel fishing in English waters within the North Sea?

Yes No

Question 2. Please expand on your answer providing why you support this option, or why you do not support this option?

Click or tap here to enter text.

Question 3. What do you see are the benefits of full closure of industrial sandeel fishing in English waters within the North Sea?

Click or tap here to enter text.

Question 4. What do you see are the negative impacts of full closure of industrial sandeel fishing in English waters within the North Sea?

Click or tap here to enter text.

Option 2: Closure of English waters within SA4 and SA3r

Question 5. Do you agree with this approach to close SA4 and SA3r of industrial sandeel fishing in the North Sea?

Yes No

Question 6. Please expand on your answer providing why you support this option, or why you do not support this option?

Click or tap here to enter text.

Question 7. What do you see are the benefits of closure of industrial sandeel fishing in English waters within SA4 and SA3r in the North Sea?

Click or tap here to enter text.

Question 8. What do you see are the negative impacts of closure of industrial sandeel fishing in English waters within SA4 and SA3r in the North Sea?

Click or tap here to enter text.

Option 3: Closure of English waters within SA1r

Question 9. Do you agree with this approach to close SA1r of industrial sandeel fishing in the North Sea?

Yes No

Question 10. Please expand on your answer providing why you support this option, or why you do not support this option?

Click or tap here to enter text.

Question 11. What do you see are the benefits of closure of industrial sandeel fishing in English waters within SA1r in the North Sea?

Click or tap here to enter text.

Question 12. What do you see are the negative impacts of closure of industrial sandeel fishing in English waters within SA1r in the North Sea?

Click or tap here to enter text.

Question 13a. Please rank Options 1, 2, and 3 by preference

Highest preference

Lowest preference

Question 13b. Please provide reasoning for your choice of preference.

Click or tap here to enter text.

Question 14a. Do you agree with using spatial management measures?

Yes No

Question 14b. Please provide reasoning for your view.

Click or tap here to enter text.

Question 14c. Are there alternative management measures that you would like to recommend that have not been put forward in this consultation?

Click or tap here to enter text.

7.0 How to Respond

7.1 Responding to this Consultation

This consultation is being conducted on behalf of the Department of Environment, Food and Rural Affairs.

The purpose of the consultation is to seek the views of those with an interest in industrial sandeel fishing, to develop policy decisions regarding the future management of this fishery. The consultation will last for 12 weeks, commencing on 6 March 2023 with a deadline of 30 May 2023 for responses.

Please respond to the consultation using the government's consultation platform. You will be able to save and return to your responses throughout the consultation period. Please ensure your consultation responses are submitted before 30 May 2023.

7.2 Handling your Response

The consultation will last for 12 weeks, commencing on 6 March 2023 with a deadline of 30 May 2023 for responses. Please ensure your consultation responses are submitted before 30 May 2023. Our preferred way of receiving responses is through the Citizen Space platform.

If you are unable to use Citizen Space, you can download the consultation documents and return your response via email to SandeelConsultation@defra.gov.uk.

7.3 Next Steps

We will be carefully reviewing all responses to the consultation taking into account views expressed, as well as any additional information provided. A summary of responses is due to be published on the GOV.UK website within 12 weeks of the consultation closure.

7.4 Comments and complaints

If you have any comments or complaints about the consultation process, please address them by email to: consultation.coordinator@defra.gov.uk, or by post to:

Consultation Coordinator

Department for Environment Food and Rural Affairs

Second Floor

Foss House

Kings Pool

1 to 2 Peasholme Green
York
YO1 7PX

8.0 Privacy Notice

Who is collecting my personal data?

The data controller is the Department for Environment, Food and Rural Affairs (Defra). You can contact Defra's Data Protection Manager by email at: data.protection@defra.gov.uk

Any questions about how Defra is using your personal data and your associated rights should be sent to the above contact.

The Data Protection Officer responsible for monitoring whether Defra is meeting the requirements of the legislation can be contacted by email at: DefraGroupDataProtectionOfficer@defra.gov.uk

Defra uses Citizen Space to run its consultation exercises. Citizen Space is provided by Delib Ltd (Delib). For information about Delib, including how they will use personal data, please click on the following hyperlink: https://www.delib.net/about_delib and click on the links to their Privacy Notice at the foot of the page.

Why is Defra using my personal data?

Defra uses your personal data when it consults you and receives your comments and views on proposed legislation or policy on subject matters that you have indicated are of interest to you. Defra may contact you directly inviting you to give your comments and views in reply to a consultation exercise or you may decide to reply to a consultation exercise that you have seen on GOV.UK or elsewhere.

If you reply to a consultation exercise, your personal data will likely consist of your name and contact details and the comments and views that you give in your reply. Defra will use your personal data to record your comments and views and take your reply into account – as far as possible with all other replies – when decisions are being made as a result of the consultation.

Defra may also disclose personal data when replying to requests under freedom of information laws. If you would like to inform Defra that you would like all or any part of your reply to a consultation to be kept confidential, please follow the procedure set out in the 'Confidentiality and data protection information' section of the letter accompanying the consultation exercise. As mentioned in that section, Defra will take your views requesting confidentiality into account as far as possible, but an absolute guarantee of confidentiality

cannot be given. The 'Confidentiality and data protection information' section of the letter accompanying the consultation provides further details about this.

What is the legal basis in data protection law for Defra's use of my personal data?

There are two legal bases in data protection law that apply to Defra's use of your personal data for consultation exercises:

- (1) your consent; and
- (2) the use (or processing) of your personal data is necessary for the performance of a task carried out in the public interest.

Your consent is the initial legal basis for the use of your personal data for the purpose of consultation exercises. If Defra has contacted you directly to inform you of a consultation exercise, it's because you have previously informed Defra that you would like to receive communications in relation to the subject matter of the consultation. Whether you received a consultation exercise directly from Defra or any other way, if you reply to a consultation exercise, you do so freely and voluntarily after having the opportunity to be fully informed by the consultation documents.

If you reply to a consultation exercise, the legal basis for Defra's use of your personal data in your reply is that the use is necessary for the performance of a task carried out in the public interest. The relevant task in the public interest is that people and organisations, especially those likely to be affected by proposed legislation or policy, are consulted on the proposals and have the opportunity to give their views and comments. Defra will consider views and comments received in response to a consultation before making final decisions.

If Defra discloses personal data when replying to a request under freedom of information laws, the legal basis is that Defra's use of your personal data is necessary for the performance of a task carried out in the public interest. The relevant task in the public interest is that Defra must comply with its obligations under the freedom of information laws.

Who will my personal data be shared with?

Defra will publish a summary of responses; this will not include any personal data.

Within Defra, your personal and identifying data will be available to teams working on the consultation. These would include the following: the policy team named in the consultation documents, the Consultation Coordinator and the team analysing the consultation responses. On occasion, Defra will engage outside contractors for analysis, where this is the case, this will be clearly stated in the consultation document. Any outside contractor will be subject to Defra's data protection policy.

As the providers of Citizen Space, Delib will also have access to your personal data. For details of Delib's use of your personal data please see their Privacy Notice.

Will my personal data go outside the UK?

Yes, if you send or receive emails by the Citizen Space website, including when you use the 'Help/feedback' form, they will be processed in the EU. Any personal data in these emails will be subject to the UK and EU GDPR, which protect your rights in relation to your personal data.

Responses to questions in consultation exercises are kept in the UK. Therefore, if you respond to a consultation exercise, any personal data that you provide in that response will not be used by Defra or Delib outside the UK.

If you are relying on my consent to use my personal data, can I withdraw my consent?

You have the right to withdraw your consent at any time by using the Defra contact details given in the documents for any particular consultation exercise. If you withdraw your consent, Defra may be able to continue to use any personal data it has already received up to that time for the purpose of consultations you have replied to, particularly if your reply has already been included in the consideration of the proposals that are the subject of the consultation.

If I reply to a consultation exercise, how long will my personal data be held for?

Defra will hold your personal data for up to two years after the end of the consultation period.

What are the consequences for me if I don't provide my personal data or allow it to be used for the purpose of consultations?

Your participation in consultation exercises is voluntary and there will be no repercussions for you if you choose not to reply to a consultation or if you withdraw your reply at any time.

What are my rights?

A list of your rights under data protection law is accessible at: <https://ico.org.uk/for-organisations/guide-to-the-general-data-protection-regulation-gdpr/individual-rights/>

How do I complain?

You have the right to lodge a complaint about the use of your personal data at any time with the Information Commissioner's Office (ICO – the data protection supervisory authority). If you wish to exercise that right, full details are available at: <https://ico.org.uk/make-a-complaint/>

Defra's Personal Information Charter

Please also see Defra's Personal Information Charter, accessible by the following hyperlink, which broadly sets out details of Defra's processing of personal data:

9.0 References

- ¹ Marine Strategy Part One: UK updates assessment and Good Environmental Status. 2019. Department for Environment food & Rural Affairs.
- ² Annex 1; Natural England, Joint Nature Conservation Committee, and Centre for Environment, Fisheries and Aquaculture Science. 2022. What are the ecosystem risks and benefits of full prohibition of industrial Sandeel fishing in the UK waters of the North Sea (ICES Subarea 4)? Department for Environment food & Rural Affairs. Advice Request.
- ³ Engelhard, G.H., Peck, M.A., Rindorf, A., C. Smout, S., van Deurs, M., Raab, K., Andersen, K.H., Garthe, S., Lauerburg, R.A., Scott, F. and Brunel, T., 2014. Forage fish, their fisheries, and their predators: who drives whom?. ICES Journal of Marine Science, 71(1), pp.90-104.
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- ¹⁰ Sarah Cunningham, David Donnan, Katie Gillham, Ben James, Lisa Kamphausen, Suzanne Henderson - NatureScot, Peter Chaniotis and Eirian Kettle - JNCC and Phil Boulcott and Peter Wright - Marine Scotland Science. Towards understanding the effectiveness of measures to manage fishing activity of relevance to MPAs in Scotland. NatureScot Research Report No 1292.