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## Seagreen 1A Construction Programme Variation Screening Report Appendix A: Seagreen Phase 1A Habitats Regulations Appraisal

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Acronym / Abbreviation	Full Text
AA	Appropriate Assessment
CRM	Collision Risk Modelling
cSACs	candidate Special Areas of Conservation
Defra	Department for Environment, Food and Rural Affairs
EC	European Commission
EU	European Union
EIA	Environmental Impact Assessment
EPS	European Protected Species
FTRAG	Forth and Tay Regional Advisory Group
HDD	Horizontal Direction Drilling
HRA	Habitats Regulations Appraisal
HVAC	High Voltage Alternating Current
IAMMG	Inter-agency Marine Mammal Working Group
IROPI	Imperative Reasons of Overriding Public Interest
JNCC	Joint Nature Conservation Committee
MIP	Marine Installation Programme
nm	nautical mile
NNR	National Nature Reserve
NS	NatureScot
NSN	National Site Network
ODA	Offshore Development Area
OSP	Offshore Substation Platform
OTA	Offshore Transmission Asset
OWF	Offshore Wind Farm
PVA	Population Viability Analysis
PDE	Project Design Envelope
pSACs	proposed Special Areas of Conservation
pSPAs	potential Special Protection Areas
RIAA	Report to Inform Appropriate Assessment
RSPB	Royal Society for the Protection of Birds
SCOS	Special Committee on Seals
SNH	Scottish Natural Heritage
SSER	Scottish and Southern Electricity Renewables
SG1A	Seagreen Phase 1A
SWEL	Seagreen Wind Energy Limited
SAC	Special Area of Conservation
SACs	Special Areas of Conservation
SPA	Special Protection Area

Acronym / Abbreviation	Full Text
SPAs	Special Protection Areas
SID	Supporting Information Document
TCE	The Crown Estate
TJB	Transition Joint Bay
WTG	Wind Turbine Generator

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## **1. Introduction**

### **1.1. Background**

This document has been produced as an appendix to the Screening Report to provide information to inform a Habitats Regulations Appraisal (HRA) of the revised construction programme (Variation). This document provides an overview of the development and the approach to construction, operation, and decommissioning, the methodology used to conduct the HRA, and the findings of each stage of the HRA process.

This HRA is undertaken in the context of the existing consents, which were issued by Scottish Ministers in 2014, following the completion of an Appropriate Assessment (AA). That AA concluded, subject to appropriate conditions being attached to the consents, that the Seagreen Alpha and Seagreen Bravo developments, both alone or in combination with other projects, would not adversely affect the integrity of any European Site.

The Variation falls within the same application boundary as the originally consented project (2014 Consents). Data collected to inform the 2012 Environmental Statement (ES) and the ODA are considered to remain appropriate sources of information to inform the assessment of impacts for this HRA. The 2012 ES includes a range of detailed project specific surveys and site characterisation studies to define baseline conditions.

### **1.2. Overview of the Development**

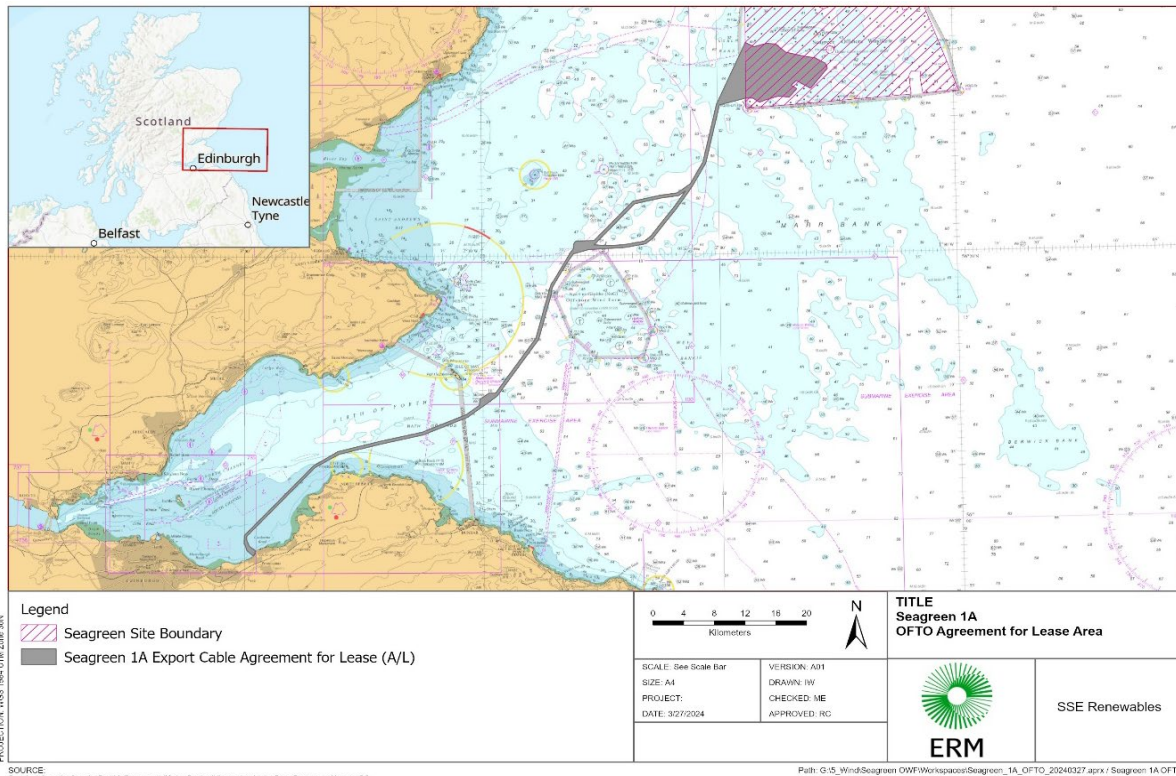
In October 2014, Scottish Ministers awarded consents and licences to Seagreen Wind Energy Ltd (SWEL) for the Seagreen Project under Section 36 of the Electricity Act 1989, Part 4 of the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 to construct and operate Seagreen Alpha and Bravo Offshore Wind Farms (OWFs) and associated infrastructure of the Offshore Transmission Asset (OTA) (the Seagreen Project). The consents and licences give permission for the installation and operation of up to 150 wind turbine generators (WTGs), 5 offshore substation platforms (OSPs) and associated electrical infrastructure to export to Carnoustie.

In 2018, the Seagreen Project's OWF licences were varied to remove the consented OWF capacity limits to allow the installation of higher rated WTGs. In 2019, the OTA to Carnoustie licence was varied to accommodate an alternative landfall installation method. As described in the 2020 Construction Programme, 114 of the 150 consented WTGs have been constructed and connected the National Grid Network via a grid connection in Tealing Angus. In 2022, the Seagreen Project's OWF and OTA licences were varied to accommodate an increase in size of the 36 consented but not constructed WTGs and permit an increase in steel deposits.

To maximise energy generation and facilitate full export capacity for the Seagreen Project, Seagreen 1A (SG1A) Limited obtained a marine licence for an additional export cable (approximately 108 km) from the consented Seagreen Site Boundary to an identified landfall location at Cockenzie (see Figure 1.1). This will include one high voltage export cable to mean high water springs (MHWS), cable landfall and

connection to the onshore infrastructure. This connection is planned to accommodate the remaining 36 consented but not constructed WTGs. In 2023, this marine licence was varied to accommodate for an alternative landfall installation methodology.

**Figure 1.1 Seagreen 1A Project Area**



Condition 2 of the Seagreen Alpha and Bravo Section 36 consents currently reads as follows:

*The Commencement of the Development must be a date no later than 5 years from the date the consent is granted, or such later date from the date of the granting of this consent as the Scottish Ministers may hereafter direct in writing. The Commencement of Phase 1A of the Development must be a date no later than 3 years from the Commissioning of the First WTG, or such later date from the date of the Commissioning of the First WTG as the Scottish Ministers may hereafter direct in writing.*

*Reason: To ensure the Commencement of the Development is undertaken within a reasonable timescale after consent is granted.*

Due to uncertainties in the OWF industry and challenges specifically facing the development of Seagreen 1A (SG1A), SWEL are proposing a shift to the construction window (noting that the duration of the construction period remains unchanged from that assessed in the original 2012 ES for constructing the Seagreen 1A infrastructure within a window between January 2029 and December 2032. Construction of the offshore elements of Seagreen 1A would be continuous once commenced and will remain within the construction schedule assessed within Seagreen 2012. The latest

construction commencement date of offshore project elements of Seagreen 1A quoted within the Seagreen Alpha and Bravo Section 36 consents is April 2032 (see Section 1.3 for further details). Based on this updated construction programme of Seagreen 1A, SWEL are requesting Condition 2 of the Seagreen Alpha and Bravo Section 36 consents are amended as follows:

*The Commencement of the Development must be a date no later than 5 years from the date the consent is granted, or such later date from the date of the granting of this consent as the Scottish Ministers may hereafter direct in writing. The Commencement of Phase 1A of the Development must be a date no later than **9 years 8 months** from the Commissioning of the First WTG, or such later date from the date of the Commissioning of the First WTG as the Scottish Ministers may hereafter direct in writing.*

*Reason: To ensure the Commencement of the Development is undertaken within a reasonable timescale after consent is granted.*

### 1.3. Updated Construction Timeline

Key construction timelines that are to be requested within the Variation to the Section 36 are presented in Table 1-1 below. To account for supply chain and programme uncertainty, it is requested these timelines are permitted to occur within a 4-year window, between January 2029 through to December 2032. It should be noted that once construction of the offshore works commences, works will be continuous and remain within the 576 days quoted in Table 1-1.

**Table 1-1 Summary of key milestone dates for Seagreen 1A**

Project Element	Duration (days)	Start	Finish
<b>Seagreen 1A – Landfall works</b>	<b>200</b>	<b>21/05/2030</b>	<b>23/11/2031</b>
Landfall Works – TJB Construction	39	21/05/2030	29/06/2030
Landfall Works – Electrical	161	15/06/2031	23/11/2031
<b>Seagreen 1A – Offshore works</b>	<b>576</b>	<b>01/01/2030</b>	<b>31/07/2031</b>
Export Cable – Offshore Works	305	01/03/2030	31/12/2030
OSP Installation	180	01/09/2030	28/02/2031
Foundation, auxiliary infrastructure and inter array cabling installation	180	01/01/2030	31/06/2030
WTG Installation	180	01/02/2031	31/07/2031



## 2. Methodology

### 2.1. Overview of the HRA Process

The Council Directive 92/43/EEC (the Habitats Directive) was adopted in 1992, providing a means for the European Union (EU) to meet its obligations under the Bern Convention. The aim of the Directive was to maintain or restore natural habitats and wild species listed in the Annexes at a favourable conservation status. This protection is granted through the designation of European Sites and European Protected Species (EPS). Council Directive 2009/147/EC on the conservation of wild birds (the Birds Directive) provides a framework for the conservation and management of wild birds within Europe. The Directive affords the rare and vulnerable species listed under Annex I protection through the identification and designation of SPAs.

The Directives have been transposed into Scottish Law by various regulations. Those of relevance to the Variation include:

- The Conservation (Natural Habitats &c) Regulations 1994 (as amended);
- The Conservation of Habitats and Species Regulations 2017; and
- The Conservation of Offshore Marine Habitats and Species Regulations 2017 (which apply to marine licences and Section 36 applications within the Scottish Offshore region).

A HRA refers to the several distinct stages of assessment which must be undertaken in accordance with the regulations cited above. The approach to the HRA follows the guidance produced by the European Commission (EC) (e.g., 2011<sup>1</sup>, 2018<sup>2</sup>), the DTA Habitats Regulations Handbook<sup>3</sup> and case law.

An HRA is required to determine if a plan or project may affect the protected features of a European site. This applies to classified SPAs, designated SACs, candidate SACs (cSACs) (sites submitted to the European Commission as Special Areas of Conservation prior to EU exit) and candidate SACs adopted by the European Commission as Sites of Community Importance (now known as Sites of National Importance). Potential SPAs (pSPAs) and proposed SACs (pSACs) are sites approved by Scottish Ministers for formal consultation, and they are accorded the same level of protection. The same level of protection also applies to Ramsar sites<sup>4</sup> and areas managed/secured as compensation for damage to European sites.

The HRA process comprises up to four stages as follows:

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<sup>1</sup> European Commission (2011) Guidelines on the Implementation of the Birds and Habitats Directives in Estuaries and Coastal Zones with Particular Attention to Port Development and Dredging. EC.

<sup>2</sup> European Commission (2018) Commission Notice. Managing Natura 2000 sites. The Provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC” Brussels, 21.11.2018 C(2018) 7621 final.

<sup>3</sup> Tyldesley, D. and Chapman, C. (2013) The Habitats Regulations Assessment Handbook, July 2021 edition UK: DTA Publications Limited.

<sup>4</sup> Internationally important wetlands recognised under the eponymous convention signed at Ramsar, Iran 1971.



- Stage 1 Screening to identify the likely effects of a project on a European site and consider whether the effects are likely to be significant;
- Stage 2 Appropriate Assessment to determine whether the integrity of the European site will be adversely affected by the project;
- Stage 3 Assessment of Alternative Solutions to establish if there are any solutions that will result in a lesser effect on the European site; and
- Stage 4 Imperative Reasons of Overriding Public Interest (IROPI) and Compensatory Measures to establish whether it is necessary for the project to proceed despite the effects on the European site, and to confirm that necessary compensatory measures are in place to maintain coherence.

### **2.1.1. Habitat Regulations Assessment Process and the United Kingdom's Exit from the European Union**

Following the United Kingdom's exit from the European Union (EU) and the end of the transition period on the 31 December 2020, legislation has been passed to remove the domestic constitutional basis for EU law in the UK. Overall, the legislative changes do not result in material changes in how HRAs are undertaken in the UK.

The Conservation (Natural Habitats &) Regulations 1994 (as amended), The Conservation of Habitats and Species Regulations 2017<sup>5</sup> (as amended) and The Conservation of Offshore Marine Habitats and Species Regulations 2017<sup>6</sup> (as amended) transpose the EU Habitats Directive (Council Directive 92/43/EEC)<sup>7</sup> and certain elements of the Wild Birds Directive (Directive 2009/147/EC)<sup>8</sup> (known together as the Nature Directives) into UK law. Most functions of these Regulations have now been transferred from the European Commission (EC) to the appropriate authorities. In Scotland, this occurs under The Conservation (Natural Habitats, &c.) (EU Exit) (Scotland) (Amendment) Regulations 2019<sup>9</sup>.

The 2019 amendments provide legal certainty, and minimise disruption immediately following EU exit, by maintaining, as closely as possible, that which was already in place. For example, references in an EU context throughout the legislation have been re-defined to a UK only context. Habitat and species protection and standards are to be implemented in the same or an equivalent way, maintaining existing protections for habitats and species. The environmental assessment regimes that inform planning decisions, including HRA, continue to apply post-EU exit.

### **2.1.2. Habitat Regulations Site Designations**

All European protected sites and species retain the same level of protection now that the UK has left the EU. However, the 2019 Regulations now provide for the creation of a "national site network" (NSN) within the UK territory. This is comprised of the European Protected Sites already designated under the Nature Directives (Natura 2000 Network) and any further sites designated under these Regulations. Appropriate management objectives will be established for the NSN (the 'network objectives').

References to 'European sites' and 'Natura 2000 sites' throughout this report, are to be read as references to European sites within the UK national site network; referring to those either designated before the UK left the EU, or designated after the UK left the EU under transposing regulations.

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<sup>5</sup> <https://www.legislation.gov.uk/ukxi/2017/1012/contents/made>

<sup>6</sup> <https://www.legislation.gov.uk/ukxi/2017/1013/contents/made>

<sup>7</sup> Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A31992L0043>

<sup>8</sup> Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32009L0147>

<sup>9</sup> <https://www.legislation.gov.uk/ssi/2019/113/contents/made>

## 2.2. Screening

'Screening' is a term used to describe the initial stage (Step 1) of the Habitats Regulations Appraisal and is the process which initially identifies the likely impacts from a project or plan upon a European Site, either alone or in combination with other projects or plans and considers whether these impacts may be significant. The screening stage examines the likely effects of a project either alone, or in combination with other projects and plans on a European site and seeks to answer the question "*...can it be concluded that no likely significant effect will occur?*". To determine if the construction and/or operation of the Proposed Variation is likely to have any significant effects on designated sites, the issues listed below have been considered:

- Whether the proposals affect the qualifying interest, and whether those qualifying interests are sensitive/vulnerable to the effects created by the proposal;
- The probability of the effect happening;
- The likely consequences for the site's conservation objectives if the effect occurred; and
- The magnitude, duration, and reversibility of the effect, considering any mitigation incorporated as a part of standard operating procedure;

The screening stage will therefore conclude one of the outcomes listed below.

- No Likely Significant Effect (LSE);
- An LSE will occur; and
- It cannot be concluded that there will be no LSE.

By adopting the 'source-pathway-receptor' approach it is possible to consider the potential for an LSE on each relevant designated site to arise during the Project lifecycle i.e. the source of the impact (Variation), the pathway for the impact (the route the source takes to reach the receptor such as physical loss of habitat), and the receptor (e.g. Annex I habitats, Annex II species, and Birds Directive Annex I populations).

Where the screening assessment concludes LSE or where it cannot be concluded that there will be no LSE, then the need for an AA is triggered. Given that the Variation does not result in any physical interaction with SAC sites (no impact pathways present) then no LSE is determined for all Annex I habitats (and associated structure and function conservation objectives).

For there to be a potential LSE on a designated marine mammal Annex II population and/or an SPA classified population three conditions need to be satisfied as follows:

- the receptor population under consideration needs to regularly use the area;
- the receptor must be sensitive to one or more potential pressures and any impacts of the Variation; and
- the population using the area must be sufficiently large in the context of the size and status of the SAC or SPA for an adverse effect on the population to be plausible.

### 3. Screening of Statutory Designated Sites

#### 3.1. Approach to Initial Screening

Initial screening is a site-identification / selection process which effectively identifies all those designated sites and the relevant qualifying features that are at risk of LSE, should those features be sensitive to the relevant effects. Relevant SACs and SPAs to be considered are presented in Table 3.1. These European sites are based on the SPAs assessed within the original 2014 AA and 2019 AA completed by Marine Scotland, along with consideration of SACs with designated Annex II populations of harbour seal, grey seal, and common bottlenose dolphin. It should be noted that Marine Scotland previously concluded no adverse effect on the integrity of all protected sites assessed before this 2024 HRA.

**Table 3.1 European Sites Assessed in the 2014, 2019 and 2022 Appropriate Assessments Undertaken by Marine Scotland**

Designated Site	Distance to Project (km)	2014 AA	2019 AA	2022 AA
<b>SPA</b>				
Buchan Ness to Collieston Coast SPA	71.6	In	Out	In
Fowlsheugh SPA	27.5	In	Out	In
Forth Islands SPA	48.7	In	Out	In
St Abb's Head to Fast Castle SPA	65.7	In	Out	In
Outer Firth of Forth and St Andrews Bay Complex SPA <sup>1</sup>	32.0	Out	In	In
<b>SAC</b>				
Firth of Tay and Eden Estuary SAC	47.0	In	In	Out
Isle of May SAC	51.9	In	In	Out
Berwickshire and North Northumberland Coast SAC	64.6	In	In	Out
Moray Firth SAC	117.7	In	In	Out

<sup>1</sup> The Outer Firth of Forth and St Andrews Bay Complex SPA became a pSPA in October 2016 and was fully designated as an SPA in December 2020 between the dates of when the previous HRA was undertaken in 2019 and the HRA in 2022.

Relevant SPAs to be considered are presented in Table 3.1 and are based on the SPAs assessed within the original 2014 AA and the 2019 AA completed by Marine Scotland for the ODA.

### 3.1.1. Buchan Ness to Collieston Coast Spa

The Buchan Ness to Collieston Coast SPA comprises a 15 km stretch of cliffs with a seaward shift of approximately 2 km that includes the seabed, water column and surface (Scottish Natural Heritage, 2009a). The SPA is located 71.7 km from the Seagreen Project. The conservation objectives for the site are:

- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained;
- To ensure for the qualifying species that the following are maintained in the long term:
  - Population of the species as a viable component of the site;
  - Distribution of the species within the site;
  - Distribution and extent of habitats supporting the species;
  - Structure, function and supporting processes of habitats supporting the species; and
  - No significant disturbance of the species.

The qualifying features of the Buchan Ness to Collieston Coast SPA screened for LSE are presented in Table 3.2.

**Table 3.2 Buchan Ness to Collieston Coast Special Protection Area Qualifying Feature Population Estimates**

Common Name	Scientific Name	SPA Cited Population (indv.)	Seabirds Count Population (indv.)
Black-legged kittiwake	<i>Rissa tridactyla</i>	60,904	22,590
European herring gull	<i>Larus argentatus</i>	8,584	4,154
Common guillemot	<i>Uria aalge</i>	9,280	29,433
Northern fulmar	<i>Fulmarus glacialis</i>	3,530	1,652
European shag	<i>Gulosus aristotelis</i>	2,090	738

Source: SPA citation (SNH, 2009a); Seabirds Count (Burnell et al., 2023).

The most recent colony counts (2017) (Scottish Natural Heritage, 2017) for the qualifying interests screened into this assessment reflect their conservation status. There is no change in the ‘Unfavourable’ conservation status of black-legged kittiwake (11,482 pairs) and herring gull (3,115 pairs) (Scottish Natural Heritage, 2018; Scottish Environment Protection Agency, 2024). There is no site-specific management information currently available in relation to the SPA (JNCC, 2015).

### 3.1.2. Fowlsheugh Spa

The Fowlsheugh SPA comprises a 0.10 km<sup>2</sup> stretch of cliffs between 30 m and 60 m high with a 2 km seaward extension including the seabed, water column and surface (Scottish Natural Heritage, 2009b).

The SPA is located 27.5 km from the Seagreen Project. The conservation objectives for the site are (Scottish Natural Heritage, 2006a):

- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained;
- To ensure for the qualifying species that the following are maintained in the long term:
  - Population of the species as a viable component of the site;
  - Distribution of the species within the site;
  - Distribution and extent of habitats supporting the species;
  - Structure, function and supporting processes of habitats supporting the species; and
  - No significant disturbance of the species.

The qualifying features of the Fowlsheugh SPA screened for LSE are presented in Table 3.3.

**Table 3.3 Fowlsheugh Special Protection Area Qualifying Feature Population Estimates**

Common Name	Scientific Name	SPA Cited Population (indv.)	Seabirds Count Population (indv.)
Black-legged kittiwake	<i>Rissa tridactyla</i>	73,300	28,078
European herring gull	<i>Larus argentatus</i>	6,380	2,070
Common guillemot	<i>Uria aalge</i>	56,450	69,828
Razorbill	<i>Alca torda</i>	5,800	14,063
Northern fulmar	<i>Fulmarus glacialis</i>	2,340	1,050

Source: SPA citation (SNH, 2009b); Seabirds Count (Burnell et al., 2023).

The SPA regularly supports in excess of 20,000 individual seabirds in the breeding season including herring gull (125 pairs) and black-legged kittiwake (9,655 pairs) (Scottish Natural Heritage, 2017). Black-legged kittiwake has maintained ‘Favourable’ conservation status whereas herring gull is in an ‘Unfavourable’ and declining conservation status (Scottish Environment Protection Agency, 2024). It is noted however that for black-legged kittiwake there has been an on-going population decline since the designation of the Site of Special Scientific Interest (SSSI) that underpins the SPA. The decline is considered to be “...consistent with national trends, thought to be linked to changes in food supply outside the designated site.” (Scottish Natural Heritage, 2011a).

The site is managed under a management plan by the Royal Society for the Protection of Birds (RSPB) that includes the provision of visitor interpretation, measures to prevent disturbance to the birds on the cliffs and the management of the cliff top grassland (Scottish Natural Heritage, 2011a).

### 3.1.3. Forth Islands Spa

The Forth Islands SPA comprises of a series of islands supporting the main seabird colonies in the Firth of Forth (Inchmickery, Isle of May, Fidra, The Lamb, Craigeith, Bass Rock and Long Craig) with the

seaward extension of approximately 2 km including the seabed, water column and surface (NatureScot, 2018). The SPA is located 48.7 km from the Seagreen Project. The conservation objectives for the site are as follows (SNH, 2009c):

- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained;
- To ensure for the qualifying species that the following are maintained in the long term:
  - Population of the species as a viable component of the site;
  - Distribution of the species within the site;
  - Distribution and extent of habitats supporting the species;
  - Structure, function and supporting processes of habitats supporting the species; and
  - No significant disturbance of the species.

The qualifying features of the Forth Islands SPA screened for LSE are presented in Table 3.4.

**Table 3.4 Forth Islands Special Protection Area Qualifying Feature Population Estimates**

Common Name	Scientific Name	SPA Cited Population (indv.)	Seabirds Count Population (indv.)
Black-legged Kittiwake	<i>Rissa tridactyla</i>	16,800	9,084
Lesser Black-backed Gull	<i>Larus fuscus</i>	3,000	4,030
European herring gull	<i>Larus argentatus</i>	13,200	11,694
Common guillemot	<i>Uria aalge</i>	32,000	26,510
Razorbill	<i>Alca torda</i>	2,800	5,695
Atlantic puffin	<i>Fratercula arctica</i>	28,000	85,846
Northern gannet	<i>Morus bassanus</i>	43,200	150,518
Northern fulmar	<i>Fulmarus glacialis</i>	N/A	1,362
Roseate tern	<i>Sterna dougallii</i>	N/A	0
Common tern	<i>Sterna hirundo</i>	668	0
Sandwich tern	<i>Thalasseus sandvicensis</i>	880	0

Source: SPA citation (NatureScot, 2018); Seabirds Count (Burnell et al., 2023).

The SPA regularly supports in excess of 20,000 individual seabirds in the breeding season including the following qualifying interests screened into this assessment including black-legged kittiwake (4,663



pairs), herring gull (6,580 pairs), and northern gannet (75,259 pairs) (Scottish Natural Heritage, 2017) reflect that all these qualifying interests have maintained a ‘Favourable’ conservation status other than kittiwake which is in an ‘Unfavourable’ conservation status and declining (Scottish Environment Protection Agency, 2024).

Site management is currently restricted to the removal of tree mallow *Lavatera arborea* to allow puffins to get to their burrows (Scottish Natural Heritage, 2010a). Wider management issues outside the scope of site management include pollution, winter mortality rates of adult birds and the impacts of fisheries and climate change on the availability and suitability of food supplies in the breeding season (Scottish Natural Heritage, 2010a). The management for the Isle of May, a component of the SPA, is included under the umbrella of the National Nature Reserve (NNR) Management Plan (NatureScot, 2024) which seeks to:

- Ensure the reserve continues to provide appropriate nesting habitat for the range and populations of breeding seabirds; and
- Manage the island to protect and where possible enhance habitats and species.

#### 3.1.4. St Abb’s Head to Fast Castle Spa

The St Abb's Head to Fast Castle SPA comprises an area of sea cliffs and coastal strip stretching over 10 km with a seaward extension extending approximately 1 km into the sea that includes the seabed, water column and surface (Scottish Natural Heritage, 2009d). The SPA is located 65.7 km from the Seagreen Project. The conservation objectives for the site are as follows (Scottish Natural Heritage, 2006b):

- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained;
- To ensure for the qualifying species that the following are maintained in the long term:
  - Population of the species as a viable component of the site;
  - Distribution of the species within the site;
  - Distribution and extent of habitats supporting the species;
  - Structure, function and supporting processes of habitats supporting the species; and
  - No significant disturbance of the species.

The qualifying features of the St Abb’s Head to Fast Castle SPA screened for LSE are presented in Table 3.5.

**Table 3.5 St Abbs Head to Fast Castle Special Protection Area Qualifying Feature Population Estimate**

Common Name	Scientific Name	SPA Cited Population (indv.)	Seabirds Count Population (indv.)
Black-legged Kittiwake	<i>Rissa tridactyla</i>	42,340	10,300
European herring gull	<i>Larus argentatus</i>	2,320	672

Common guillemot	<i>Uria aalge</i>	31,750	45,827
Razorbill	<i>Alca torda</i>	2,180	2,931
European shag	<i>Gulosus aristotelis</i>	1,120	326

Source: SPA citation (SNH, 2009d; Seabirds Count (Burnell et al., 2023).

The most recent colony counts for kittiwake (2,779 pairs) and herring gull (325 pairs) (Scottish Natural Heritage, 2017) reflect kittiwake and herring gull are in ‘Unfavourable Declining’ conservation status (Scottish Natural Heritage, 2018; Scottish Environment Protection Agency, 2024).

There is no site management in relation to the SPA as it is thought that a widespread decline in the sandeel population is responsible for the unfavourable condition for kittiwake and herring gull (Scottish Natural Heritage, 2011b).

### 3.1.5. Outer Firth or Forth and St Andrews Bay Complex Spa

The Outer Firth of Forth and St Andrews Bay Complex SPA is a large estuarine and marine area encompassing two existing SPAs (St Abb’s Head to Fast Castle SPA and Forth Islands SPA) that will protect the key structural and functional relationships that create and maintain the sites’ integrity. The SPA supports a wide range of seabird prey species throughout the year and the abundance of sandeels is of particular importance to breeding Atlantic puffin, razorbill, common guillemot, black-legged kittiwake and to a lesser extent northern gannet (NatureScot, 2020). All these qualifying features are currently considered to be in favourable condition (noting that the seabird assemblage feature itself has not been assessed) (Scottish Environment Protection Agency, 2024).

The conservation objectives for the site are:

- To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status;
- To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting the following objectives for each qualifying feature:
  - The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA;
  - The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species;
  - The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA;
- Supporting both the designated features of the site as well as:
  - Breeding season seabird assemblage;
  - Non-breeding season seabird assemblage; and

- Non-breeding season waterfowl assemblage.

The qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA screened for LSE are presented in Table 3.6.

**Table 3.6 Outer Firth of Forth and St Andrews Bay Complex Special Protection Area Qualifying Feature Population Estimates**

Common Name	Scientific Name	SPA Cited Population (indv.)	Seabirds Count Population (indv.)
Red-throated Diver	<i>Gavia stellata</i>	851	N/A
Black-legged Kittiwake	<i>Rissa tridactyla</i>	3,191	N/A
European herring gull	<i>Larus argentatus</i>	12,313	N/A
Common guillemot	<i>Uria aalge</i>	28,213	N/A
Razorbill	<i>Alca torda</i>	5,481	N/A
Atlantic puffin	<i>Fratercula arctica</i>	61,086	N/A
Common goldeneye	<i>Bucephala clangula</i>	589	N/A
Long-tailed duck	<i>Clangula hyemalis</i>	1,948	N/A
Common gull	<i>Larus canus</i>	14,647	N/A
Little gull	<i>Hydrocoleus minutus</i>	126	N/A
Black-headed gull	<i>Chroicocephalus ridibundus</i>	26,835	N/A
Velvet scoter	<i>Melanitta fusca</i>	775	N/A
Common scoter	<i>Melanitta nigra</i>	4,677	N/A
Red-breasted Merganser	<i>Mergus serrator</i>	431	N/A
Northern gannet	<i>Morus bassanus</i>	10,945	N/A
European shag	<i>Gulosus aristotelis</i>	2,400	N/A
Slavonian grebe	<i>Podiceps auritus</i>	30	N/A
Manx shearwater	<i>Puffinus puffinus</i>	2,885	N/A
Common eider	<i>Somateria mollissima</i>	21,546	N/A
Common tern	<i>Sterna hirundo</i>	892	N/A

Arctic tern	<i>Sterna paradisaea</i>	540	N/A
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Sources: SPA population (NatureScot, 2020); Seabirds Count (Burnell et al., 2023).

Note: The Seabirds Count census (Burnell et al., 2023) considered component SPAs of the Outer Firth of Forth and St Andrews Bay Complex SPA, thus, no population estimate for the complex SPA is available.

During the breeding season, the seabird qualifying interests have extensive marine foraging ranges extending far beyond the boundary of the SPA. Outside of the breeding season the seabird qualifying interests disperse into the North Sea and further afield; the majority returning to their respective breeding colonies in successive seasons. The SPA is located 32.0 km from the Seagreen 1A Project.

The qualifying interests screened into this assessment include gannet (10,950 individuals), black-legged kittiwake (12,020 individuals) and herring gull (3,040 individuals) in the breeding season, as well as herring gull (12,310 individuals) and black-legged kittiwake (3,190 individuals) in the non-breeding season (Scottish Natural Heritage and JNCC, 2016a).

The spatial distribution of qualifying interests within the SPA varies between species. The distribution of northern gannet (7.0 birds/km<sup>2</sup>) and black-legged kittiwake (5 to 10 birds/km<sup>2</sup>, locally higher at 43.4 birds/km<sup>2</sup>) are concentrated offshore, specifically in the outermost Firth of Forth for northern gannet and more generally the outer reaches of the SPA for black-legged kittiwake. Herring gull is a ubiquitous species but the night-time roosting distribution at sea within the SPA is not known (Scottish Natural Heritage & JNCC, 2016a).

There is currently no specific data of substantial population changes over “previous decades or even centuries” for any of the qualifying interests (Scottish Natural Heritage & JNCC, 2016a).

NatureScot and JNCC advice on management of the SPA is detailed in Scottish Natural Heritage’s & JNCC’s ‘Conservation and Management Advice’ (2022). The aim of the advice is to ensure, where marine activities pose a risk of causing a significant effect, that the conservation objectives for each qualifying interest are achieved. The advice covers all marine activities that may cause an effect on a sensitive qualifying interest, but specifically includes:

- The use of mobile fishing gear;
- The use of static fishing gear;
- Harvesting intertidal shellfish and bait;
- Navigational dredging and disposal;
- Ports and harbours activities;
- Development or expansion of ports and harbours;
- Recreational activities; and
- Renewable wind energy developments.

With respect to the originally consented project, providing that the mitigation measures as agreed by the Forth and Tay Regional Advisory Group (FTRAG) are deployed on a project specific basis, there are no additional management options (Scottish Natural Heritage & JNCC, 2022).

The Outer Firth of Forth and St Andrews Bay Complex SPA was only fully designated as a SPA in December 2020 and the Conservation and Management Advice was developed by NatureScot and JNCC in 2022. Furthermore, it is noted that the conservation objectives should be used for HRA of plans or projects. The conservation objectives for this European Site are as follows:

- To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.
- To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting the objectives below for each qualifying feature:
- The populations of qualifying features are viable components of the site;
- The distributions of the qualifying features throughout the site are maintained by avoiding significant disturbance of the species;
  - The supporting habitats and processes relevant to the qualifying features and their prey/food resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.

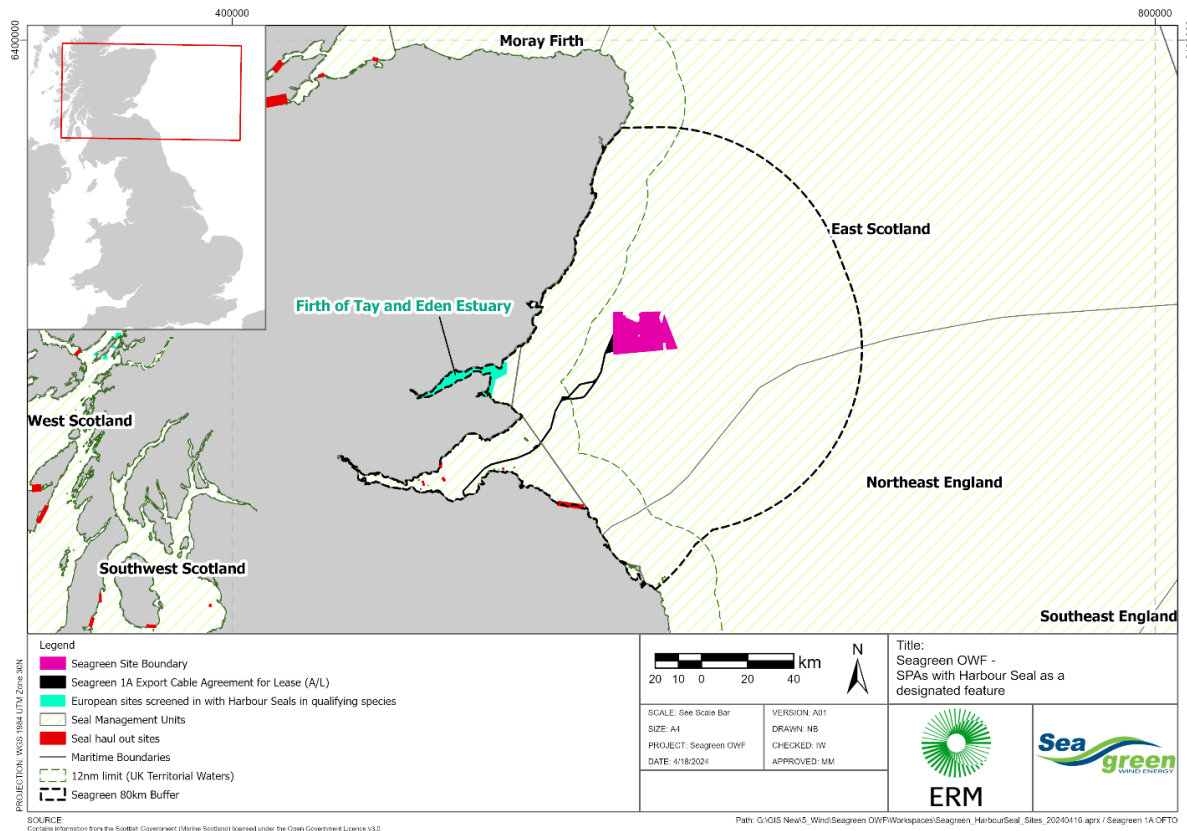
#### **3.1.6. Firth of Tay and Eden Estuary SAC**

The Firth of Tay and Eden Estuary SAC comprises two estuarine areas that together act as key components of the wider region of estuarine and coastal habitat. Shelter within the estuaries combined with strong tidal forces result in regular movement in the sandbank features associated with the site. Within the 2014 HRA, this site was scoped into assessment for the harbour seal feature only, with other features screened out as agreed with JNCC and SNH. The location of the site relative to Seagreen 1A is indicated in Figure 3.1.

The conservation objectives for the site relating to harbour seal are:

- To avoid deterioration of the habitats of qualifying species (harbour seal) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained, and the site makes an appropriate contribution to achieving favourable conservation status for the qualifying interests;
- To ensure for the qualifying species that the following are maintained in the long term:
  - Population of the species as a viable component of the site;
  - Distribution of the species within site;
  - Distribution and extent of habitats supporting the species;
  - Structure, function and supporting processes of habitats supporting the species; and
  - No significant disturbance of the species.

**Figure 3.1 Location of the Firth and Tay Eden Estuary SAC Relative to the Seagreen 1A Site with 80km Harbour Seal Foraging Range**



The 80 km foraging range presented in Figure 3.1 is derived from Sharples et al. (2012) and Carter et al. (2020).

### 3.1.7. Isle of May SAC

The Isle of May lies within the Firth of Forth and comprises a range of high cliffs and caves. Coastline is largely rocky, interspersed with sand and shingle beaches. The site is designated for an Annex II population of grey seal, which swells in autumn months during the mating season. Within the 2014 HRA, this site was scoped into assessment for the Annex II grey seal feature only, with other designated features scoped out as agreed with JNCC and SNH. The location of sites with grey seal designated features relative to Seagreen 1A are indicated in Figure 3.2. The conservation objectives for the site relating to grey seal are:

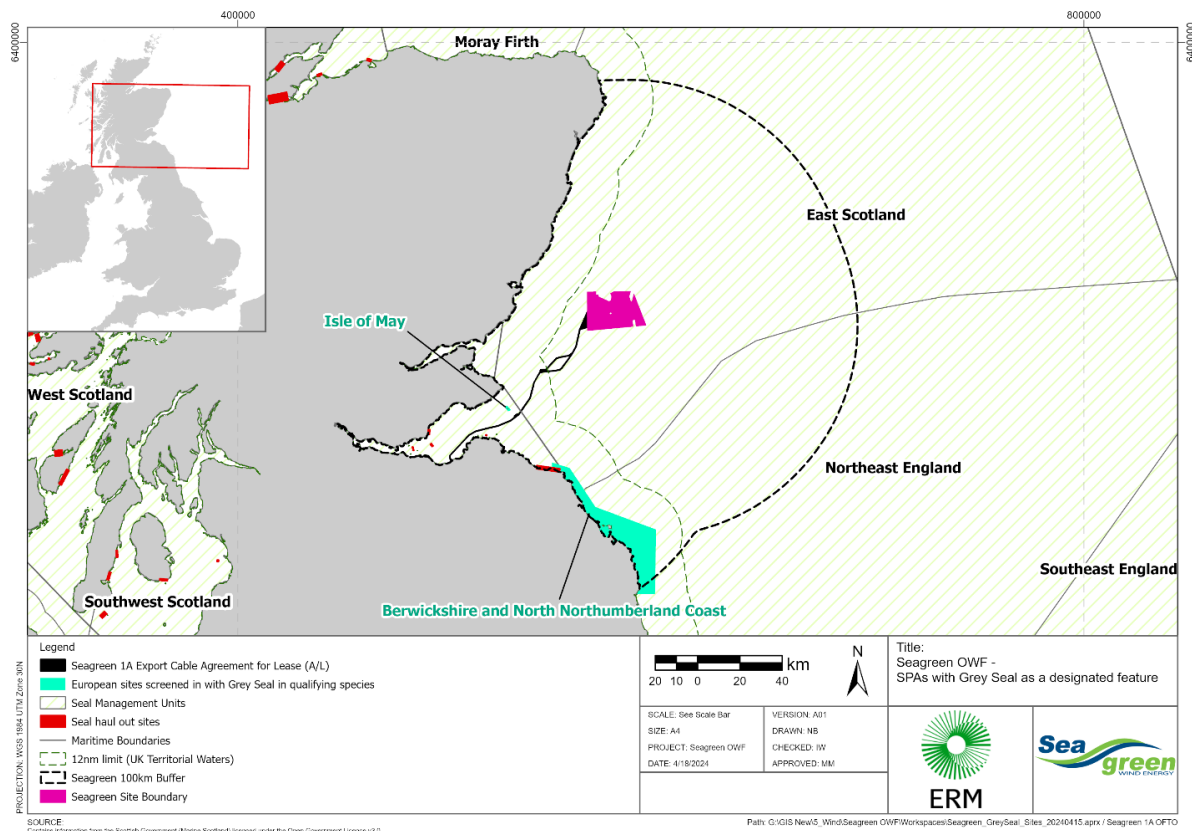
- To avoid deterioration of the habitats of qualifying species (grey seal) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained, and the site makes an appropriate contribution to achieving favourable conservation status for the qualifying interests;
- To ensure for the qualifying species that the following are maintained in the long term:
  - Population of the species as a viable component of the site;
  - Distribution of the species within the site;



- Distribution and extent of habitats supporting the species;
- Structure, function and supporting processes of habitats supporting the species; and
- No significant disturbance of the species.

The 100 km foraging range presented in Figure 3.2 is derived from Carter et al. (2020).

**Figure 3.2 Location of Sites Designed for Grey Seal Relative to the Seagreen 1A site with 100km Grey Seal Foraging Range**



### 3.1.8. Berwickshire and North Northumberland Coast SAC

The Berwickshire and North Northumberland Coast SAC is a varied stretch of coastline that contains a range of marine habitats and species. Approximately 3% of grey seal in Britain are supported by the SAC, with haul out sites across the site. Within the 2014 HRA, this site was scoped into assessment for the grey seal feature only, with other SAC habitat features scoped out as agreed with JNCC and SNH. The location of sites with grey seal designated features relative to Seagreen 1A are indicated within Figure 3.2. The conservation objectives for the site relating to grey seal are:

- Subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the Favourable Conservation Status of its qualifying features, by maintaining or restoring:
  - The extent and distribution of qualifying natural habitats and habitats of the qualifying species;
  - The structure and function (including typical species) of qualifying natural habitats;
  - The structure and function of the habitats of the qualifying species;



- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;
- The populations of each of the qualifying species; and
- The distribution of qualifying species within the site.

### **3.1.9. Moray Firth SAC**

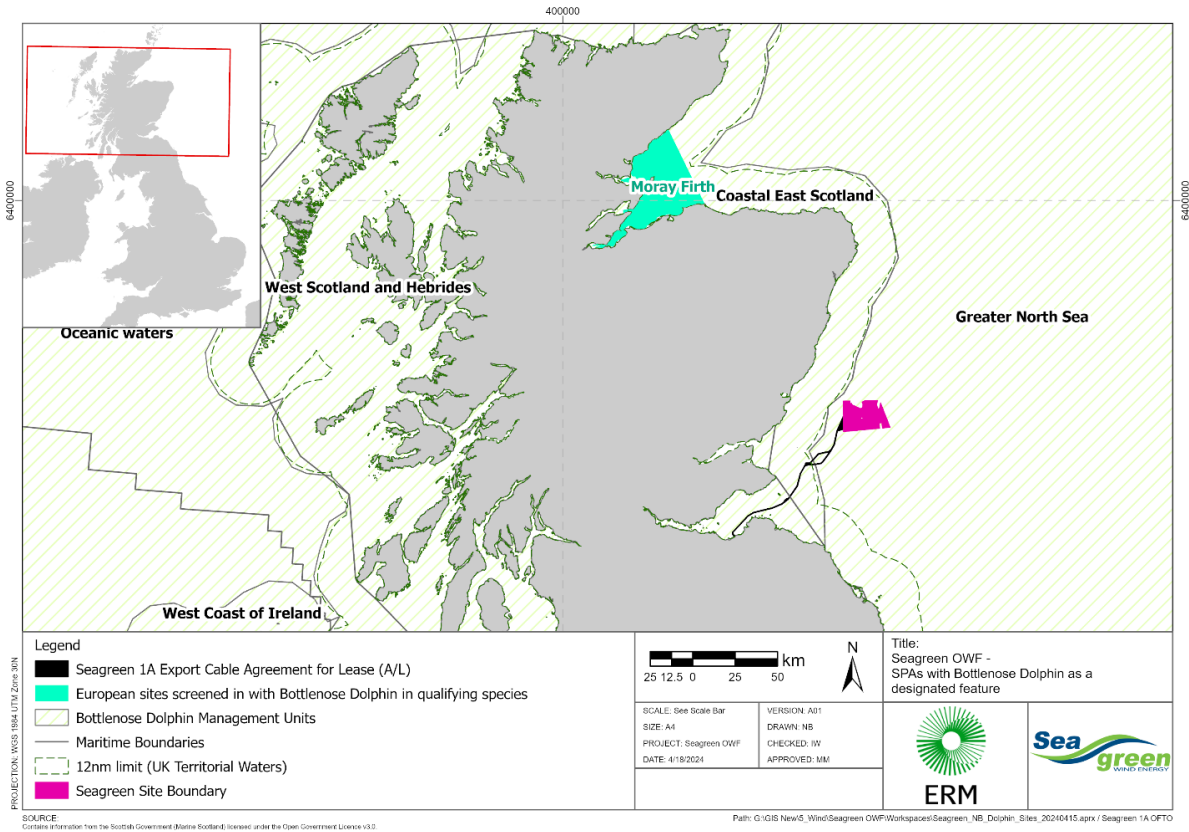
The Moray Firth SAC has been designated for both Annex I sandbanks submerged by seawater at all times habitat and Annex II bottlenose dolphin. Together these features are anticipated to provide broad ecosystem services to the wider local environment. The population of bottlenose dolphin within the region are known to occupy waters from Ireland to the Netherlands, and frequently travel along Scotland's east coast. The Moray Firth SAC designated Annex II population of bottlenose dolphin are considered part of the Coastal East Scotland Marine Mammal Management Unit (IAMMWG, 2015).

Within the 2014 HRA, this site was scoped into assessment for the bottlenose dolphin feature only, with Annex I habitat features screened out as agreed with JNCC and SNH. The location of the site relative to Seagreen 1A is indicated in Figure 3.3.

The conservation objectives for the site relating to bottlenose dolphin are:

- To ensure that the qualifying features of Moray Firth SAC are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status;
- To ensure that the integrity of Moray Firth SAC is maintained or restored in the context of environmental changes by meeting the objectives below:
  - The population of bottlenose dolphin is a viable component of the site;
  - The distribution of bottlenose dolphin throughout the site is maintained by avoiding significant disturbance; and
  - The supporting habitats and processes relevant to bottlenose dolphin and the availability of prey for bottlenose dolphin are maintained.

**Figure 3.3 Location of the Moray Firth SAC Relative to the Seagreen 1A site**



### 3.2. Screening for Likely Significant Effects – Results

#### 3.2.1. Offshore Ornithology

The 2012 ES assessed the following impacts as part of the ornithology assessment:

- Collision risk during operation;
- Direct habitat loss during construction;
- Disturbance from construction activities such as the movement of construction/decommissioning vessels and piling;
- Displacement during the operational phase, resulting in loss of foraging/roosting area; and
- Impacts on bird flight lines (i.e. barrier effects) and associated increased energy use by birds for commuting flights between roosting and foraging areas.

The only pressure of relevance to the Variation to ornithological features that required further assessment is construction phase habitat loss and vessel disturbance, due to temporal overlap between the Seagreen 1A and Berwick Bank construction phases. The remaining impacts noted above do not require further assessment due to:

- Project activities remaining within the ‘as assessed’ project boundary;
- WTG locations and parameters remaining as previously assessed and currently consented.

Therefore, the following qualifying species populations are identified as having potential for LSE arising from the Variation. These are summarised in Table 3.7 below. As the potential for LSE is determined (i.e. cannot determine no LSE) these sites and features are screened into Step 2 of the HRA process – Report to Inform Appropriate Assessment (RIAA).

**Table 3.7 Screening for Likely Significant Effect of Offshore Ornithological Features**

Designated Site	Feature(s)	Potential LSE
Buchan Ness to Collieston Coast SPA	Black-legged kittiwake Common guillemot Northern fulmar	In all cases, the potential for LSE at these regional SPAs arises due to the potential for increased risk to foraging seabirds due to vessel-related disturbance and habitat loss in combination with construction of Berwick Bank.
Fowlsheugh SPA	Black-legged kittiwake Common guillemot Razorbill Northern fulmar	
Forth Islands SPA	Black-legged kittiwake Sandwich tern Common guillemot Razorbill Puffin Northern gannet Northern fulmar	
St Abb's Head to Fast Castle SPA	Black-legged kittiwake Common guillemot Razorbill	
Outer Firth of Forth and St Andrews Bay Complex SPA	Red-throated diver Black-legged kittiwake Common guillemot Razorbill Atlantic puffin Common goldeneye Long-tailed duck Little gull	Potential for LSE arises due to increased vessel-related disturbance in combination with construction of Berwick Bank.

Velvet scoter	
Common scoter	
Red-breasted merganser	
Common eider	

### 3.2.2. Marine Mammals

The 2012 ES assessed the following impacts as part of the marine mammal assessment:

- Underwater noise (pile driving);
- Underwater noise (other sources);
- Collision risk;
- Changes to water quality; (accidental release of contaminants);
- Changes to water quality (suspended sediment); and
- Changes to prey resource.

As described in the Seagreen 1A Screening Report, a shift to the construction window (noting that the duration of the construction period remains unchanged from that assessed in the original 2012 ES) will have no material change to effects on marine mammal receptors during construction, operation, or decommissioning. When the proposed changes are considered alone, no increased impact on marine mammals is expected. When considered in combination with other concurrent works within the region, potential impacts associated with underwater noise were identified, as summarised by site and feature in Table 3.8 As potential for LSE is determined (i.e. cannot determine no LSE) these sites and features are screened into Step 2 of the HRA process –RIAA.

**Table 3.8 Screening for Likely Significant Effect of Marine Mammal Features**

Designated Site	Feature(s)	Potential LSE
Firth of Tay and Eden Estuary SAC	Harbour seal	In all cases, the potential for LSE at these SACs arises from the potential for increased risk to marine mammals due to underwater noise in combination with construction of Berwick Bank.
Isle of May SAC	Grey seal	
Berwickshire and North Northumberland Coast SAC	Grey seal	
Moray Firth SAC	Bottlenose dolphin	

## 4. Report to Inform Appropriate Assessment

### 4.1. Offshore Ornithology

Overviews and the Conservation Objectives of the SPAs and the qualifying features screened in for AA are presented in the following sections of this report:

- Buchan Ness to Collieston Coast SPA: Section 3.1.1 and Table 3.2;
- Fowlsheugh SPA: Section 3.1.2 and Table 3.3;
- Forth Islands SPA: Section 3.1.3 and Table 3.4;
- St Abb's Head to Fast Castle SPA: Section 3.1.4 and Table 3.5; and
- Outer Firth of Forth and St Andrews Bay Complex SPA: Section 3.1.5 and Table 3.6.

#### 4.1.1. Assessment of Pressures Alone

As discussed in Section 1.3, the Variation constitutes a change in the Seagreen 1A construction timetable only, with no change to the duration of the construction or operation phase. All impacts associated with development and operation of the remaining WTGs will take place at a later period than originally planned.

Construction phase pressures include habitat loss and vessel-related disturbance. As per the Seagreen 1A impact assessment, these effects were found to be highly localised, of short duration, and, therefore, unlikely to result in a measurable effect on offshore ornithology populations (Seagreen Wind Energy, 2013).

Previous HRAs conducted for Seagreen 1A (in 2014, 2019, and 2022) considered the key pressures to offshore ornithology (collision and displacement) during operation and maintenance only. Impacts during the construction phase were, as per the EIA, considered of small spatial scale and determined to have no impact to SPA populations (Seagreen Wind Energy, 2013).

As per the project description, no alterations to the numbers of vessels or WTG and wind farm array parameters are proposed. Therefore, there will be no material change in Seagreen 1A impacts when considered alone above those already consented, and assessed previously in 2014, 2019, and 2022 (Seagreen Wind Energy, 2013; Seagreen Wind Energy, 2018; Seagreen Wind Energy, 2023), to the qualifying features of:

- Buchan Ness to Collieston Coast SPA;
- Fowlsheugh SPA;
- Forth Islands SPA;
- St Abb's Head to Fast Castle SPA; and
- Outer Firth of Forth and St Andrews Bay Complex SPA.

It is concluded that the Variation to the Seagreen 1A construction programme when assessed alone will result in **No Adverse Effect on the Site Integrity** of any of the SPAs screened in for AA, with consideration of the qualifying features.

#### 4.1.2. Assessment of Pressures in Combination

The Variation means that, for the remaining WTGs awaiting installation, the Seagreen 1A construction programme will be postponed. The shift of the construction window (noting that the duration of the construction period remains unchanged from that assessed in the original 2012 ES) proposed includes construction from January 2029 to late 2032, with offshore construction starting in as early as January 2029. However it is critical to understand this is an installation window, with the actual indicative installation periods presented in Section 1.3.

With the change in construction programme, there is now a temporal overlap with the Berwick Bank construction phase, which is expected to take place between Q2 2027 and Q3 2032.

### **Assessment of Pressures in Combination other Offshore Wind Farms**

As construction overlaps with several projects in the region, and importantly with Berwick Bank, the effects of this development are also considered. The Berwick Bank HRA assessed construction phase pressures against marine, breeding, and migratory SPA populations (RPS and Royal HaskoningDHV, 2022). Aside from Berwick Bank and Seagreen 1A there is no temporal overlap with any other reasonably foreseeable plans or projects that may affect the same SPA colonies screened in for AA. There are also no projects with spatial overlap with Seagreen 1A.

The pressures assessed included:

- Habitat loss; and
- Vessel-related disturbance.

The pressures above are assessed, considering effects of Seagreen 1A, as consented, in combination with the effects of Berwick Bank.

#### ***Habitat Loss***

There is no direct overlap between Seagreen 1A and any SPAs, however, there are several SPAs with qualifying features which may forage at the project site. Therefore, there is potential for loss of supporting habitat to occur. The Seagreen 1A EIA and RIAA did not quantitatively assess the potential impacts of habitat loss on seabirds (Seagreen Wind Energy, 2013). Such effects were determined to be of small spatial significance in relation to the vast area of supporting habitat available to qualifying features of regional SPAs. Habitat loss associated with Seagreen 1A construction was found to represent a negligibly small proportion of habitat available to foraging birds.

The RIAA produced to support the Berwick Bank application assessed the potential impact of habitat loss on qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA. The maximum extent of habitat loss expected to occur during construction of the Berwick Bank was determined to comprise up to 400 km of cable installation, with a width of up to 15 m, and up to 800 m<sup>2</sup> associated with Horizontal Direction Drilling (HDD) exit points. Therefore, the maximum extent of habitat loss which may affect the SPA due to Berwick Bank construction phase activities is 6,000,800 m<sup>2</sup>, or just over 6 km<sup>2</sup>, representing 0.2% of the total area of Outer Firth of Forth and St Andrews Bay Complex SPA (RPS and Royal HaskoningDHV, 2022).

Habitat loss associated with Seagreen 1A was negligibly small and scoped out of assessment (Seagreen Wind Energy, 2013), and the effects of Berwick Bank were found to be highly localised and not expected to measurably contribute to in combination effects (RPS and Royal HaskoningDHV, 2022). Therefore, it is concluded that habitat loss associated with the Proposed Variation to the Seagreen 1A construction programme, in combination with any other existing or reasonably foreseeable plan or project, will result in **No Adverse Effect on the Site Integrity** of any of the SPAs screened in for AA, with consideration of the qualifying features.

### ***Vessel-related Disturbance***

During Seagreen 1A construction, vessel activity will be greater than baseline levels. Construction of the remaining WTGs and associated infrastructure will be lesser than that already consented for construction of the full Seagreen 1A project. The original AA determined that effects of vessel disturbance associated with construction of Seagreen 1A were determined to be of small magnitude and unlikely to result in measurable effect on seabird populations (Seagreen Wind Energy, 2013). Therefore, it is expected that effects associated with the Variation will be of lesser magnitude, resulting in no measurable effect on seabirds.

Vessel-related disturbance is also expected to occur due to the construction of the Berwick Bank. Vessel activity associated with Berwick comprises up to 134 vessels making a cumulative total of 10,964 return trips during construction (RPS and Royal HaskoningDHV, 2022). The RIAA determined that vessel-related disturbance would result in no additional measurable disturbance effects above those already present due to ongoing activities in the region.

In combination vessel movements may result in increased return trips to and from the development sites compared with the project alone assessments. As per standard navigational practice and safety, vessels are expected to remain within established and frequently used navigation routes where practicably possible. This will minimise the footprint of additional disturbance, thus it is not expected to result in a measurable, material effect on the SPA populations of seabirds due to additional disturbance effects. It is concluded that vessel-related disturbance associated with the Proposed Variation to the Seagreen 1A construction programme, in combination with any other existing or reasonably foreseeable plan or project, will result in **No Adverse Effect on the Site Integrity** of any of the SPAs screened in for AA, with consideration of the qualifying features.

### ***Conclusion***

It is concluded that the Proposed Variation to the Seagreen 1A construction programme, in combination with any other existing or reasonably foreseeable plan or project, will result in **No Adverse Effect on the Site Integrity** of any of the SPAs screened in for AA, with consideration of the qualifying features.

### **Assessment of Pressures in Combination with all Reasonably Foreseeable Plans and Projects**

As previously discussed, should the Proposed Variation be consented, there will be no temporal overlap between Seagreen 1A construction and any other project, excluding Berwick Bank. The operation phase of the project will, as is the case for Seagreen 1A as currently consented, temporally overlap with several other OWF projects in the region.

The key operation and maintenance phase pressures at OWF projects are considered to be collision and displacement effects. These impacts are typically the focus of in combination assessments, with pressures of smaller significance, such as habitat loss and vessel-related disturbance, often scoped out of in combination assessments (e.g. as for Berwick Bank).

HRA in combination assessments are carried out by apportioning potential impacts at the project in question to each potential SPA colony, as has been done previously for Seagreen 1A (Seagreen Wind Energy, 2013). Following this, a review of all other existing and proposed projects within species



specific foraging ranges is undertaken, extracting the same information from the relevant application or pre-application documents and assessments. The total potential impact to each SPA colony affected by the project in question is then calculated by summing apportioned impacts at all projects scoped in. For quantitative assessment, as fed into Population Viability Analysis (PVA), it is assumed that impacts associated with all projects will occur throughout the duration of the operation phase of the project in question.

The original Seagreen 1A project application was produced and published in 2013. The application included an in combination assessment, which considered impacts associated with collision and displacement arising from Seagreen 1A and all other reasonably foreseeable projects. Since the application was submitted and assessment information publicly available (2013), all other projects which may affect the same SPA colonies have considered the worst-case full effects of Seagreen 1A, as consented, in their project specific in combination assessments.

As the Proposed Variation will have no measurable effect on collision or displacement effects, associated with Seagreen 1A, the Variation has no effect on the results of any existing quantitative in combination assessments which have included Seagreen 1A. Therefore, the worst-case effects of Seagreen 1A are already considered, assessed, and consented.

### ***Conclusion***

It is concluded that the Variation to the Seagreen 1A construction programme, in combination with any other existing or reasonably foreseeable plan or project, will result in **No Adverse Effect on the Site Integrity** of any of the SPAs screened in for AA, with consideration of the qualifying features and their Conservation Objectives.

## **4.2. Marine Mammals**

Overviews and the Conservation Objectives of the SACs and the qualifying features screened in for AA are presented in the following sections of this report:

- Firth of Tay SAC: Section 3.1.6;
- Isle of May SAC: Section 3.1.7;
- Berwickshire and North Northumberland Coast SAC: Section 3.1.8; and
- Moray Firth SAC: Section 3.1.9.

### **4.2.1. Assessment of Pressures Alone**

As discussed above the Proposed Variation constitutes a change in the Seagreen 1A construction timetable only, with no change to the duration of the construction or operation phase. All impacts associated with development and operation of the remaining WTGs will take place at a later period than originally planned.

When considered alone, pressures associated with the proposed application were found to have no significant adverse effects on the environment. As per the project description, no alterations to the numbers of vessels or WTG and wind farm array parameters are proposed. Therefore, there will be no material change in Seagreen 1A impacts when considered alone above those already consented, and

assessed previously in 2014, 2019, and 2022 (Seagreen Wind Energy, 2013; Seagreen Wind Energy, 2018; Seagreen Wind Energy, 2023), to the qualifying features of:

- Firth of Tay SAC;
- Isle of May SAC;
- Berwickshire and North Northumberland Coast SAC; and
- Moray Firth SAC.

It is concluded that the Variation to the Seagreen 1A construction programme when assessed alone will result in No Adverse Effect on the Site Integrity of any of the SACs screened in for AA, with consideration of the qualifying features.

#### **4.2.2. Assessment of Pressures in Combination**

The Variation means that, for the remaining WTGs awaiting installation, the Seagreen 1A construction programme will be postponed. The shift of the overall construction window (noting that the duration of the construction period remains unchanged from that assessed in the original 2012 ES) proposed includes construction from January 2029 to late 2032, with offshore construction starting in as early as January 2029, however it is critical to understand this is an installation window, with the actual indicative installation periods presented in Section 1.3 With the change in construction programme, there is now the potential for a temporal overlap with the Berwick Bank and neighbouring wind farms construction phase, which is expected to take place between Q 2027 and Q3 2032.

#### **Assessment of Pressures in Combination with Other Offshore Wind Farm**

Construction of Seagreen 1A may temporally overlap with the construction of Berwick Bank as well wider neighbouring wind farms. There are no projects with spatial overlap with Seagreen 1A.

#### ***Underwater Noise***

Underwater noise impacts occurring in association with simultaneous construction of both Seagreen 1A and Berwick Bank are likely to overlap with foraging ranges of the designated Annex II harbour seal and grey seal populations associated with SACs screened into this assessment, and the management units in which the Annex II bottlenose dolphin population occurs. Should the combined pressure occur, this overlap may result in adverse effect on the site integrity of some or all of the marine mammal designated Annex II populations at the SACs screened in for AA.

Seagreen 1A will commit to coordinate with Berwick Bank to avoid concurrent piling. Seagreen will also engage with other relevant developers active in this region to avoid, where reasonably practicable, or minimise potential overlap of piling between projects. Consideration of these commitments will ensure that the proportion of the designated Annex II populations and the populations of the respective Marine Mammal Management Units will be below 5%; in fact, it will be zero as there will be no in combination pressure pathway / envelope. The mitigation measure will ensure **No Adverse Effect on the Site Integrity in combination** of any of the SACs screened in for AA, with consideration of the qualifying features.

## 5. Summary and Conclusions

The proposed changes to the Seagreen 1A project comprise a shift in the construction timeline, where construction of the remaining WTGs and associated cables will take place between January 2029 and December 2032, however it is critical to understand this is an installation window, with the actual indicative installation periods presented in Section 1.3. With this change in construction timeline, the construction phase of Seagreen 1A will temporally overlap with the construction phase of the Berwick Bank.

The change in construction timeline has no material effect on any other activities or parameters associated with the project, including numbers of vessel movements, areas of habitat loss, or number or sizes of WTGs. Therefore, impacts associated with the Seagreen 1A project alone were determined to remain as previously assessed, **No Adverse Effect on Site Integrity is determined for all considered sites.**

With temporal overlap between Seagreen 1A and primarily but not limited to Berwick Bank construction, there is potential for in combination effects which have not previously been considered. These include loss of habitat, underwater noise and vessel-related disturbance. The potential impacts of these pressures were qualitatively assessed, where it was determined that any impacts would be of small magnitude and highly localised. Therefore, with the implementation of relevant mitigation measures, in combination **No Adverse Effect of Site Integrity is determined for all considered sites.**

Operation phase impacts associated with the Seagreen 1A project were also considered. However, as there is **no change** to project design parameters, the currently consented project is considered to represent the worst-case scenario. Therefore, it is reasonable to determine that all in combination assessments carried out since the publication of the original Seagreen 1A application in 2013 have **fully considered** all effects associated with the operation phase of Seagreen 1A. As such, alone and in combination **No Adverse Effect on Site Integrity is determined for all considered sites.**

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