

Appendix 1: Environmental Baseline

Introduction

The following Appendix provides environmental information as required under Schedule 2 of *The Environmental Assessment of Plans and Programmes Regulations 2004* (Regulation 12(3)). The baseline is described under a series of headings which relate to issues identified by the SEA Regulations on which to judge the “...likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects...” These include:

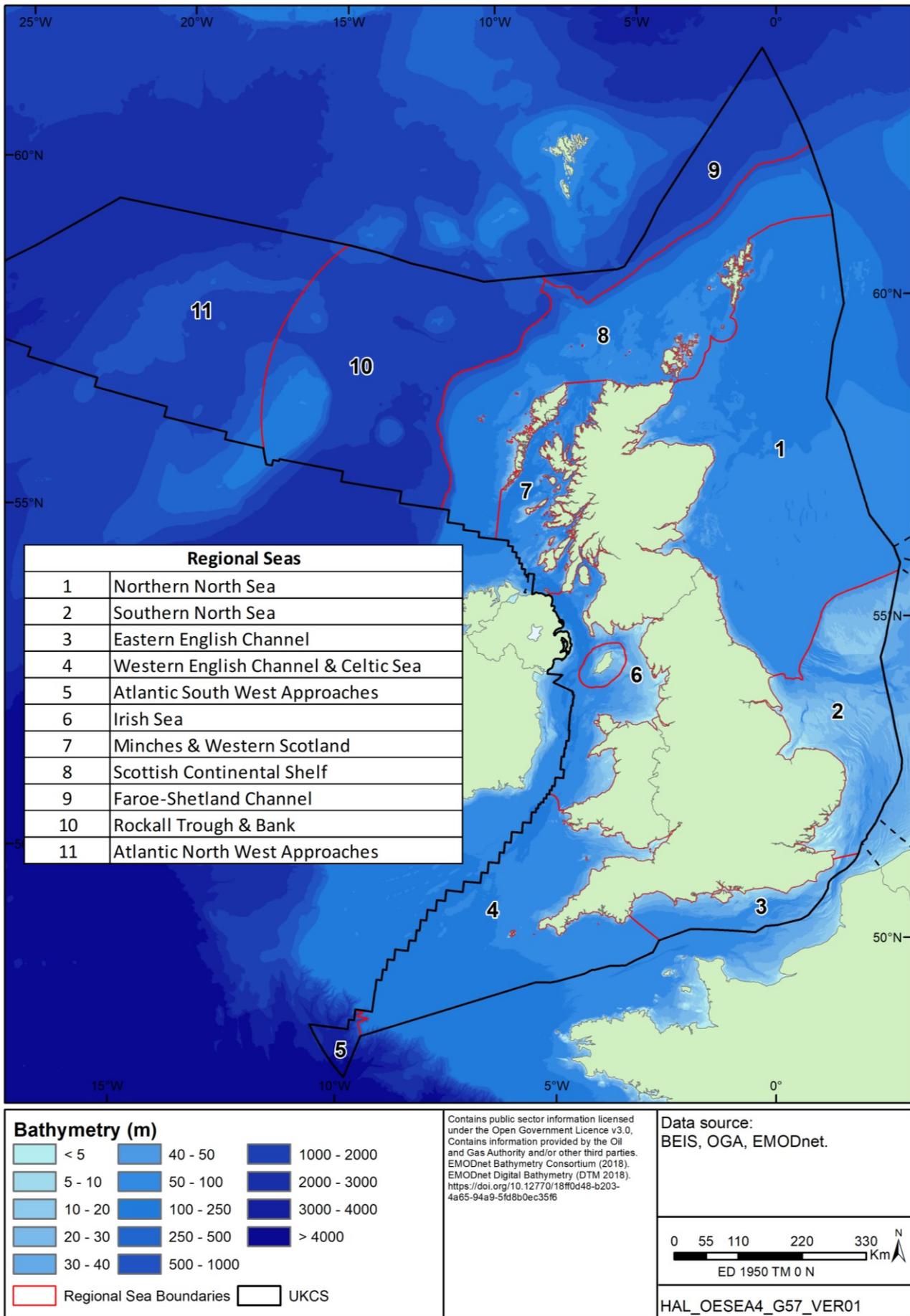
- Biodiversity, habitats, flora and fauna (including plankton, benthos, cephalopods, fish and shellfish, marine reptiles and marine and other mammals): Appendix 1a
- Geology, substrates and coastal morphology: Appendix 1b
- Landscape/seascape: Appendix 1c
- Water environment: Appendix 1
- Air quality: Appendix 1e
- Climate and meteorology: Appendix 1f
- Population and human health: Appendix 1g
- Other users, material assets (infrastructure, other natural resources): Appendix 1h
- Cultural heritage: Appendix 1i
- Conservation of sites and species: Appendix 1j

and the interrelationships of the above.

The environmental baseline considers all the above headings in a UK context, before providing more detailed information on key features specific to UK Regional Seas, as defined below and shown in Figure A1.1.

The previous Offshore Energy SEAs (OESEA and OESEA2) used the draft Regional Sea boundaries defined by JNCC (2004) as a means of considering the broad scale biogeographical regions within UK waters. Following a review of these and other boundaries during scoping for OESEA3, a modified version of the Charting Progress 2 boundaries were used (Figure A1.1) to distinguish several important areas including: the Atlantic South West Approaches (Regional Sea 5), and the Faroe-Shetland Channel (Regional Sea 9), Rockall Trough and Bank (Regional Sea 10), and Atlantic North West Approaches (Regional Sea 11). It is considered that the basis for these Regional Seas has not altered and these have been used again for OESEA4.

Figure A1.1: Regional Sea subdivisions used in OESEA4



Contents

Section	Title	Page no.
A1a.1	Plankton	
A1a.1.1	UK context	A1a.1.1
A1a.1.2	Features of Regional Sea 1	A1a.1.5
A1a.1.3	Features of Regional Sea 2	A1a.1.6
A1a.1.4	Features of Regional Sea 3	A1a.1.6
A1a.1.5	Features of Regional Sea 4 & 5	A1a.1.6
A1a.1.6	Features of Regional Sea 6	A1a.1.7
A1a.1.7	Features of Regional Sea 7	A1a.1.7
A1a.1.8	Features of Regional Sea 8	A1a.1.8
A1a.1.9	Features of Regional Sea 9	A1a.1.8
A1a.1.10	Features of Regional Sea 10 & 11	A1a.1.9
A1a.1.11	Evolution of the baseline	A1a.1.9
A1a.1.12	Environmental issues	A1a.1.17
	References	A1a.1.19
A1a.2	Benthos	
A1a.2.1	Introduction	A1a.2.1
A1a.2.2	UK context	A1a.2.1
A1a.2.3	Influences of Marine Developments to Benthic Ecology	A1a.2.4
A1a.2.4	Features of Regional Sea 1	A1a.2.5
A1a.2.5	Features of Regional Sea 2	A1a.2.23
A1a.2.6	Features of Regional Sea 3	A1a.2.25
A1a.2.7	Features of Regional Sea 4	A1a.2.31
A1a.2.8	Features of Regional Sea 5	A1a.2.40
A1a.2.9	Features of Regional Sea 6	A1a.2.43
A1a.2.10	Features of Regional Sea 7	A1a.2.54
A1a.2.11	Features of Regional Sea 8	A1a.2.59
A1a.2.12	Features of Regional Sea 9	A1a.2.66
A1a.2.13	Features of Regional Seas 10 and 11	A1a.2.69
A1a.2.14	Evolution of the baseline	A1a.2.84
A1a.2.15	Environmental issues	A1a.2.88
	References	A1a.2.93
A1a.3	Cephalopods	
A1a.3.1	UK context	A1a.3.1
A1a.3.2	Features of Regional Sea 1	A1a.3.3
A1a.3.3	Features of Regional Sea 2	A1a.3.4

Section	Title	Page no.
A1a.3.4	Features of Regional Sea 3	A1a.3.4
A1a.3.5	Features of Regional Sea 4 & 5	A1a.3.5
A1a.3.6	Features of Regional Sea 6	A1a.3.5
A1a.3.7	Features of Regional Sea 7	A1a.3.5
A1a.3.8	Features of Regional Sea 8	A1a.3.6
A1a.3.9	Features of Regional Sea 9	A1a.3.6
A1a.3.10	Features of Regional Sea 10 & 11	A1a.3.6
A1a.3.11	Evolution of the baseline	A1a.3.6
A1a.3.12	Environmental issues	A1a.3.8
	References	A1a.3.11
<hr/>		
A1a.4	Fish and Shellfish	
A1a.4.1	UK context	A1a.4.1
A1a.4.2	Features of Regional Sea 1	A1a.4.23
A1a.4.3	Features of Regional Sea 2	A1a.4.25
A1a.4.4	Features of Regional Sea 3	A1a.4.28
A1a.4.5	Features of Regional Seas 4 & 5	A1a.4.30
A1a.4.6	Features of Regional Sea 6	A1a.4.32
A1a.4.7	Features of Regional Sea 7	A1a.4.33
A1a.4.8	Features of Regional Sea 8	A1a.4.35
A1a.4.9	Features of Regional Seas 9, 10 & 11	A1a.4.36
A1a.4.10	Evolution of the baseline	A1a.4.39
A1a.4.11	Environmental issues	A1a.4.44
	References	A1a.4.55
<hr/>		
A1a.5	Birds	
A1a.5.1	Introduction	A1a.5.1
A1a.5.2	UK Context	A1a.5.1
A1a.5.3	Publications	A1a.5.3
A1a.5.4	International context of seabird populations	A1a.5.11
A1a.5.5	Ecological context	A1a.5.11
A1a.5.6	Features of Regional Sea 1	A1a.5.11
A1a.5.11	Features of Regional Sea 2	A1a.5.37
A1a.5.16	Features of Regional Sea 3	A1a.5.49
A1a.5.21	Features of Regional Sea 4 & 5	A1a.5.53
A1a.5.26	Features of Regional Sea 6	A1a.5.59
A1a.5.31	Features of Regional Sea 7	A1a.5.76
A1a.5.36	Features of Regional Sea 8	A1a.5.85
A1a.5.41	Features of Regional Sea 9	A1a.5.92
A1a.5.45	Features of Regional Sea 10 & 11	A1a.5.94

Section	Title	Page no.
A1a.5.49	Evolution of the baseline	A1a.5.97
A1a.5.50	Environmental issues	A1a.5.106
	References	A1a.5.121
<hr/>		
A1a.6	Marine Reptiles	
A1a.6.1	UK Context	A1a.6.1
A1a.6.2	Evolution of the baseline	A1a.6.2
A1a.6.3	Environmental issues	A1a.6.3
A1a.6.4	Conservation frameworks	A1a.6.5
	References	A1a.6.6
<hr/>		
A1a.7	Bats	
A1a.7.1	UK distribution, abundance and broad migratory movement	A1a.7.1
A1a.7.2	Evolution of the baseline	A1a.7.6
A1a.7.3	Environmental issues	A1a.7.6
A1a.7.4	Conservation frameworks	A1a.7.7
	References	A1a.7.9
<hr/>		
A1a.8	Marine Mammals	
A1a.8.1	Introduction and key sources of information	A1a.8.1
A1a.8.2	UK Context	A1a.8.5
A1a.8.6	Features of Regional Sea 1	A1a.8.44
A1a.8.7	Features of Regional Sea 2	A1a.8.48
A1a.8.8	Features of Regional Sea 3	A1a.8.50
A1a.8.9	Features of Regional Sea 4/5	A1a.8.51
A1a.8.10	Features of Regional Sea 6	A1a.8.53
A1a.8.11	Features of Regional Sea 7	A1a.8.55
A1a.8.12	Features of Regional Sea 8	A1a.8.58
A1a.8.13	Features of Regional Sea 9	A1a.8.61
A1a.8.14	Features of Regional Sea 10/11	A1a.8.63
A1a.8.15	Evolution of the baseline	A1a.8.66
A1a.8.16	Environmental issues	A1a.8.70
A1a.8.17	Conservation frameworks	A1a.8.76
	References	A1a.8.82
<hr/>		
A1b	Geology, Substrates & Coastal Processes	
A1b.1	Introduction	A1b.1
A1b.2	UK context	A1b.1
A1b.3	Features of Regional Sea 1	A1b.10
A1b.4	Features of Regional Sea 2	A1b.18
A1b.5	Features of Regional Sea 3	A1b.26
A1b.6	Features of Regional Seas 4 & 5	A1b.32

Section	Title	Page no.
A1b.7	Features of Regional Sea 6	A1b.36
A1b.8	Features of Regional Sea 7	A1b.41
A1b.9	Features of Regional Sea 8	A1b.43
A1b.10	Features of Regional Sea 9	A1b.47
A1b.11	Features of Regional Seas 10 & 11	A1b.51
A1b.12	Economic geology	A1b.54
A1b.13	Geohazards	A1b.59
A1b.14	Strategic information gaps	A1b.61
A1b.15	Environmental issues	A1b.63
A1b.16	Evolution of the baseline	A1b.68
	References	A1b.77
<hr/>		
A1c	Landscape and Seascape	
A1c.1	Introduction	A1c.1
A1c.2	UK Context	A1c.2
A1c.3	Landscape designations and classifications	A1c.7
A1c.4	Overview of designations and other landscape initiatives	A1c.12
A1c.5	Features of Regional Sea 1	A1c.12
A1c.6	Features of Regional Sea 2	A1c.15
A1c.7	Features of Regional Sea 3	A1c.18
A1c.8	Features of Regional Seas 4	A1c.22
A1c.9	Features of Regional Sea 6	A1c.26
A1c.10	Features of Regional Sea 7	A1c.32
A1c.11	Features of Regional Sea 8	A1c.36
A1c.12	Regional Seas 9, 10 & 11	A1c.39
A1c.13	Evolution of the baseline and environmental issues	A1c.39
	References	A1c.41
<hr/>		
A1d	Water Environment	
A1d.1	Introduction	A1d.1
A1d.2	UK context	A1d.1
A1d.3	Features of Regional Sea 1	A1d.22
A1d.4	Features of Regional Sea 2	A1d.24
A1d.5	Features of Regional Sea 3	A1d.26
A1d.6	Features of Regional Sea 4 & 5	A1d.28
A1d.7	Features of Regional Sea 6	A1d.32
A1d.8	Features of Regional Sea 7	A1d.36
A1d.9	Features of Regional Sea 8	A1d.40
A1d.10	Features of Regional Sea 9	A1d.42
A1d.11	Features of Regional Sea 10 & 11	A1d.47

Section	Title	Page no.
A1d.12	Evolution of the baseline	A1d.50
A1d.13	Environmental issues	A1d.66
	References	A1d.69
<hr/>		
A1e	Air Quality	
A1e.1	Introduction	A1e.1
A1e.2	UK context	A1e.1
A1e.3	Atmospheric emissions of pollutants	A1e.4
A1e.4	Atmospheric deposition of pollutants	A1e.19
A1e.5	Evolution of the baseline	A1e.21
A1e.6	Environmental issues	A1e.22
	References	A1e.25
<hr/>		
A1f	Climate and Meteorology	
A1f.1	Introduction	A1f.1
A1f.2	UK context	A1f.1
A1f.3	Regional Sea 1	A1f.7
A1f.4	Regional Sea 2	A1f.7
A1f.5	Regional Sea 3	A1f.8
A1f.6	Regional Seas 4 & 5	A1f.8
A1f.7	Regional Sea 6	A1f.9
A1f.8	Regional Sea 7	A1f.9
A1f.9	Regional Sea 8 & 9	A1f.10
A1f.10	Regional Seas 10 & 11	A1f.10
A1f.11	Evolution of the baseline	A1f.10
A1f.12	Environmental issues	A1f.11
	References	A1f.15
<hr/>		
A1g	Population and Human Health	
A1g.1.1	Introduction	A1g.1
A1g.1.2	UK context	A1g.1
A1g.1.3	Features of Regional Sea areas	A1g.12
A1g.1.4	Evolution of the baseline	A1g.16
A1g.1.5	Environmental issues	A1g.17
	References	A1g.23
<hr/>		
A1h	Other users	
A1h.1	Introduction	A1h.1
A1h.2	Ports and shipping	A1h.1
A1h.3	Aviation	A1h.8
A1h.4	Military activity	A1h.12
A1h.5	Met office radar	A1h.15

Section	Title	Page no.
A1h.6	Oil and gas activity	A1h.15
A1h.7	Gas storage, including carbon dioxide	A1h.22
A1h.8	Offshore renewable energy activity	A1h.24
A1h.9	Submarine cables	A1h.34
A1h.10	Electricity network	A1h.35
A1h.11	Dredging and aggregate extraction	A1h.38
A1h.12	Marine mines	A1h.39
A1h.13	Marine waste disposal	A1h.41
A1h.14	Munitions	A1h.44
A1h.15	Tourism and recreation	A1h.46
A1h.16	Recreational sea angling	A1h.65
A1h.17	Fisheries	A1h.69
A1h.18	Mariculture	A1h.115
	References	A1h.123
<hr/>		
A1i	Cultural Heritage	
A1i.1	Introduction	A1i.1
A1i.2	UK Context	A1i.1
A1i.3	Features of Regional Sea 1	A1i.10
A1i.4	Features of Regional Sea 2	A1i.17
A1i.5	Features of Regional Sea 3	A1i.27
A1i.6	Features of Regional Seas 4 & 5	A1i.37
A1i.7	Features of Regional Sea 6	A1i.46
A1i.8	Features of Regional Sea 7	A1i.53
A1i.9	Features of Regional Sea 8	A1i.58
A1i.10	Features of Regional Seas 9, 10 & 11	A1i.63
A1i.11	Evolution of the baseline	A1i.63
A1i.12	Environmental issues	A1i.63
	References	A1i.65
<hr/>		
A1j	Conservation	
A1j.1	Introduction	A1j.1
A1j.2	Sites of national importance and non-statutory sites	A1j.93
A1j.3	UK Biodiversity Action Plans and the post 2010 Biodiversity Framework	A1j.99
A1j.4	Species conservation	A1j.100
A1j.5	Maps and summaries for Regional Seas	A1j.126
A1j.6	European sites in adjacent states	A1j.152