

## **GCP Pre-Submission HRA Report Appendix I: European Site Characterisations**

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- Cotswold Beechwoods SAC
- Rodborough Common SAC
- Severn Estuary SAC
- Wye Valley and Forest of Dean Bat Sites SAC
- Severn Estuary SPA
- Walmore Common SPA
- Severn Estuary Ramsar

## Special Areas of Conservation

<b>Site Name: Cotswolds Beechwoods</b> <b>Location Grid Ref: SO898134</b> <b>JNCC Site Code: UK0013658</b> <b>Size: 585.85ha</b> <b>Designation: SAC</b>	<b>Habitats Regulations Assessment: Data Proforma</b>
<b>Site Description</b>	<p>The Cotswold Beechwoods represent the most westerly extensive blocks of <i>Asperulo-Fagetum</i> beech forests in the UK. The woods are floristically richer than the Chilterns, and rare plants include red helleborine <i>Cephalanthera rubra</i>, stinking hellebore <i>Helleborus foetidus</i>, narrow-lipped helleborine <i>Epipactis leptochila</i> and wood barley <i>Hordeum europaeus</i>. There is a rich mollusc fauna. The woods are structurally varied, including blocks of high forest and some areas of remnant beech coppice.</p>
<b>Qualifying Features</b>	<p>Annex I habitats primary reason for selection:</p> <ul style="list-style-type: none"> <li>▪ <i>Asperulo-Fagetum</i> beech forests</li> </ul> <p>Annex I habitats qualifying feature:</p> <ul style="list-style-type: none"> <li>▪ Semi-natural dry grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>)</li> </ul>
<b>Conservation Objectives</b>	<p>With regard to the natural habitats and/or species for which the site has been designated (the Qualifying Features" listed below);</p> <p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> <li>▪ The extent and distribution of qualifying natural habitats</li> <li>▪ The structure and function (including typical species) of qualifying natural habitats, and</li> <li>▪ The supporting processes on which qualifying natural habitats rely</li> </ul>

<b>Site Name: Cotswolds  Beechwoods  Location Grid Ref: SO898134  JNCC Site Code: UK0013658  Size: 585.85ha  Designation: SAC</b>	<b>Habitats Regulations Assessment: Data Proforma</b>
	<p>Qualifying Features:  H6210. Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia); Dry grasslands and scrublands on chalk or limestone  H9130. Asperulo-Fagetum beech forests; Beech forests on neutral to rich soils</p>
<b>Vulnerabilities (includes existing pressures and trends)</b>	<p>Negative Impacts:</p> <ul style="list-style-type: none"> <li>■ Outdoor sports and leisure activities, recreational activities: High- Inside</li> <li>■ Interspecific floral relations: High- Inside</li> <li>■ Problematic native species: High- Both</li> <li>■ Invasive non-native species: High- Both</li> </ul>

<b>Site Name: Rodborough Common</b> <b>Location Grid Ref: SO849036</b> <b>JNCC Site Code: UK0012826</b> <b>Size: 104.26ha</b> <b>Designation: SAC</b>	<b>Habitats Regulations Assessment: Data Proforma</b>
<b>Site Description</b>	<p>Rodborough Common is the most extensive area of semi-natural dry grasslands surviving in the Cotswolds of central southern England, and represents CG5 <i>Bromus erectus</i> – <i>Brachypodium pinnatum</i> grassland, which is more or less confined to the Cotswolds. The site contains a wide range of structural types, ranging from short turf through to scrub margins, although short-turf vegetation is mainly confined to areas of shallower soils.</p>
<b>Qualifying Features</b>	<p>Annex I habitats primary reason for selection:</p> <ul style="list-style-type: none"> <li>▪ Semi-natural dry grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>) for which this is considered to be one of the best areas in the United Kingdom.</li> </ul>
<b>Conservation Objectives</b>	<p>With regard to the natural habitats and/or species for which the site has been designated (the Qualifying Features" listed below);</p> <p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> <li>▪ The extent and distribution of qualifying natural habitats</li> <li>▪ The structure and function (including typical species) of qualifying natural habitats, and</li> <li>▪ The supporting processes on which qualifying natural habitats rely</li> </ul> <p><b>Qualifying Features:</b> H6210. Semi-natural dry grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>); Dry grasslands and scrublands on chalk or limestone</p>
<b>Vulnerabilities (includes existing pressures and trends)</b>	<p>Negative Impacts:</p> <ul style="list-style-type: none"> <li>▪ Grazing: High- Inside</li> </ul>

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	<ul style="list-style-type: none"><li>▪ Air pollution, air-borne pollutants: High- Both</li><li>▪ Outdoor sports and leisure activities, recreational activities: High- Inside</li></ul>

<b>Site Name: Severn Estuary</b> <b>Location Grid Ref: ST321748</b> <b>JNCC Site Code: UK0013030</b> <b>Size: 73715.4</b> <b>Designation: SAC</b>	<b>Habitats Regulations Assessment: Data Proforma</b>
<b>Site Description</b>	<p>The Severn Estuary is the largest coastal plain estuary in the UK with extensive mudflats and sandflats, rocky shore platforms, shingle and islands. Saltmarsh fringes the coast, backed by grazing marsh with freshwater and occasional brackish ditches. The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have the second highest tidal range in the world (after the Bay of Fundy in Canada) at more than 12 meters. This tidal regime results in plant and animal communities typical of the extreme physical conditions of strong flows, mobile sediments, changing salinity, high turbidity and heavy scouring. The resultant low diversity invertebrate communities, that frequently include populations of ragworms, lugworms and other invertebrates in high densities, form an important food source for passage and wintering birds. The site is important in the spring and autumn migration periods for waders moving along the west coast of Europe, as well as in winter for large numbers of waterbirds including swans, geese, ducks and waders. These bird populations are regarded as internationally important.</p> <p>Glassworts and annual sea-blite colonise the open mud, with beds of all three species of eelgrass <i>Zostera</i> occurring on more sheltered mud and sandbanks. Large expanses of common cord-grass also occur on the outer marshes. Heavily grazed saltmarsh fringes the estuary with a range of saltmarsh types present. The middle marsh sward is dominated by common saltmarsh-grass with typical associated species. In the upper marsh, red fescue and saltmarsh rush become more prominent.</p> <p>Areas of saltmarsh fringe the estuary, mostly grazed with a range of vegetation communities. There are gradual and stepped transitions between bare mudflat to upper marsh and grassland. Main vegetation types are: upper saltmarsh with <i>Festuca rubra</i> and <i>Juncus gerardii</i>; middle marsh dominated by <i>Puccinellia maritima</i> with <i>Glaux maritima</i> and <i>Triglochin maritima</i>; dense monocultures of <i>Spartina anglica</i> at the edge of the mudflats-brackish pools and depressions with <i>Phragmites australis</i> and <i>Bolboschoenus maritimus</i>.</p>
<b>Qualifying Features</b>	<p>Annex I Habitats primary reason for selection:</p> <ul style="list-style-type: none"> <li>■ Estuaries</li> <li>■ Mudflats and sandflats not covered by seawater at low tide</li> <li>■ Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)</li> </ul>

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	<p>Annex I Habitats qualifying feature:</p> <ul style="list-style-type: none"> <li>■ Sandbanks which are slightly covered by sea water all the time</li> <li>■ Reefs</li> </ul> <p>Annex II Species primary reason for selection:</p> <ul style="list-style-type: none"> <li>■ Sea lamprey <i>Petromyzon marinus</i></li> <li>■ River lamprey <i>Lampetra fluviatilis</i></li> <li>■ Twaite shad <i>Alosa fallax</i></li> </ul>
<b>Conservation Objectives</b>	<p><b>SAC interest feature 1: Estuaries</b></p> <p>The conservation objective for the "estuaries" feature of the Severn Estuary SAC is to maintain the feature in favourable condition, as defined below:</p> <p>The feature will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ol style="list-style-type: none"> <li>i. the total extent of the estuary is maintained;</li> <li>ii. the characteristic physical form (tidal prism/cross sectional area) and flow (tidal regime) of the estuary is maintained;</li> <li>iii. the characteristic range and relative proportions of sediment sizes and sediment budget within the site is maintained;</li> <li>iv. the extent, variety and spatial distribution of estuarine habitat communities within the site is maintained;</li> <li>v. the extent, variety, spatial distribution and community composition of hard substrate habitats and their notable communities is maintained;</li> </ol>

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	<ul style="list-style-type: none"> <li>vi. the abundance of the notable estuarine species assemblages<sup>7</sup> is maintained or increased;</li> <li>vii. the physico-chemical characteristics of the water column<sup>9</sup> support the ecological objectives described above;</li> <li>viii. Toxic contaminants in water column and sediment are below levels which would pose a risk to the ecological objectives described above.</li> <li>ix. Airborne nutrient and contaminant loads are below levels which would pose a risk to the ecological objectives described above</li> </ul> <p><b>SAC interest feature 2: Subtidal sandbanks which are covered by sea water all the time (subtidal sandbanks)</b></p> <p>The conservation objective for the “subtidal sandbanks” feature of the Severn Estuary SAC is to maintain the feature in favourable condition, as defined below:</p> <p>The feature will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ul style="list-style-type: none"> <li>i. the total extent of the subtidal sandbanks within the site is maintained;</li> <li>ii. the extent and distribution of the individual subtidal sandbank communities within the site is maintained;</li> <li>iii. the community composition of the subtidal sandbank feature within the site is maintained;</li> <li>iv. the variety and distribution of sediment types across the subtidal sandbank feature is maintained;</li> <li>v. the gross morphology (depth, distribution and profile) of the subtidal sandbank feature within the site is maintained.</li> </ul> <p><b>SAC interest feature 3: Mudflats and sandflats not covered by seawater at low tide (mudflats and sandflats)</b></p> <p>The conservation objective for “mudflats and sandflats” feature of the Severn Estuary SAC is to maintain the feature in favourable condition, as defined below:</p>

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	<p>The feature will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ul style="list-style-type: none"> <li>i. The total extent of the mudflats and sandflats feature is maintained;</li> <li>ii. the variety and extent of individual mudflats and sandflats communities within the site is maintained;</li> <li>iii. the distribution of individual mudflats and sandflats communities<sup>3</sup> within the site is maintained;</li> <li>iv. the community composition of the mudflats and sandflats feature within the site is maintained;</li> <li>v. the topography of the intertidal flats and the morphology (dynamic processes of sediment movement and channel migration across the flats) are maintained.</li> </ul> <p><b>SAC interest feature 4: Atlantic salt meadow</b></p> <p>The conservation objective for the "Atlantic salt meadow" feature of the Severn Estuary SAC is to maintain the feature in favourable condition, as defined below:</p> <p>The feature will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ul style="list-style-type: none"> <li>i. the total extent of Atlantic salt meadow and associated transitional vegetation communities within the site is maintained;</li> <li>ii. the extent and distribution of the individual Atlantic salt meadow and associated transitional vegetation communities within the site is maintained;</li> <li>iii. the zonation of Atlantic salt meadow vegetation communities and their associated transitions to other estuary habitats is maintained;</li> <li>iv. the relative abundance of the typical species of the Atlantic salt meadow and associated transitional vegetation communities is maintained;</li> </ul>

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	<ul style="list-style-type: none"> <li>v. the abundance of the notable species of the Atlantic salt meadow and associated transitional vegetation communities is maintained.</li> <li>vi. the structural variation of the salt marsh sward (resulting from grazing) is maintained within limits sufficient to satisfy the requirements of conditions iv and v above and the requirements of the Ramsar and SPA features</li> <li>vii. the characteristic stepped morphology of the salt marshes and associated creeks, pills, drainage ditches and pans, and the estuarine processes that enable their development, is maintained.</li> <li>viii. Any areas of <i>Spartina anglica</i> salt marsh (SM6) are capable of developing naturally into other saltmarsh communities.</li> </ul> <p><b>SAC interest feature 5: Reefs</b></p> <p>The conservation objective for the “reefs” feature of the Severn Estuary SAC is to maintain the feature in a favourable condition, as defined below:</p> <p>The feature will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ul style="list-style-type: none"> <li>i. the total extent and distribution of <i>Sabellaria</i> reef is maintained;</li> <li>ii. the community composition of the <i>Sabellaria</i> reef is maintained;</li> <li>iii. the full range of different age structures of <i>Sabellaria</i> reef are present;</li> <li>iv. the physical and ecological processes necessary to support <i>Sabellaria</i> reef are maintained.</li> </ul> <p><b>SAC interest feature 6: River lamprey <i>Lampetra fluviatilis</i></b></p> <p>The conservation objective for the river lamprey <i>Lampetra fluviatilis</i> feature of the Severn Estuary SAC is to maintain the feature in a favourable condition, as defined below:</p>

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	<p>The feature will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ul style="list-style-type: none"> <li>i. the migratory passage of both adult and juvenile river lamprey through the Severn Estuary between the Bristol Channel and any of their spawning rivers is not obstructed or impeded by physical barriers, changes in flows, or poor water quality;</li> <li>ii. the size of the river lamprey population in the Severn Estuary and the rivers which drain into it, is at least maintained and is at a level that is sustainable in the long term;</li> <li>iii. the abundance of prey species forming the river lamprey's food resource within the estuary, is maintained.</li> <li>iv. Toxic contaminants in the water column and sediment are below levels which would pose a risk to the ecological objectives described above.</li> </ul> <p><b>SAC interest feature 7: The conservation objective for sea lamprey <i>Petromyzon marinus</i></b></p> <p>The conservation objective for the sea lamprey <i>Petromyzon marinus</i> feature of the Severn Estuary SAC is to maintain the feature in a favourable condition, as defined below:</p> <p>The feature will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ul style="list-style-type: none"> <li>i. the migratory passage of both adult and juvenile sea lamprey through the Severn Estuary between the Bristol Channel and any of their spawning rivers is not obstructed or impeded by physical barriers, changes in flows, or poor water quality;</li> <li>ii. the size of the sea lamprey population in the Severn Estuary and the rivers which drain into it, is at least maintained as is at a level that is sustainable in the long term;</li> <li>iii. the abundance of prey species forming the sea lamprey's food resource within the estuary, is maintained.</li> </ul>

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	<p>vi. Toxic contaminants in the water column and sediment are below levels which would pose a risk to the ecological objectives described above.</p> <p><b>SAC interest feature 8: The conservation objective for twaite shad <i>Alosa fallax</i></b></p> <p>The conservation objective for the twaite Shad <i>Alosa fallax</i> feature of the Severn Estuary SAC is to maintain the feature in a favourable condition, as defined below:</p> <p>The feature will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ol style="list-style-type: none"> <li>i. the migratory passage of both adult and juvenile twaite shad through the Severn Estuary between the Bristol Channel and their spawning rivers is not obstructed or impeded by physical barriers, changes in flows or poor water quality;</li> <li>ii. the size of the twaite shad population within the Severn Estuary and the rivers draining into it is at least maintained and is at a level that is sustainable in the long term.</li> <li>iii. the abundance of prey species forming the twaite shad's food resource within the estuary, in particular at the salt wedge, is maintained.</li> <li>iv. Toxic contaminants in the water column and sediment are below levels which would pose a risk to the ecological objectives described above.</li> </ol>
<b>Vulnerabilities (includes existing pressures and trends)</b>	<p>Negative Impacts:</p> <ul style="list-style-type: none"> <li>■ Other urbanisation, industrial and similar activities: High- Both</li> <li>■ Changes in abiotic conditions: High- Both</li> <li>■ Human induced changes in hydraulic conditions: High- Both</li> <li>■ Outdoor sports and leisure activities, recreational activities: High- Inside</li> <li>■ Modification of cultivation practices: High- Inside</li> </ul>

<b>Site Name: Wye Valley and Forest of Dean Bat Sites</b> <b>Location Grid Ref: SO605044</b> <b>JNCC Site Code: UK0014794</b> <b>Size: 142.7</b> <b>Designation: SAC</b>	<b>Habitats Regulations Assessment: Data Proforma</b>
<b>Site Description</b>	<p>The Wye Valley and Forest of Dean Bats SAC straddles the Wales-England border and covers an area of 142.7ha. It is underpinned by 4 SSSI in Wales and 9 in England, all of which lie entirely within the SAC. This complex of sites contains by far the greatest concentration of lesser horseshoe bat <i>Rhinolophus hipposideros</i> in the UK, totalling about 26% of the national population. It has been selected on the grounds of the exceptional breeding population, and the majority of sites within the complex are maternity roosts. The site also supports the greater horseshoe bat <i>Rhinolophus ferrumequinum</i> in the northern part of its range, with about 6% of the UK population. The site contains the main maternity roost for bats in this area, which are believed to hibernate in the many disused mines in the Forest.</p>
<b>Qualifying Features</b>	<p>Annex II Species primary reason for selection:</p> <ul style="list-style-type: none"> <li>■ Lesser horseshoe bat <i>Rhinolophus hipposideros</i></li> <li>■ Greater horseshoe bat <i>Rhinolophus ferrumequinum</i></li> </ul>
<b>Conservation Objectives</b>	<p>With regard to the natural habitats and/or species for which the site has been designated (the Qualifying Features" listed below);</p> <p>Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.</p> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>■ The extent and distribution of qualifying natural habitats and habitats of qualifying species;</li> <li>■ The structure and function (including typical species) of qualifying natural habitats and habitats of qualifying species;</li> </ul>

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	<ul style="list-style-type: none"> <li>■ The supporting processes on which qualifying natural habitats and habitats of qualifying species rely;</li> <li>■ The populations of qualifying species;</li> <li>■ The distribution of qualifying species within the site.</li> </ul> <p><b>Qualifying Features:</b>  S1303. <i>Rhinolophus hipposideros</i>; Lesser horseshoe bat  S1304. <i>Rhinolophus ferrumequinum</i>; Greater horseshoe bat</p>
<b>Vulnerabilities (includes existing pressures and trends)</b>	Negative Impacts: <ul style="list-style-type: none"> <li>■ Other ecosystem modifications: High- Both</li> <li>■ Outdoor sports and leisure activities, recreational activities: High- Inside</li> <li>■ Human induced changes in hydraulic conditions: High- Both</li> </ul>

## Special Protection Areas

<b>Site Name: Severn Estuary</b> <b>Location (Lat &amp; Long):</b> <b>51 13 29 N</b> <b>03 02 57 W</b> <b>JNCC Site Code: UK9015022</b> <b>Size: 24662.98</b> <b>Designation: SPA</b>	<b>Habitats Regulations Assessment: Data Proforma</b>
<b>Site Description</b>	<p>The Severn Estuary is the largest coastal plain estuary in the UK with extensive mudflats and sandflats, rocky shore platforms, shingle and islands. Saltmarsh fringes the coast, backed by grazing marsh with freshwater and occasional brackish ditches. The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have the second highest tidal range in the world (after the Bay of Fundy in Canada) at more than 12 meters. This tidal regime results in plant and animal communities typical of the extreme physical conditions of strong flows, mobile sediments, changing salinity, high turbidity and heavy scouring. The resultant low diversity invertebrate communities, that frequently include populations of ragworms, lugworms and other invertebrates in high densities, form an important food source for passage and wintering birds. The site is important in the spring and autumn migration periods for waders moving along the west coast of Europe, as well as in winter for large numbers of waterbirds including swans, geese, ducks and waders. These bird populations are regarded as internationally important.</p> <p>Glassworts and annual sea-blite colonise the open mud, with beds of all three species of eelgrass <i>Zostera</i> occurring on more sheltered mud and sandbanks. Large expanses of common cord-grass also occur on the outer marshes. Heavily grazed saltmarsh fringes the estuary with a range of saltmarsh types present. The middle marsh sward is dominated by common saltmarsh-grass with typical associated species. In the upper marsh, red fescue and saltmarsh rush become more prominent.</p> <p>Areas of saltmarsh fringe the estuary, mostly grazed with a range of vegetation communities. There are gradual and stepped transitions between bare mudflat to upper marsh and grassland. Main vegetation types are: upper saltmarsh with <i>Festuca rubra</i> and <i>Juncus gerardii</i>; middle marsh dominated by <i>Puccinellia maritima</i> with <i>Glaux maritima</i> and <i>Triglochin maritima</i>; dense monocultures of <i>Spartina anglica</i> at the edge of the mudflats-brackish pools and depressions with <i>Phragmites australis</i> and <i>Bolboschoenus maritimus</i>.</p>

<p><b>Site Name: Severn Estuary</b>  <b>Location (Lat &amp; Long):</b>  <b>51 13 29 N</b>  <b>03 02 57 W</b>  <b>JNCC Site Code: UK9015022</b>  <b>Size: 24662.98</b>  <b>Designation: SPA</b></p>	<p><b>Habitats Regulations Assessment: Data Proforma</b></p>
<p><b>Qualifying Features</b></p>	<p>Article 4.1 Qualification</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> <li>■ Bewick's Swan <i>Cygnus columbianus bewickii</i> 3.9% of the GB population</li> </ul> <p>Article 4.2 Qualification</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> <li>■ Gadwall <i>Anas strepera</i> 0.9% of the population</li> <li>■ White-fronted Goose <i>Anser albifrons albifrons</i> 0.4% of the population</li> <li>■ Dunlin <i>Calidris alpina alpina</i> 3.3% of the population</li> <li>■ Shelduck <i>Tadorna tadorna</i> 1.1% of the population</li> <li>■ Redshank <i>Tringa totanus</i> 1.3% of the population</li> </ul> <p>Article 4.2 Qualification: Internationally Important Assemblage of Birds</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> <li>■ 84317 waterfowl</li> </ul>
<p><b>Conservation Objectives</b></p>	<p><b>SPA Interest feature 1: Internationally important population of regularly occurring Annex 1 species: Bewick's swan</b></p> <p>The conservation objective is to maintain the Bewick's swan population and its supporting habitats in <b>favourable condition</b>, as defined below.</p>

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	<p>The interest feature Bewick's swan will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ul style="list-style-type: none"> <li>i. the 5 year peak mean population size for the Bewick's swan population is no less than 289 individuals (ie the 5 year peak mean between 1988/9 - 1992/3);</li> <li>ii. the extent of saltmarsh at the Dumbles is maintained;</li> <li>iii. the extent of intertidal mudflats and sandflats at Frampton Sands, Waveridge Sands and the Noose is maintained;</li> <li>iv. the extent of vegetation with an effective field size of &gt;6 ha and with unrestricted bird sightlines &gt; 500m at feeding, roosting and refuge sites are maintained;</li> <li>v. greater than 25% cover of suitable soft leaved herbs and grasses in winter season throughout the transitional saltmarsh at the Dumbles is maintained;</li> <li>vi. aggregations of Bewick's swan at feeding, roosting and refuge sites are not subject to significant disturbance.</li> </ul> <p><b>SPA Interest feature 2: Internationally important population of regularly occurring migratory species: wintering European white-fronted goose</b></p> <p>The conservation objective is to maintain the European white-fronted goose population and its supporting habitats in <b>favourable condition</b>, as defined below.</p> <p>The interest feature European white-fronted goose will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ul style="list-style-type: none"> <li>i. the 5 year peak mean population size for the wintering European white fronted goose population is no less than 3,002 individuals (ie the 5 year peak mean between 1988/9-</li> </ul>

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	<ul style="list-style-type: none"> <li>ii. 1992/3);</li> <li>iii. the extent of saltmarsh at the Dumbles is maintained;</li> <li>iv. the extent of intertidal mudflats and sandflats at Frampton Sands, Waveridge Sands and the Noose is maintained;</li> <li>v. greater than 25% cover of suitable soft-leaved herbs and grasses is maintained during the winter on saltmarsh areas;</li> <li>vi. unrestricted bird sightlines of &gt;200m at feeding and roosting sites are maintained;</li> <li>vii. aggregations of European white-fronted goose at feeding or roosting sites are not subject to significant disturbance.</li> </ul> <p><b>SPA Interest feature 3: Internationally important population of regularly occurring migratory species: wintering dunlin</b></p> <p>The conservation objective is to maintain the dunlin population and its supporting habitats in <b>favourable condition</b>, as defined below.</p> <p>The interest feature dunlin will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ul style="list-style-type: none"> <li>i. the 5 year peak mean population size for the wintering dunlin population is no less than 41,683 individuals (ie the 5 year peak mean between 1988/9 - 1992/3);</li> <li>ii. the extent of saltmarsh and associated strandlines is maintained;</li> <li>iii. the extent of intertidal mudflats and sandflats is maintained;</li> <li>iv. the extent of hard substrate habitats is maintained;</li> <li>v. the extent of vegetation with a sward height of &lt;10cm is maintained throughout the saltmarsh;</li> </ul>

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	<ul style="list-style-type: none"> <li>vi. the abundance and macro-distribution of suitable invertebrates in intertidal mudflats and sandflats is maintained;</li> <li>vii. the abundance and macro-distribution of suitable invertebrates in hard substrate habitats is maintained;</li> <li>viii. unrestricted bird sightlines of &gt;200m at feeding and roosting sites are maintained;</li> <li>ix. aggregations of dunlin at feeding or roosting sites are not subject to significant disturbance.</li> </ul> <p><b>SPA Interest feature 4: Internationally important population of regularly occurring migratory species: wintering redshank</b></p> <p>The conservation objective is to maintain the redshank population and its supporting habitats in <b>favourable condition</b>, as defined below.</p> <p>The interest feature redshank will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ul style="list-style-type: none"> <li>i. the 5 year peak mean population size for the wintering redshank population is no less than 2,013 individuals (ie the 5 year peak mean between 1988/9 - 1992/3);</li> <li>ii. the extent of saltmarsh and associated strandlines is maintained;</li> <li>iii. the extent of intertidal mudflats and sandflats is maintained;</li> <li>iv. the extent of hard substrate habitats is maintained;</li> <li>v. the extent of vegetation with a sward height of &lt;10cm throughout the saltmarsh is maintained;</li> <li>vi. the abundance and macro-distribution of suitable invertebrates in intertidal mudflats and sandflats is maintained;</li> <li>vii. the abundance and macro-distribution of suitable invertebrates in hard substrate habitats is maintained;</li> </ul>

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	<p>viii. unrestricted bird sightlines of &gt;200m at feeding and roosting sites are maintained;</p> <p>ix. aggregations of redshank at feeding or roosting sites are not subject to significant disturbance.</p> <p><b>SPA Interest feature 5: Internationally important population of regularly occurring migratory species: wintering shelduck</b></p> <p>The conservation objective is to maintain the shelduck population and its supporting habitats in <b>favourable condition</b>, as defined below.</p> <p>The interest feature shelduck will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ul style="list-style-type: none"> <li>i. the 5 year peak mean population size for the wintering shelduck population is no less than 2,892 individuals (ie the 5 year peak mean between 1988/9 - 1992/3);</li> <li>ii. the extent of saltmarsh is maintained;</li> <li>iii. the extent of intertidal mudflats and sandflats is maintained;</li> <li>iv. the extent of hard substrate habitats is maintained;</li> <li>v. the abundance and macro-distribution of suitable invertebrates in intertidal mudflats and sandflats is maintained;</li> <li>vi. unrestricted bird sightlines of &gt;200m at feeding and roosting sites are maintained;</li> <li>vii. aggregations of shelduck at feeding or roosting sites are not subject to significant disturbance.</li> </ul> <p><b>SPA interest feature 6: Internationally important population of regularly occurring migratory species: wintering gadwall</b></p>

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	<p>The conservation objective is to maintain the gadwall population and its supporting habitats in favourable condition, as defined below:</p> <p>The interest feature gadwall will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ul style="list-style-type: none"> <li>i. the 5 year peak mean population size for the wintering gadwall population is no less than 330 (ie the 5 year peak mean between 1988/9 - 1992/3);</li> <li>ii. the extent of intertidal mudflats and sandflats (Appendix 8) is maintained;</li> <li>iii. unrestricted bird sightlines of &gt;200m at feeding and roosting sites are maintained;</li> <li>iv. aggregations of gadwall at feeding or roosting sites are not subject to significant disturbance.</li> </ul> <p><b>SPA Interest feature 7: Internationally important assemblage of waterfowl</b></p> <p>The conservation objective is to maintain the waterfowl assemblage and its supporting habitats in <b>favourable condition</b>, as defined below.</p> <p>The interest feature waterfowl assemblage will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ul style="list-style-type: none"> <li>i. the 5 year peak mean population size for the waterfowl assemblage is no less than 68,026 individuals (ie the 5 year peak mean between 1988/9 - 1992/3);</li> <li>ii. the extent of saltmarsh and their associated strandlines is maintained;</li> <li>iii. the extent of intertidal mudflats and sandflats is maintained;</li> <li>iv. the extent of hard substrate habitats is maintained;</li> <li>v. extent of vegetation of &lt;10cm throughout the saltmarsh is maintained;</li> </ul>

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	<ul style="list-style-type: none"> <li>vi. the abundance and macro-distribution of suitable invertebrates in intertidal mudflats and sandflats is maintained;</li> <li>vii. the abundance and macro-distribution of suitable invertebrates in hard substrate habitats is maintained;</li> <li>viii. greater than 25% cover of suitable soft leaved herbs and grasses during the winter on saltmarsh areas is maintained;</li> <li>ix. unrestricted bird sightlines of &gt;500m at feeding and roosting sites are maintained;</li> <li>x. waterfowl aggregations at feeding or roosting sites are not subject to significant disturbance.</li> </ul>
<b>Vulnerabilities (includes existing pressures and trends)</b>	Negative Impacts: <ul style="list-style-type: none"> <li>■ Outdoor sports and leisure activities, recreational activities: High- Inside</li> <li>■ Other urbanisation, industrial and similar activities: High- Both</li> <li>■ Modification of cultivation practices: High- Inside</li> <li>■ Changes in abiotic conditions: High- Both</li> <li>■ Human induced changes in hydraulic conditions: High- Both</li> </ul>

<b>Site Name: Walmore Common</b> <b>Location (Lat &amp; Long):</b> <b>51 49 58 N</b> <b>02 22 14 W</b> <b>JNCC Site Code: UK9007051</b> <b>Size: 52.85 ha</b> <b>Designation: SPA</b>	<b>Habitats Regulations Assessment: Data Proforma</b>
<b>Site Description</b>	<p>Walmore Common is located in Gloucestershire, in the west of England, about 10 km south-west of Gloucester. The site is a wetland overlying peat providing a variety of habitats including improved neutral grassland, unimproved marshy grassland and open water ditches. The area is subject to regular winter flooding and this creates suitable conditions for regular wintering by an important number of Bewick's Swan <i>Cygnus columbianus bewickii</i>. The highest bird numbers are seen during the harshest winters, when Walmore Common provides an essential feeding and roosting area.</p>
<b>Qualifying Features</b>	<p>Article 4.1 Qualification</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> <li>■ Bewick's Swan <i>Cygnus columbianus bewickii</i> 1.4% of the GB population</li> </ul>
<b>Conservation Objectives</b>	<p>With regard to the natural habitats and/or species for which the site has been designated (the Qualifying Features" listed below);</p> <p>Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.</p> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>■ The extent and distribution of qualifying natural habitats and habitats of qualifying species;</li> <li>■ The structure and function (including typical species) of qualifying natural habitats and habitats of qualifying species;</li> <li>■ The supporting processes on which qualifying natural habitats and habitats of qualifying species rely;</li> <li>■ The populations of qualifying species;</li> </ul>

<b>Site Name: Walmore Common</b> <b>Location (Lat &amp; Long):</b> <b>51 49 58 N</b> <b>02 22 14 W</b> <b>JNCC Site Code: UK9007051</b> <b>Size: 52.85 ha</b> <b>Designation: SPA</b>	<b>Habitats Regulations Assessment: Data Proforma</b>
	<ul style="list-style-type: none"> <li>▪ The distribution of qualifying species within the site.</li> </ul> <p>Qualifying Features:  A037 <i>Cygnus columbianus bewickii</i>; Bewick's swan (Non-breeding)</p>
<b>Vulnerabilities (includes existing pressures and trends)</b>	<p>Negative Impacts:</p> <ul style="list-style-type: none"> <li>▪ Human induced changes in hydraulic conditions: High- Both</li> <li>▪ Changes in biotic conditions: High- Both</li> <li>▪ Outdoor sports and leisure activities, recreational activities: High- Inside</li> <li>▪ Modification of cultivation practices: High- Inside</li> </ul>

## Ramsar Sites

<p><b>Site Name: Severn Estuary</b>  <b>Location (Lat &amp; Long):</b>                      51 13 29 N                      03 02 57 W  <b>JNCC Site Code: UK11081</b>  <b>Size: 24662.98</b>  <b>Designation: Ramsar</b></p>	<p><b>Habitats Regulations Assessment: Data Proforma</b></p>
<p><b>Site Description</b></p>	<p>The Severn Estuary is the largest coastal plain estuary in the UK with extensive mudflats and sandflats, rocky shore platforms, shingle and islands. Saltmarsh fringes the coast, backed by grazing marsh with freshwater and occasional brackish ditches. The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have the second highest tidal range in the world (after the Bay of Fundy in Canada) at more than 12 meters. This tidal regime results in plant and animal communities typical of the extreme physical conditions of strong flows, mobile sediments, changing salinity, high turbidity and heavy scouring. The resultant low diversity invertebrate communities, that frequently include populations of ragworms, lugworms and other invertebrates in high densities, form an important food source for passage and wintering birds. The site is important in the spring and autumn migration periods for waders moving along the west coast of Europe, as well as in winter for large numbers of waterbirds including swans, geese, ducks and waders. These bird populations are regarded as internationally important.</p> <p>Glassworts and annual sea-blite colonise the open mud, with beds of all three species of eelgrass <i>Zostera</i> occurring on more sheltered mud and sandbanks. Large expanses of common cord-grass also occur on the outer marshes. Heavily grazed saltmarsh fringes the estuary with a range of saltmarsh types present. The middle marsh sward is dominated by common saltmarsh-grass with typical associated species. In the upper marsh, red fescue and saltmarsh rush become more prominent.</p> <p>Areas of saltmarsh fringe the estuary, mostly grazed with a range of vegetation communities. There are gradual and stepped transitions between bare mudflat to upper marsh and grassland. Main vegetation types are: upper saltmarsh with <i>Festuca rubra</i> and <i>Juncus gerardii</i>; middle marsh dominated by <i>Puccinellia maritima</i> with <i>Glaux maritima</i> and <i>Triglochin maritima</i>; dense monocultures of <i>Spartina anglica</i> at the edge of the mudflats-brackish pools and depressions with <i>Phragmites australis</i> and <i>Bolboschoenus maritimus</i>.</p>

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<b>Qualifying Features</b>	<p>Ramsar criterion 1</p> <ul style="list-style-type: none"> <li>■ Immense tidal range (second-largest in world) creating diversity of physical environment and biological communities.</li> </ul> <p>Ramsar criterion 3</p> <ul style="list-style-type: none"> <li>■ Due to unusual estuarine communities, reduced diversity and high productivity.</li> </ul> <p>Ramsar criterion 4</p> <ul style="list-style-type: none"> <li>■ This site is important for the run of migratory fish between sea and river via estuary. Species include Salmon <i>Salmo salar</i>, sea trout <i>S. trutta</i>, sea lamprey <i>Petromyzon marinus</i>, river lamprey <i>Lampetra fluviatilis</i>, allis shad <i>Alosa alosa</i>, twaite shad <i>A. fallax</i>, and eel <i>Anguilla anguilla</i>. It is also of particular importance for migratory birds during spring and autumn.</li> </ul> <p>Ramsar criterion 5</p> <ul style="list-style-type: none"> <li>■ Qualifies as it supports an assemblage of international importance</li> </ul> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> <li>■ 70919 waterfowl</li> </ul> <p>Ramsar criterion 6</p> <ul style="list-style-type: none"> <li>■ Qualifies as it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.</li> </ul> <p>Species with peak counts in winter - at designation:</p> <ul style="list-style-type: none"> <li>■ Tundra/Bewick's swan Greater /European</li> <li>■ white-fronted goose</li> </ul>

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	<ul style="list-style-type: none"> <li>■ Dunlin</li> <li>■ Common redshank</li> <li>■ Common shelduck</li> <li>■ Gadwall</li> </ul> <p>Populations identified subsequent to designation:</p> <ul style="list-style-type: none"> <li>■ Ringed plover (spring/autumn)</li> <li>■ Eurasian teal (winter)</li> <li>■ Northern pintail (winter)</li> <li>■ Lesser black-backed gull (breeding)</li> </ul> <p>Ramsar criterion 8</p> <ul style="list-style-type: none"> <li>■ The fish of the whole estuarine and river system is one of the most diverse in Britain, with over 110 species recorded. Salmon <i>Salmo salar</i>, sea trout <i>S. trutta</i>, sea lamprey <i>Petromyzon marinus</i>, river lamprey <i>Lampetra fluviatilis</i>, allis shad <i>Alosa alosa</i>, twaite shad <i>A. fallax</i>, and eel <i>Anguilla Anguilla</i> use the Severn Estuary as a key migration route to their spawning grounds in the many tributaries that flow into the estuary. The site is important as a feeding and nursery ground for many fish species particularly allis shad <i>Alosa alosa</i> and twaite shad <i>A. fallax</i> which feed on mysid shrimps in the salt wedge.</li> </ul>
<b>Conservation Objectives</b>	<p><b>Ramsar interest feature 1: Estuaries</b></p> <p>The conservation objective for the “estuaries” feature of the Severn Estuary Ramsar Site is to maintain the feature in favourable condition, as defined by the conservation objective for the SAC “estuaries” feature”, in so far as these objectives are applicable to the area designated as Ramsar Site.</p>

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	<p><b>Ramsar interest feature 2: Assemblage of migratory fish species</b></p> <p>The conservation objective for the “assemblage of migratory fish species” feature of the Severn Estuary Ramsar Site is to maintain the feature in favourable condition, as defined below:</p> <p>The feature will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ul style="list-style-type: none"> <li>i. the migratory passage of both adults and juveniles of the assemblage of migratory fish species through the Severn Estuary between the Bristol Channel and any of their spawning rivers is not obstructed or impeded by physical barriers, changes in flows, or poor water quality;</li> <li>ii. the size of the populations of the assemblage species in the Severn Estuary and the rivers which drain into it, is at least maintained and is at a level that is sustainable in the long term;</li> <li>iii. the abundance of prey species forming the principle food resources for the assemblage species within the estuary, is maintained.</li> <li>iv. Toxic contaminants in the water column and sediment are below levels which would pose a risk to the ecological objectives described above.</li> </ul> <p><b>Ramsar interest feature 3: Internationally important populations of waterfowl : Bewick’s swan</b></p> <p>The conservation objective for the “Bewick’s swan” feature of the Severn Estuary Ramsar Site is to maintain the feature in favourable condition, as defined by the conservation objective for the SPA “Bewick’s swan ” feature.</p> <p><b>Ramsar interest feature 4: Internationally important populations of waterfowl: European white-fronted goose</b></p>

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	<p>The conservation objective for the “European white-fronted goose” feature of the Severn Estuary Ramsar Site is to maintain the feature in favourable condition, as defined by the conservation objective for the SPA “wintering European white-fronted goose” feature.</p> <p><b>Ramsar interest feature 5: Internationally important populations of waterfowl: dunlin</b></p> <p>The conservation objective for the “dunlin” feature of the Severn Estuary Ramsar Site is to maintain the feature in favourable condition, as defined by the conservation objective for the SPA “wintering dunlin” feature.</p> <p><b>Ramsar interest feature 6: Internationally important populations of waterfowl: redshank</b></p> <p>The conservation objective for the “redshank” feature of the Severn Estuary Ramsar Site is to maintain the feature in favourable condition, as defined by the conservation objective for the SPA “wintering redshank” feature.</p> <p><b>Ramsar interest feature 7: Internationally important populations of waterfowl: shelduck</b></p> <p>The conservation objective for the “shelduck” feature of the Severn Estuary Ramsar Site is to maintain the feature in favourable condition, as defined by the conservation objective for the SPA “wintering shelduck” feature.</p> <p><b>Ramsar interest feature 8: Internationally important populations of waterfowl: gadwall</b></p> <p>The conservation objective for the “gadwall” feature of the Severn Estuary Ramsar Site is to maintain the feature in favourable condition, as defined by the conservation objective for the SPA “wintering gadwall” feature.</p>

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	<p><b>Ramsar interest feature 9: Internationally important assemblage of waterfowl</b></p> <p>The conservation objective for the “internationally important assemblage of waterfowl” feature of the Severn Estuary Ramsar Site is to maintain the feature in favourable condition, as defined by the conservation objective for the SPA “internationally important assemblage of waterfowl” feature - with special reference to the individual species listed and their population figures.</p>
<p><b>Vulnerabilities (includes existing pressures and trends)</b></p>	<ul style="list-style-type: none"> <li>■ <b>Physical loss of supporting habitats through removal</b> - The physical loss of areas of intertidal habitats may be caused directly through change of land use or indirectly as a consequence of changes to sedimentation processes (e.g. coastal defences) as well as via the effects of smothering by artificial structures (e.g. jetties) or the disposal of spoils. Activities or developments resulting in physical loss of the intertidal supporting habitats are likely to reduce the availability of feeding and roosting habitats. The intertidal mudflats and sandflats and the saltmarsh are highly sensitive to removal by land reclamation and barrage construction. Information provided by NE and CCW states that large areas of the European marine site are not currently under threat, however when combined with a high level of sensitivity this leads to a moderate vulnerability.</li> <li>■ <b>Noise or visual disturbance</b> - Overwintering birds are disturbed by sudden movements and sudden noises. This can displace the birds from their feeding grounds. Disturbance can prevent the birds from feeding and in response they either a) decrease their energy intake at their present (disturbed) feeding site through displacement activity, or b) move to an alternative less favoured feeding site. Such a response affects energy budgets and thus survival. There is intermittent disturbance to the internationally important migratory species and the waterfowl assemblage from both the landward and seaward side of the site which has increased in recent years, due to the estuary becoming more populated and the development of all weather recreational pursuits. Bewick’s swans are mainly affected by disturbance from the landward side</li> </ul>

<b>Site Name: Severn Estuary</b> <b>Location (Lat &amp; Long):</b> <b>51 13 29 N</b> <b>03 02 57 W</b> <b>JNCC Site Code: UK11081</b> <b>Size: 24662.98</b> <b>Designation: Ramsar</b>	<b>Habitats Regulations Assessment: Data Proforma</b>
	<p>and any increase in disturbance should be avoided. All supporting habitats are currently highly vulnerable to noise and visual disturbance.</p> <ul style="list-style-type: none"> <li>■ <b>Contamination by synthetic and/or non-synthetic toxic compounds</b> - Waterfowl are subject to the accumulation of toxins through the food chain or through direct contact with toxic substances when roosting or feeding. Their ability to feed can also be affected by the abundance or change in palatability of their prey caused by toxic contamination. At the moment there is no evidence to show that this is the case, but the estuary is vulnerable to oil spills and there is a continuous discharge of toxins into the estuary, some of which bind to the sediments. NE and CCW identify this is an area which requires further assessment. The intertidal mudflats and sandflats and the saltmarsh are currently highly vulnerable to the introduction of synthetic and non-synthetic compounds.</li> <li>■ <b>Damage by abrasion or selective extraction</b> - Saltmarsh may be physically damaged from overgrazing or eroded when boats are moored on it and when paths are worn through it to reach moored boats on foot or via vehicles. Currently all supporting habitats are considered to be moderately vulnerable to abrasion. Intertidal habitats are highly sensitive to damage by direct and indirect effects of aggregate dredging. The intertidal mudflats and sandflats and the shingle and rocky shore are therefore considered by NE and CCW to be highly vulnerable to selective extraction.</li> <li>■ <b>Changes in nutrient and/or organic loading</b> - Changes in organic or nutrient loading can change the species composition of the plants on the saltmarsh and thus the structure of the sward. Increases in nutrients can also cause excessive algal growth on the mudflats, denying the birds access to their invertebrate prey and changing the invertebrate species composition in the sediment. Though the water quality has been improved in recent years there are still local areas of concern and any increase in nutrient loading should be avoided. At present the intertidal mudflats and sandflats are moderately vulnerable to this category of operation.</li> </ul>

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	<ul style="list-style-type: none"> <li>■ <b>Biological disturbance through the selective extraction of species</b> - Wildfowling is carried out all around the estuary. NE and CCW have not established that it has a detrimental effect on the overall bird populations but state that wildfowling needs to be exercised in a managed and sustainable manner preferably by a British Association of Shooting and Conservation (BASC) affiliated association, applying the BASC wildfowlers code of conduct. Bait digging is also carried out around the estuary. If too large an area is regularly dug over, it can change the availability of prey in the sediment as the area needs a period of recovery and recolonisation. The removal of strandline vegetation by beach cleaning removes an important habitat for invertebrates, as well as many of the invertebrates themselves, reducing the quantity and variety of prey available to the birds. Much of the saltmarsh is managed by grazing and changes in management can alter the availability of prey and suitability of roosting sites. The saltmarsh is currently highly vulnerable to the selective extraction of species.</li> </ul>