

Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora

and

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

FORMAT FOR A PRIORITISED ACTION FRAMEWORK (PAF) FOR NATURA 2000

For the EU Multiannual Financing Period 2014-2020

England including marine to 12 nautical miles (2nd edition)

(Version 30 March 2016)

Summary of England PAF, 2nd edition

This annex to the UK Prioritised Actions Framework applies to Natura 2000 sites in England, including inshore waters up to 12 nautical miles. This 2nd edition updates the first PAF (edition 2013) to incorporate the latest conservation status assessments, the outcomes of the LIFE funded <u>IPENS</u> project (Improvement Programme for England's Natura 2000 Sites) and views of stakeholders and partners.

Prioritised Actions Frameworks set out the priorities and funding needs for Natura 2000. The actions and cost estimates set out in this England PAF do not commit Government or any other organisation to provide additional funding for Natura 2000, although applications under e.g. LIFE and European Maritime and Fisheries Fund do require match funding. Rather the PAF provides a strategic overview to where resources are best targeted in order to improve the condition of England Natura 2000 sites and where possible deliver multiple environmental benefits. This revision will also improve the targeting of actions to better protect and enhance valuable wildlife sites and species, maximising benefits for the environment, people and the economy as part of the Government's 25 year Environment Plan.

Natura 2000 sites represent the best of England's highly varied nature reserves and are fundamental to the protection, sustainable use and enjoyment of the natural environment. They support a wide variety of habitats and species, ranging from marine reefs to sand dunes, and lowland bogs to mountain rocks. <u>See section A.</u>

Natura 2000 sites in England, next to their main purpose of conserving species and habitats of European importance, provide significant benefits through a wide range of goods and services to society. The management and enhancement of Natura 2000 sites provides ecosystem services (e.g. through water purification, flood protection, carbon fixation and storage and pollination), creates jobs and has cultural and recreational value. The management and investments in Natura 2000 thereby contributes to a range of government policy objectives, such as those associated with economic growth, water management, clean air, climate change and health & well-being. See section F3.

Whilst the overall conservation status of Natura 2000 habitats and species in the UK is still largely unfavourable, more than 96% of the terrestrial Natura 2000 sites in England have been assessed as being in overall favourable, or unfavourable recovering condition. Ensuring all sites contribute to achieving Favourable Conservation Status remains a significant challenge. The main issues (pressures and threats) affecting the sites in England are associated with pollution, agriculture and modification of natural condition. See section B.

All terrestrial sites are also underpinned by domestic nature conservation legislation and designations. Countryside Stewardship is a prime mechanism to improve the condition of these sites. For inshore marine sites Management Schemes, local byelaws and national policies are being used. Available schemes are not sufficient to address all site pressures and threats. Broader biodiversity approaches are also needed to support protected sites. See section C.

The outcomes of <u>IPENS</u> form a programme of site- and theme-based priorities to address the outstanding issues for England's Natura 2000 sites. In addition, ongoing management and programmed measures need to continue. Based on a combination of existing management commitments and additional costs highlighted in Site Improvement Plans (SIPs) an indicative figure of financial needs is estimated at £1.3-1.4 billion for period 2015-2020/21. This figure includes some of the £3 billion investment in agri-environment schemes over this period.

However, it is clear that a significant funding gap remains for individual measures. See section \underline{E} .

The main use of EU financial instruments for Natura 2000 is through RDPE Countryside Stewardship, along with moderate use of the LIFE programme. Although opportunities exist for integration in other EU funding instruments (ERDF, EMFF), it has proved challenging to gain recognition within the programmes, of the economic benefits of the natural environment, and hence the opportunities to encourage investment in the management of the Natura 2000 network have not been clear. See section D.

The IPENS programme identified funding options and lead delivery bodies for most actions needed for Natura 2000. However, measures can only be delivered as far as resources allow. To further aid decision making on England wide priorities for Natura 2000 and to support integration of those in delivery programmes, the PAF highlights the three strategic priorities for Natura 2000 in England for the period to 2020 as (See section F):

- 1) halting and reversing declines of designated interest features within the Natura 2000 network;
- 2) implementation of Natura 2000 measures that also contribute to other existing objectives and priorities, in particular for the Water Framework Directive, Marine Strategy Framework Directive, and the England and European Biodiversity targets for 2020;
- 3) improving the condition of European interest features for which England's Natura 2000 sites make a particularly significant contribution to achieving a more favourable conservation status. This is also a longer term priority, associated with the delivery of Defra's 25 year plan for the environment.

Target sites and features for priorities 1 and 2 are listed in <u>appendices 2 to 5</u>, while priority measures for the third strategic priority are summarised for different ecosystem groups in <u>section G</u> along with an indication of how they contribute to priorities 1 and 2. The following ecosystem groups are considered a priority for Natura 2000 in this period:

- Natura 2000 core priority: E1.A Coastal: Sand dunes
- Natura 2000 core priority: E1.B Shingle and cliff habitats
- Natura 2000 core priority: E1.C Coastal grazing marsh
- Natura 2000 core priority: E2.A Intertidal
- <u>Natura 2000 core priority E2.B Subtidal / inshore marine</u>
- Natura 2000 core priority: E3.A. Standing waters
- Natura 2000 core priority: E3.B. Rivers
- Natura 2000 core priority: E4.A. Upland heath and bog
- Natura 2000 core priority: E4.B. Upland fen
- Natura 2000 core priority: E4.C. Lowland Heath
- Natura 2000 core priority: E4.D. Lowland Bog
- Natura 2000 core priority: E4.E. Lowland Fen
- Natura 2000 core priority: E5.A. Grassland
- Natura 2000 core priority: E5.B. Mined / disturbed
- Natura 2000 core priority: E5.C. Cultivated grass
- <u>Natura 2000 core priority: E5.D Floodplain grassland</u>
- Natura 2000 core priority: E6.A. Woodland
- <u>Natura 2000 core priority: E7.A. Rocky habitats</u>

This PAF 2^{nd} edition will be refreshed in 2018 ahead of the next EU financial framework, with a fuller revision planned for 2021. <u>See section H</u>.

A. Introductory overview of Natura 2000 network for territory

A.1 Short introduction to the habitat types of Annex I and species of Annex II of the Habitats Directive and Annex I and migratory bird species for which Natura 2000 sites are designated

England's highly varied geology and dynamic geomorphological processes are fundamental in shaping the landscape and the wide variety of habitats and species it supports, ranging from marine reefs to sand dunes, and lowland bogs to mountain rocks. The UK's geographic position – a northern temperate island close to a major continental land-mass – also results in its particular European importance for a number of groups of birds.

Under Directive 92/43/EEC on the conservation of natural habitats, England SACs have been designated for 69 Annex I habitat types and 39 Annex II species. This PAF update considers the Natura 2000 network in England as currently designated. The UK is considering several new (or extension to) SACs and SPAs. These will be included in future updates of the PAF.

The habitats comprise: 15 marine, coastal or halophytic habitats (including sea caves), 7 freshwater types, 8 coastal dunes, 8 grasslands, 5 heathlands, 2 sclerophyllous scrub habitats, 9 bogs, mires and fens, 6 rocky habitats or terrestrial caves and 9 Woodland habitats. The species groups include: 8 fish species, 1 amphibian, 12 invertebrates (of which 3 are freshwater), 7 mammals (of which 4 are bats), and 11 plants.

There are 19 habitats found within England SACs which are considered a priority habitat by the Habitats Directive, including *H1150 coastal lagoons, *H4020 Wet heathland with Dorset heath and cross-leaved heath, *H7110 active raised bogs and *H91J0 Yew-dominated woodland.

There is one priority species listed for England and that is the lower plant *S1390 Western Rustwort *Marsupella profunda*, which is found in the UK only in Cornwall at a small number of locations associated with china clay workings. The species has a narrow ecological niche and is at the edge of its range in the UK.

From an Atlantic biogeographic perspective the England SACs are of particular importance for some habitats and species which occur almost exclusively within England SACs in the Atlantic region: H6520 Mountain Hay Meadows, *H91J0 Yew dominated Woodland, S1654 Early Gentian.

Under the Birds Directive (2009/147/EC) there are 78 species for which SPAs have been designated in the UK of which 26 are breeding species, 39 are non-breeding species and 13 are both breeding and non-breeding species. In addition, the UK is of major international significance for several bird assemblages, which include breeding seabirds, wintering and passage waterbirds and birds of Britain's distinctive uplands. A high proportion – in some cases all – of the national and international populations of such species utilise the UK SPA network.

Candidate SCI	0
Sites of Community	12 England
Importance (SCIs)	2 England/Offshore
Reference to Commission	Link to Decisions at
Decisions on SCIs	http://ec.europa.eu/environment/nature/natura2000/sites_hab/bi
	<u>ogeog_regions/index_en.htm</u>
Designated Special Areas	230 England
of Conservation (SACs)	3 England/ Scotland
	7 England/ Wales
Total SACs (includes	242 England (1,068,476 ha)
Candidate SCI, SCI and	3 England/ Scotland (112,564ha)
designated SAC)	7 England/Wales (95,132ha)
	2 England/Offshore 231,394
Special Protection Areas	81 England (1,054,353 ha)
(SPAs)	1 SPA England/ Scotland (43,637 ha)
	3 SPA England/ Wales (209,247)
Total Natura 2000	882,676 ha
terrestrial area	
Total Natura 2000 marine	1,194,199 ha
area	

A.2 Number and area of Natura 2000 sites in England (including cross border sites)

Data: <u>http://jncc.defra.gov.uk/page-1456</u>; <u>http://jncc.defra.gov.uk/page-1399</u> All sites are listed on the Joint Nature Conservation Committee Website. See page <u>http://jncc.defra.gov.uk/page-1458</u> for SACs and <u>http://jncc.defra.gov.uk/page-1400</u> for SPAs.



A.3 Main land use cover and ecosystem categories for Natura 2000 sites

Figure 1. Relative area of main land use categories for Natura 2000 sites in England.



Figure 2. Overview map of the England Natura 2000 site series

B. Status of the Habitats and Species

B.1 Most recent assessment of conservation status of species and habitat types for territory

B.1.a Habitats and species of Habitats Directive

The tables below gives the UK conservation status (as reported in 2013) only for habitats and species of the Habitats Directive for which Natura 2000 sites are designated in England. A full list of habitats and species and their conservation status in the UK can be found here: http://jncc.defra.gov.uk/page-6387

Conservation Status		HABITATS			SPECIES					
Assessments	FV	U1	U2	XX	NA	FV	U1	U2	XX	NA
England Natura 2000 features	2	9	56	2	0	11	11	13	4	

FV - Favourable; U1 - Unfavourable inadequate; U2 - Unfavourable bad; XX - Unknown; NA - Not reported

Parameter		Н	ABITAT	S			5	SPECIES	5	
Conclusion	FV	U1	U2	XX	NA	FV	U1	U2	XX	NA
Range	64	1	2	2	0	29	4	6	0	0
Area / Population	22	27	6	14	0	13	9	11	6	0
Structure / Habitat	3	10	54	2	0	20	7	3	9	0
Future Prospects	9	17	39	4	0	12	11	8	8	0

FV - Favourable; U1 - Unfavourable inadequate; U2 - Unfavourable bad; XX - Unknown; NA - Not reported

B.1.b Bird species of Birds Directive

SPAs in England have been designated for 39 breeding bird species, of which 33 are considered to be Birds of Conservation Concern in the UK (BoCC4, 2015). For 8 of these species, the trend in England (and usually UK) SPAs is negative while the UK SPA network holds more than 25% of the total UK population:

- European storm-petrel
- Hen harrier
- Merlin
- Lesser black-backed gull
- Black-legged kittiwake
- Sandwich tern
- Little tern
- European nightjar

SPAs have been designated for 52 non-breeding bird species of which 41 are considered to be Birds of Conservation Concern in the UK. For 10 of species, the trend in England (and UK) SPAs is negative, while the UK SPA network holds more than 25% of the total UK population:

- Bewick swan
- Common shelduck
- Northern pintail
- Common pochard
- Northern lapwing
- Dunlin
- Ruff

- Bar-tailed godwit
- Common redshank
- Greater white-fronted goose

In addition, SPAs in England are designated for waterbird assemblages, breeding bird assemblages and seabird assemblages.

Sources:

- JNCC 2013. 10th Report by the United Kingdom under Article 12 on the implementation of the Directive on the conservation of wild birds (2009/147/EC) from January 2008 to December 2012. JNCC, Peterborough.
- BoCC4 2015: Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. Mark Eaton, Nicholas Aebischer, Andy Brown, Richard Hearn, Leigh Lock, Andy Musgrove, David Noble, David Stroud and Richard Gregory. British Birds 108 • December 2015 • 708–746

B.2 Overall assessment of conservation status by habitat category / species group

Whilst the overall conservation status of Natura 2000 habitats and species in the UK is largely unfavourable (2 out of 69 habitats favourable, and 11 out of 39 species favourable, see B1), more than 96% of the terrestrial Natura 2000 sites in England have been assessed as in overall favourable, or unfavourable recovering condition (derived from condition data of SSSIs based on Common Standards Monitoring, see figure 3 below).

It should be noted that the conservation status of European Habitats and Species is assessed at UK level, covering the whole habitat/species resource, inside as well as outside protected sites. At the same time, a habitat is only considered to be in favourable conservation status if more than 95% of its area is in favourable condition. The 60.7% of terrestrial Natura 2000 sites in England unfavourable-recovering condition (536,000 hectares) along with 30,000 hectares in unfavourable-no change, or declining condition, signify a considerable challenge for further improvement.

For marine sites there are currently significant challenges to understanding the condition of designated features. These challenges arise primarily from the cost and technical difficulties of undertaking survey work, and a lower level of understanding of what constitutes 'favourable' in the absence of strong baseline data. A review of existing activities across 45 marine Natura 2000 sites assessed a number of activities as high and medium risk. This included: risks associated with fishing and harvesting of marine resources; recreational activity; the spread of non-native species; water pollution; coastal squeeze; changes to discard policy; development pressure; and climate change.



Figure 3. Condition of (terrestrial) Natura 2000 sites in England as at February 2015

Source: IPENS Project (2015) Improvement Programme for England's Natura 2000 Sites (IPENS): Planning for the future. Programme report – a summary of the programme findings. Natural England. Data derived from condition assessments of SSSIs.

^	Enį	gland
	Annex	l Habitats
Category of pressure/ threat	pressure	threat
Pollution	72	73
Agriculture	46	43
Modification of natural conditions	43	42
Disturbances due to human activities	38	37
Natural processes (excluding catastrophes)	38	36
Climate change	26	51
Invasive and introduced species	24	25
Forestry	21	18
Mining, quarrying & energy production	19	23
Urbanisation, residential & commercial development	19	21
Use of living resources (other than agriculture & forestry)	16	15
Transportation & service infrastructure	12	15
Geological events, natural catastrophes	3	3

B.3 Overview of pressures and threats to species and habitats

Figure 4a. Pressures and threats reported for article 17 (2013), England level reporting. The table captures the number of habitats (features for which Natura 2000 sites have been designated in England only, including marine sites) affected by each category of pressure/threat. The pressures and threats relate to the entire resource in England, not just the Natura 2000 sites.

	Eng	land
	Annex I	l Species
Category of pressure/ threat	pressure	threat
Agriculture	28	27
Modification of natural conditions	26	25
Pollution	19	18
Use of living resources (other than agriculture & forestry)	14	12
Disturbances due to human activities	11	11
Forestry	9	10
Natural processes (excluding catastrophes)	8	12
Transportation & service infrastructure	7	5
Urbanisation, residential & commercial development	7	8
Climate change	6	12
Invasive and introduced species	6	6
Mining, quarrying & energy production	3	5
Geological events, natural catastrophes	2	3

Figure 4b. Pressures and threats reported for article 17 (2013), England level reporting. The table captures the number of species (features for which Natura 2000 sites have been designated in England only, including marine sites) affected by each category of pressure/threat. The pressures and threats relate to the entire resource in England, not just the Natura 2000 sites.

Percentage of IPENS Site Improvement Plans (SIPs)¹ where the issue has been recorded as affecting the site

NB: These issues may be due to onsite or offsite activities which operate at a range of scales from local (e.g. grazing) to catchment (e.g. water pollution) to international (e.g. air pollution).



¹ For more information about Site Improvement Plans, see

https://www.gov.uk/government/publications/improvement-programme-for-englands-natura-2000-sitesipens. Note that a single Site Improvement Plan can cover multiple Natura 2000 sites, such as spatially overlapping SACs and SPAs.

C. Legal and administrative provisions for the protection and management of the Natura 2000 sites

C.1 Relevant legal provisions

Regulatory provisions

The Birds and Habitats Directives are transposed into national legislation through the *Conservation of Habitats and Species Regulations 2010* (the *Habitats Regulations*) and the *Wildlife and Countryside Act 1981*.

The legal site documentation for England Natura 2000 sites is provided by the European site 'citation' and accompanying register entry and map, which are available for public inspection (under regulation 13 of the Habitats Regulations).

All terrestrial Natura 2000 sites are underpinned as Sites of Special Scientific Interest (SSSI), which provides the principle site management mechanism. This mechanism includes *inter alia*: the ability for the Statutory Nature Conservation Agency (Natural England) to control operations that could adversely affect SSSI land within a Natura 2000 site (in accordance with Article 6(2) of the Habitats Directive); and also incentive and advisory aspects, which can secure the necessary active management of SSSI land within SACs (in accordance with Article 6(1) of the Habitats Directive).

Section 28 of the Wildlife and Countryside Act 1981 requires planning authorities to take reasonable steps to conserve and enhance SSSIs in their decision making. The National Planning Policy Framework (NPPF), which all planning decisions have to be compliant with, also requires that they be protected.

Site Ownership

Approximately 40% of terrestrial sites are in private ownership, primarily with an agricultural land use. Over 20% are in public ownership as part of commercial forestry plantations, Ministry of Defence training grounds, or land managed as National Nature Reserves. The water industry owns the largest commercial interest, largely as supply reservoirs and their catchments. Voluntary nature conservation organisations (NGOs) own less than 10% of sites.

Over half (by area) of the Natura 2000 sites in England cover areas of the sea and foreshore. Natural England has responsibility for providing advice on the management of these European Marine Sites out to 12 nautical miles. From 12 nautical miles out, the Joint Nature Conservation Committee (JNCC) has responsibility.

Administrative and contractual provisions

Countryside Stewardship (formerly known as Environmental Stewardship), managed by Natural England, is the prime mechanism to help land managers meet restoration costs to improve site condition and this will continue. Biodiversity and water quality improvements are the main scheme objectives, which also aims to secure joint benefits for a range of other objectives. Although there is no specific targeting to deliver Natura 2000 objectives, the new scheme, which opened to applicants in July 2015, is nevertheless more focused and targeted than predecessors to ensure best value for money.

Nevertheless, the above scheme cannot address all site pressures and therefore alternative approaches and innovative funding solutions may be required. Natural England's Improvement Programme for England Natura 2000 Sites (IPENS) reported in May 2015 and

has identified the potential mechanisms to bring sites and species into favourable condition. This will also help to achieve broader biodiversity objectives and Favourable Conservation Status for the annex habitats and species protected under the Habitats Directive. **The IPENS project provides the key evidence to support this revision of the England PAF.** The IPENS report is available here: <u>https://www.gov.uk/government/publications/improvement-</u> programme-for-englands-natura-2000-sites-ipens

In addition to the above, positive management of sites can also be achieved through the use of management agreements and if needs be compulsory management mechanisms (e.g. management schemes and notices), although the latter are last resort provisions.

In the marine environment, management schemes provide a good framework within which all the relevant authorities responsible for managing activities can work together to optimise management resources and progress management measures in an integrated fashion. The appropriate conservation measures for sites will vary according to their specific conservation needs. Note that for some less complex sites, a management scheme is not always necessary to bring about effective protection.

Competent authorities

A broad range of competent authorities are responsible for the management of Natura 2000 sites, noting that under the Habitats Regulations, all public bodies are required to exercise their functions having regard to the requirements of the Habitats and Wild Birds Directives where those requirements may be affected. All competent authorities have an explicit duty to carry out appropriate assessments before undertaking or authorising new plans and projects which are likely to have a significant effect on a European Site.

These bodies include but are not limited to:

- Natural England (e.g. general site management statutory consultee for Habitats Regulations Assessments)
- Environment Agency (e.g. impacts of environmental permitting)
- *Marine Management Organisation (e.g. impacts of marine planning consents, byelaws for the protection of sites in the inshore region)*
- Local planning authorities (e.g. impacts of planning consents)
- *Port authorities (e.g. impacts of port development, maintenance dredging etc.)*
- *Highways England (e.g. impacts of road development)*
- Inshore Fisheries and Conservation Authorities IFCAs (e.g. impacts of fisheries)
- Internal Drainage Boards IDBs (e.g. impacts of land drainage, implementing SSSI/Natura 2000 water level management plans)

C.2 Progress and perspectives for management planning for the sites

Progress in	All Natura 2000 sites (terrestrial and marine) in England have			
establishing	Conservation Objectives in place These are based on the impartial			
conservation objectives	advice of Natural England as the statutory nature conservation body			
	Work is currently underway to improve the transparency and			
	application of these conservation objectives in order to:			
	a) acknowledge the need to further underpin the conservation			
	measures considered necessary under article 6(1) of the EU			
	Habitats Directive and refine site conservation objective			
	advice in the light of new evidence; and			
	b) streamline implementation, noting that where more detailed			
	advice is provided, this can facilitate and simplify decision-			
	making made under article $6(2)$ and $6(3)$ of the EU Habitats			
	Directive, and improve a competent authority's understanding			
	of those activities that can be screened out of at an early stage			
	than might otherwise not be allowed where such advice is not			
	currently provided (i.e. reducing administrative burdens).			
	Site-level Conservation Objectives, comprising a package of			
	objectives, supplementary advice (where completed) and the legal site			
	citation, are available at:			
	https://www.gov.uk/guidance/conservation-objectives-for-land-based-			
	protected-sites-in-england-how-to-use-the-site-advice, and			
	http://publications.naturalengland.org.uk/category/6490068894089216			
	The Conservation Objectives for European Marine sites are provided			
	within the comprehensive European marine site advice packages and			
	are available at:			
	https://www.gov.uk/government/collections/conservation-advice-			
	packages-for-marine-protected-areas and			
	http://publications.naturalengland.org.uk/category/3212324			
% of sites with plans	10%			
completed	1070			
% of sites with plans in	2%			
preparation				
% of sites with no	88%			
plans				
Link to web sites with	See below.			
plans & any guidelines				
More background	There are a number of positive mechanisms employed to get the			
information on plans	designated features of Natura 2000 sites into a favourable condition.			
and comment on other	SSSI Remedies information (measures to improve condition) details			
instruments/approaches	the range of preventative and proactive measures adopted where the			
for management	features of a site has been monitored and judged to be in an			
planning, information	unfavourable condition. Through this mechanism, Natural England			
on and plans for	identifies what mechanisms need to be put in place and by whom in			
particular sectors (e.g.	order to improve site condition, which is then agreed with a range of			
forestry etc.)	partner organisations. Those statutory bodies and partners who are			

responsible for the delivery of individual remedies include Local Authorities, Environment Agency, Ministry of Defence and Water Companies, who are able to access the database securely in order to keep the status of remedies up to date and comment on any new actions identified as needed. Whilst not on any website, this information is available from Natural England on request, who maintain the database. Natural England is going through a similar process for sites, which whilst their features are currently monitored as being in favourable condition, are considered to be at future risk. In these cases actions will be put in place to manage that risk.
In addition the IPENS project has provided individual Site Improvement Plans (SIPs) for each Natura 2000 site (terrestrial and marine), a short reference document that covers the whole site, complimenting and existing plan(s) for the site. SIPs provide a high level overview of the issues (both current and predicted) affecting the site-level conservation objectives and the condition of the Natura 2000 features on the site and outline the priority measures required to improve the condition of the features, who is responsible for taking the actions forward and highlight potential delivery mechanisms and funding sources (note SIPs do not cover issues where remedial actions are already in place or ongoing management activities which are required for maintenance).
The IPENS programme has recorded numerous actions to improve the management of the Natura 2000 sites in England over the short and longer term. Strategic priorities based on the programme are included in this PAF and will be used to further plan and implement the Natura 2000 improvement measures. Priority measures will need to influence corporate planning cycles and agreed priorities will need to be embedded in delivery work programmes of the relevant organisations, including targeted funding programmes.
For those sites that are water dependent, SIPs have been incorporated into relevant River Basin Management Plans. Note that SIPs are not detailed habitat management plans or fully agreed and funded programmes of specific measures ready for on the ground delivery, rather they outline the range of options for relevant stakeholders to consider and take forward accordingly (subject to the securing of resources).
SIPs are available here: <u>http://publications.naturalengland.org.uk/category/5458594975711232</u>
Details of comprehensive management plans, as defined under Article 17 of the Habitats Directive, can be found in the latest UK Article 17 report (see Annex A, Appendix 2 of the UK General Implementation Report 2013): http://incc.defra.gov.uk/pdf/A17_2013_Gen_Imp%20_Ppt_Appd.pdf
Other types of plans in place, which integrate the management of

England Natura 2000 sites including:					
England Natura 2000 Sites, including.					
• areas managed by conservation NGOs, which usually have management plans in place covering the area in their management.					
• Forestry Design Plans (drawn up by Forest Enterprise) which integrate Natura 2000 sites into forestry management plan.					
• Other Major Landowner Group partners with management plans (e.g. Ministry of Defence (MOD) and some water/ utilities companies).					
• <i>River Basin Management Plans</i> – <i>incorporate all remedy mechanism for water dependent Natura 2000 sites into their plans.</i>					
• Shoreline Management Plans and Coastal Flood Risk Management Strategies – set out how the coastline will be managed over a 100 year period and include implications for Natura 2000 sites in order to ensure their sustainable management in the face of issues such as the loss of intertidal habitat due to sea level rise.					
Note that the scope and objectives of such plans is, in most cases, very broad (i.e. to deliver broader environmental objectives beyond Natura 2000). The following are typical examples.					
 An example of a forestry design plan can be found at: <u>http://www.forestry.gov.uk/forestry/infd-7bbkt4</u> All the river basin management plans can be found at: <u>http://www.environment-</u> 					
 agency.gov.uk/research/planning/33106.aspx An example of a Ministry of Defence Integrated Rural Management Plan (IRMP) at the Dartmoor Training Area can be found here: <u>https://www.gov.uk/government/publications/dartmoor-training-</u> area-integrated-rural-management-plan-volume-1 					

C.3 Relevant government and non-governmental plans

A range of government and non-government plans are listed, ranging from strategic planning documents to plans specific to conservation. Each has an influence on the conservation of Natura 2000 sites although the degree of influence varies depending on the nature of the plan.

National Strategic

England Biodiversity Strategy 2020 - The England Biodiversity Strategy 2020 sets out an overarching objective to halt overall biodiversity loss on land and sea, with high-level outcomes to show what achieving this will mean in practice. The high-level outcomes, amongst other things, help to drive improvement in the condition of Natura 2000 sites and increase the extent, condition and connectivity of habitats (including those listed in the

Habitats Directive) and ecosystems. Government and the wider biodiversity partnership have put in place a strategic approach, informed by the IPENS Programme, to identifying funding priorities necessary to achieve the Biodiversity 2020 outcomes.

Government 25 year plan for the natural environment - In addition, the Government is developing a 25 year plan for the natural environment. The plan is due to be published by the end of 2016 and will set out how we manage our natural environment (including natural assets subject to EU Directives), aiding the delivery of multiple benefits, resilience in the face of pressure and change (e.g. population growth, global geo-political dynamics, climate change, health issues) and unleashing new and innovative opportunities for investment in our natural assets. The framework will set out a vision for better environmental management through integrated decisions that use river catchments and landscapes as the building blocks. The PAF provides a key tool in achieving this objective in that it will improve the targeting of actions to better protect and enhance valuable wildlife sites and species, maximising benefits for the environment, people and the economy.

UK Post-2010 Biodiversity Framework – Sets the strategic framework and broad enabling structure for action for the four countries of the UK to meet commitments under the Convention of Biological Diversity ('Aichi' targets). It aims to ensure that devolved implementation takes account of how national activities relate to international and European commitments, including those of the Habitats Directive.

Terrestrial

National Park Management Plans – Statutory management plans, which set key policy for the park area. They set out a long term strategic vision together with shorter term priorities for action and partnership working, primarily to guide the delivery of the National Park purposes. National Park Management Plans operate alongside Local Development Frameworks.

Shoreline Management Plans (SMP) - A SMP is a large-scale assessment of the risks associated with coastal processes and helps reduce these risks to people and the developed, historic and natural environments. SMPs include recommendations for climate change adaptation and the maintenance of Natura 2000 sites in favourable condition. The second generation of SMPs was substantially completed at the end of 2014.

Local Plans

The National Planning Policy Framework (NPPF) – The NPPF sets out the provision for Local Plans, which must be prepared with the objective of contributing to the achievement of sustainable development. To this end, they should be consistent with the principles and policies set out in the NPPF, including the presumption in favour of sustainable development. Each Local Planning Authority should produce a Local Plan for its area and should set out the strategic priorities for the area in the Local Plan. This should include **strategic policies** to deliver *inter alia* climate change mitigation and adaptation, conservation and enhancement of the natural and historic environment, including landscape.

Local Plans – Local plans play a key role in protecting Natura 2000 sites, through the prevention of inappropriate developments at a local and strategic level.

Fresh Water

River Basin Management Plans (Water Framework Directive) - Identify the main issues for the water environment and what we need to do to tackle them, as required under the Water Framework Directive. They set out measures required to improve the condition status of

water-dependent Natura 2000 'protected areas'. As captured above in section C2, Natural England has developed site improvement plans (SIPs), which have fed into the current round of RBMPs.

Water Company Asset Management Plans - Plans produced by each Water Company which set out proposed spending plans for the next 5 years. Natural England works to ensure that their plans contain measures that will enable them to deliver their statutory obligations for Natura 2000 sites.

Water Company Water Resource Management Plans - Define how each water company will meet customer demand over the next 25 years, including tackling growth and dealing with climate change. Natural England works to ensure that the requirements of Natura 2000 sites are embedded into these plans.

Drought Plans – Produced by Water Companies and the Environment Agency to outline how water resources will be managed during drought periods, including a definition of roles and responsibilities. They include ways of reconciling the competing needs of public water supply with the environment, including Natura 2000 requirements.

Water Level Management Plans (WLMPs) – Provide details of how water levels should be managed for the purposes of conservation on certain water level dependent Sites of Special Scientific Interest, a subset of which are also Natura 2000 sites. Developed by the Environment Agency or Internal Drainage Boards.

Catchment Abstraction Strategies (CAMS) – Produced by the Environment Agency to assess how much water is reliably available in a catchment to appropriately determine time-limited abstraction licences. CAMS aim to safeguard water resources despite competing pressures and ensure integrated catchment management, including the needs of water dependent Natura 2000 sites.

Catchment Flood Management Plans (CMPs) – Produced by the Environment Agency to help us understand the scale and extent of flooding now and in the future and set policies for managing flood risk in each catchment. They are used to inform planning and decision making, including for conservation purposes. They indicate the likely extent of flood impact (positive or negative) on Natura 2000 sites within each catchment.

Surface Water Management Plans (SWMPs) – Plans which local authorities may produce in consultation with key local partners, which outline the preferred surface water management strategy in a given location. SWMPs should take into account measures required to achieve objectives in European legislation, including the Habitats Directive.

Landscape and Biodiversity

Area of Outstanding Natural Beauty (AONB) Management Plans – A statutory requirement for local authorities and Conservation Boards. The plans contain policies and actions to conserve the natural beauty of an AONB and to help public enjoyment of it. They set out key issues for biodiversity and policies to conserve and enhance it, including for Natura 2000 sites.

Forest Design Plans – Produced by the Forestry Commission, these plans set out the management proposals for the next 30 years for the woodlands for which the Forestry Commission have direct responsibility. They include tree felling and re-establishment.

Where a forest is coincident with a Natura 2000 site, the Forest Design Plan must take into account the requirements of the protected site.

Green Infrastructure Strategies – Provide an over-arching vision for managing green spaces and water environments in an area. They can recognise the functional importance of 'green and blue' infrastructure as a regeneration and sustainable development tool and in adapting and mitigating climate change. They may also highlight areas which need protection as well as opportunities for improving habitat functionality through the creation or enhancement of green infrastructure. They would be expected to recognise Natura 2000 sites and may provide a forum for setting out 'off-site' issues relevant to Natura 2000 site protection.

Section 41 of the Natural Environment and Rural Communities Act 2006 (NERC) - requires the Secretary of State to take reasonably practical steps to further the conservation of habitats and species afforded conservation priority and promote the taking by others of such steps.

Marine

EU Marine Strategy Framework Directive (MSFD) - provides the overarching framework for delivering Good Environmental Status (GES) for our seas. Although GES is not directly equivalent to Favourable Conservation Status (FCS) the delivery of GES is expected to contribute to FCS for Annex I and II habitats and species, particularly outside of SACs and SPAs. The UK is finalising targets and indicators for MSFD biodiversity descriptors and some of the proposed targets directly reflect FCS targets and therefore assumes that no additional measures will be needed beyond those already in existence. The MSFD specifically refers to Marine Protected Areas (MPAs) being one the measures needed to deliver GES which explicitly links the Natura network.

Water Framework Directive (WFD) - contains targets to deliver GES in marine and transitional waters out to 1nm (in England) by 2020.

UK Marine Policy Statement - contains a commitment to establishing an ecologically coherent network of Marine Protected Areas (MPAs) comprising Natura 2000 sites and national MPAs. New national MPAs (known as Marine Conservation Zones (MCZs) in English waters) are currently being selected and it is expected that although these new national sites will not protect Annex I and II features, they may contribute to the overall coherence of the network. It is however possible that the new MCZs may make a contribution to wider measures, to protect important bird habitat outside SPAs and therefore contribute to meeting GES as required under the MSFD.

Marine Plans – Marine plans are being prepared for England's inshore and offshore waters, which will identify current activities taking place and potential conflicts between sectors. Currently plans are available for the Eastern coast inshore and offshore and are being prepared for the south coast.

D Current experience with use of EU financial instruments

D1 European Agricultural Fund for Rural Development (EAFRD)

Provide a summary of allocations under relevant provisions of rural development fund for Natura 2000 management, (as well as other relevant national/regional financing)

0 1	0	J 0/
Fund	Provision	Level of Use*
Measure 10	Environmental Stewardship	VS - No ring fencing for Natura
(Article 28)	(including High Level	2000 but c£54m per annum directly
	Stewardship and Countryside	attributed to deliver Natura 2000
	Stewardship)	objectives.
Other relevant (national/regional) payment schemes		MU (Moderate use) Conservation
for Territory		and Enhancement Scheme (CES)

Summary of key Natura 2000 related measures being undertaken under fund. Ongoing support for the agricultural management necessary to prevent deterioration and secure favourable conservation status on Natura 2000 sites has been provided through Environmental Stewardship Schemes (Entry Level Stewardship & High Level Stewardship, plus organic and uplands sub-schemes), the Environmentally Sensitive Areas scheme, and the Countryside Stewardship scheme. Woodland grant schemes have been used to secure and maintain favourable condition of woodland Natura 2000 sites. Defra will be investing over £3 billion in agri-environment schemes (Environmental Stewardship and the new Countryside Stewardship scheme) in the next Rural Development Programme 2014-2020, including around £2.1 billion on existing environmental schemes and around £900 million on the new Countryside Stewardship scheme, to support rural businesses to improve the countryside environment. Addressing loss of biodiversity will be a priority for the new scheme. In addition, and as a core element of the approach to securing synergies across a wide range of rural habitats, funding will look to maximise opportunities to deliver biodiversity, water quality and flooding benefits together.

Future Natura 2000 agri-environment funding (to 2020) is estimated to be in the region of £54.4m per annum. This includes requirements for capital spend in support of on-site agrienvironment land management costs for terrestrial habitats within the series. It excludes costs relating to woodland, rivers and open water sites and any off-site works such as those required to deal with diffuse pollution or air pollution.

Conservation and Enhancement Scheme (CES) is a relatively small but effective Grant in Aid scheme used by Natural England to fund management actions on SSSI land that is not eligible for environmental stewardship.

Other potential measures being explored

Other schemes under RDPE include the Countryside Productivity Scheme, administered by the Rural Payments Agency (RPA), and Leader. The former capital grant scheme may provide a potential funding source to address Nitrogen deposition impacts on Natura 2000 sites.

Key lessons learnt and obstacles encountered:

Voluntary measures within the ERDP/RDPE are very effective in preventing deterioration and improving the condition of Natura 2000 sites. A Natural England commissioned report 'Assessment of the effect of Environmental Stewardship on improving the ecological status of *grassland, moorland and heath (NECR156 – September 2014)*' concluded that while it has not been able to show that HLS consistently improves all features and habitats when applied, it has shown that HLS has generally been well targeted with management options chosen that are suitable for the condition of the habitat at the chosen location. Nevertheless, Natural England should continue to seek to improve current agreements in addition to new agreements under Countryside Stewardship.

Experience and evaluation with Environmental Stewardship points to the value of advice and guidance, some of which can be embedded in scheme design.

Under EU rules, there is an increased focus on verification and control requirements. While we agree on the need for <u>appropriate</u> controls for public money, we would argue that the rules designed for CAP Pillar 1 are not best suited to regulate Pillar 2 measures purchasing public goods.

Initial upfront capital costs are a barrier to moorland management, noting that Environmental Stewardship payments can only be made once the work has been done.

* Where estimates are available they should be provided. Otherwise indicate as VS Very significant; MU Moderate Use; MI Minor use; NU No use

D.2 European Maritime and Fisheries Fund (EMFF)

Provide a summary of allocations under Axis 1-4 of EMFF used for Natura 2000 management, (as well as other relevant national/regional funding)

Fund	Provision	Level of Use*
EMFF		NU but likely to be MS in future
Other (national/reg	gional) payment schemes for	
Territory		

Summary of key Natura 2000 related measures being undertaken under fund:

The UK Partnership Agreements (2014) clarifies that EMFF funding will be focused primarily on supporting the fisheries and aquaculture sectors to implement the new Common Fisheries Policy, with the aim of making fishing more sustainable, decentralising decision making and eliminating discards, which will bring environmental and biodiversity benefits. More broadly, a small element of EMFF funding will also be available to encourage actions to maintain and restore the natural diversity of the marine ecosystem, achieve Good Environmental Status under Marine Strategy Framework Directive, and carry out evidence work contributing to the production of marine Plans (including implementation of the Maritime Spatial Planning Directive) for example.

For example, the revised CFP has significant environmental obligations built in to it including, but not exclusively, the "Landings Obligation". There is also the expectation of greater integration with other EU policy instruments, including Natura 2000 but also a desire to move to more sustainable fisheries (Maximum Sustainable Yield for all quota stocks supposed to be achieved by 2015) and preferential shift in quota allocations to smaller scale (less environmentally damaging) operations. Trials of less damaging gear could significantly contribute to Natura 2000 objectives.

The operational programme for the EMFF has been agreed and set by Defra. There is a list of "Articles" that set out the broad areas that qualify for funding. The UK budget is €243m. For England, the first call under EMFF is due in 2016 and is managed by the Marine

Management Organisation on behalf of Defra.

One of the main areas the CFP may complement Natura 2000 is mapping effort and enforcement. Currently the Control Regulation requires all vessels over 12m to carry VMS (Vessel Monitoring System). Many of the Inshore Fishery and Conservation Authorities (IFCAs) are looking at updates to this technology to apply to the <12m fleet so as to be better able to manage their fished areas with respect to the geography of Natura 2000 seabed features. This is a key piece of work and some IFCAs have made it a condition that inshore vessels must carry such technology in order to fish even in the vicinity (i.e. not necessarily inside) of a Natura 2000 site. Greater emphasis is being made of EMFF to fund a significant proportion of the English inshore fleet to install this updated technology referred to as iVMS (inshore VMS).

Key lessons learnt and obstacles encountered:

The potential to enable Natura 2000 management to be funded through EMFF has not previously been taken up in the UK, although the application process appears less complex than other match funding schemes, such as LIFE (below). More will need to be done to integrate Natura 2000 outcomes into the EMFF to enable sustainable marine management in future.

EMFF and LIFE have a role in helping fisheries get onto a sustainable footing and contribute to meeting Natura 2000 conservation objectives.

Where estimates are available they should be provided. Otherwise indicate as VS Very significant; MU Moderate Use; MI Minor use; NU No use

D.3 Structural Funds and the Cohesion Fund

Provide a summary of allocations under relevant provisions of structural funds used for Natura 2000 management, (as well as other relevant national/regional funding)

Fund	Provision	Level of Use*	
European	ERDF	NU	
Regional	INTERREG	NU	
Development			
Fund - ERDF			
European Social F	und (ESF)	NU	

Summary of key Natura 2000 related measures being undertaken under fund: Biodiversity is referenced as an eligible area for support under ERDF Thematic Objective 6: Environmental Protection and Resource efficiency. However, ERDF funding is predominantly about the economy. The UK's Operational Programme contains options for Local Enterprise Partnerships (LEPs) to develop projects that deliver multifunctional Green and Blue infrastructure, which must also deliver a biodiversity benefit (note this is not explicitly Natura 2000 but must contribute to priority habitat and species, and thus support delivery of UK and EU biodiversity objectives):

All Green Infrastructure projects are required to make a contribution towards biodiversity priorities (especially relating to national objectives to increase the provision of water, grass and woodland habitats) and in addition proposals will need to clearly show how they deliver at least one of the socio-economic benefits of Green Infrastructure below to deliver:

• Flooding alleviation and Water Management;

• *Pollution management/ control/ regulation (water and air);*

- Economic growth and Investment (new market opportunities);
- Health, Well-being, Recreation and Leisure (linked to a growth benefit);
- Provision of products from the land;
- Climate Change adaptation and mitigation.

Key lessons learnt and obstacles encountered:

ERDF funds are primarily aimed at economic development. It has proved challenging to gain recognition within the programmes (e.g. through LEP Strategies), of the economic benefits of the natural environment, and hence the opportunities to encourage investment in the management of the Natura 2000 network have not been clear. The UK Partnership Agreement (2014) provides an opportunity to consider sustainable growth and investment in Natura 2000 and wider biodiversity across the EU funds. Specifically, ERDF operations will include habitat creation to enhance the connectivity and resilience of priority sites and species; incorporating green infrastructure into revitalised and remediated sites including through site clearance, soil desealing, decontamination and land remediation.

INTERREG requires at least one other European partner to develop and deliver the project; application process can be lengthy and require significant administrative resource for development, at least 50% match funding required.

JNCC is a partner of the Marine Protected Areas in the Atlantic Arc (MAIA) INTERREG Project.

No current use of ESF, although we understand that at least one NGO has successfully tapped into this fund to train conservation volunteers.

Where estimates are available they should be provided. Otherwise indicate as VS Very significant; MU Moderate Use; MI Minor use; NU No use

D.4 LIFE

Provide a summary of allocations under LIFE for Natura 2000 management,

Fund	Provision	Level of Use*
LIFE	Nature and Biodiversity	MS but likely to be VS in future
	Climate Action	NU

Ongoing projects

Bure LIFE – Bring the Bure back to LIFE: Hoverton wetland restoration project (LIFE14 NAT/UK/000054) runs 2015 to 2020 with a total project cost of \in 5m. This project is led by Natural England to restore the naturally eutrophic lake habitat to a species-rich, clear-water state in the Broads.

MoorLIFE 2020 (LIFE14 NAT/UK/000070) runs 2015 to 2021 with a total project cost of €16m. This project is led by Peak District National Park Authority to conserve and protect the priority active blanket bog habitat within the South Pennine Moors' Natura 2000 site and the ecosystem services it provides.

LIFE Roseate Tern (LIFE14 NAT/UK/000394) runs 2015 to 2020 with a total project cost of €2.4m. This project is led by RSPB to improving the conservation prospects of the priority species roseate tern throughout its range in the UK and Ireland.

LIFE hen harriers - Conserving the hen harrier (Circus cyaneus) in northern England and

southern and eastern Scotland (LIFE13 NAT/UK/000258) runs 01 July 2014 to 30 June 2019 with a total project cost of \notin 2.3m. This project is led by RSPB and focuses on the protection of hen harriers from illegal prosecution.

LIFE WADERS FOR REAL – Demonstrating wader population recovery through innovative site management and novel stakeholder engagement (LIFE13 BIO/UK/000315) runs 01 June 2014 to 31 December 2018 with a total project cost of $\in 1.3$ m. This project is led by the Game & Wildlife Conservation Trust to reverse the decline of breeding waders in the river floodplain of the Avon Valley, part of which is designated as a Natura 2000 network site.

Cumbrian BogsLIFE+ - Restoration of degraded lowland raised bogs on three Cumbrian SCI/SACs (LIFE13 NAT/UK/000443) runs 01 August 2014 to 31 December 2019 with a total project cost of €6.6m. This project is led by Natural England to restore degraded lowland raised bog within three Natura 2000 network sites.

<u>THATS-LIFE - Restoring Humberhead Peatlands</u> (LIFE13 NAT/UK/000451) runs 01 July 2014 to 30 June 2017 with a total project cost of €5.6m. This project is led by Natural England to restore lowland raised bog habitat within the Humberhead Peatlands NNR.

LIFE Little Terns - Improving the conservation status of the little tern in the UK through targeted action at the most important colonies (LIFE12 NAT/UK/000869) runs 02 September 2013 to 31 August 2018 with a total project cost of \notin 3.3m. This project is led by RSBP to lay the foundations for the long-term recovery of the little tern (*Sterna albifrons*) in the UK.

<u>PIP GB - Pearls in Peril - securing the future of the freshwater pearl mussel in Great Britain</u> (LIFE11 NAT/UK/000383) runs 03 September 2012 to 02 September 2016 with a total project cost of \notin 4.6m. This project is led by SNH to safeguard the future pearl mussel (*M. margaritifera*) populations in 21 Natura 2000 sites across England, Scotland and Wales by tackling the main threats to this and by implementing best practice conservation methods.

Key lessons learnt and obstacles encountered:

The LIFE+ projects which have taken place within England have been considered a successful way of delivering new and focused resources for the conservation of Natura 2000 sites and associated features. For example the recent Cumbrian Bogs LIFE+ project has assisted in the ongoing restoration management of Bolton Fell Moss in accordance with the Habitats Directive, whilst also improving the site resilience to climate change. The project seeks to develop best practice techniques which can be replicated across the whole of the UK and other Member States.

However, historically some LIFE+ projects have arisen from opportunistic bidding and there has not previously been a coordinated strategic approach to utilising the fund to achieve our Natura 2000 ambitions in England. This has tended to result in a pragmatic approach that may collectively have not made the best use of available resources. Nevertheless most Nature projects have dealt with critical or important habitats and species identified in this PAF (see section G).

The outputs of the LIFE+ IPENS project, alongside ongoing work in Natural England's Terrestrial Biodiversity Group to implement the England Biodiversity strategy *Biodiversity* 2020, will create an English pipeline of LIFE projects which will improve this situation for the future. We anticipate that this pipeline will be taken forward in partnership with NGOs to optimise the synergies from LIFE and help access domestic match funding. This should enable the delivery of an enhanced coordination of efforts and resources across the natural environment sector in England.

Key obstacles include the complexity of the bidding process, the long evaluation process and the scarcity of match-funding for large projects.

Where estimates are available they should be provided. Otherwise indicate as VS Very significant; MU Moderate Use; MI Minor use; NU No use

D.5 Other key funding sources

Fund	Level of Use*
Horizon 2020 Framework Programme for Research	NU
and Innovation (H2020)	
Public/Private Partnership financing schemes	NU
Use of innovative financing	NU
Other (specify)	NU

Summary of key Natura 2000 related measures being undertaken under fund:

The Horizon 2020 Societal Challenges "Climate action, environment, resource efficiency and raw materials" (SC5) and "Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy" (SC2) both fund transnational collaborative research that could be relevant to the management of the Natura 2000 Network. In particular, SC5 funds research and innovation to support the objective to protect and sustainably manage natural resources and ecosystems, which is aimed at complementing other EU programme activities, such as LIFE. However, in relation to Natura 2000, H2020 research is likely to relate more to improving environmental management approaches/ practices and is not linked to conservation of individual Natura 2000 sites.

H2020 actions are funded on a competitive process in response to annual calls for proposals published by the European Commission. As a general rule consortia of researchers (from universities, research institutes, industry with a focus on SMEs, etc.) must comprise a minimum of three legal entities, independent of each other, and each established in a different Member State or an Associated Country.

H2020 also supports the coordination of national research programmes. JNCC is a participant in the Biodiversa ERA-Net (2015-19). This continues the activities of the earlier phases of the network (funded under FP6 and FP7), which aims to build a sustainable platform to support high-level biodiversity research on a transnational scale.

Other innovative funding- carbon sales, biodiversity offsets, payment of ecosystem services and from planning and development control, are not yet sufficiently developed to comment on their applicability to Natura 2000 sites.

Other potential measures being explored

Heritage Lottery Funding (HLF) may provide a useful funding source to deliver habitat restoration measures. HLF is commitment to increase funding for natural heritage projects, some of which could potentially be for Natura 2000 areas where these areas overlap. In the UK more than 3,100 Land and Biodiversity projects have received over £1.2bn from HLF.

Highways England designated funds may provide a useful funding source to address N

deposition impacts on Natura 2000 sites.

The Landfill Tax and the Community Infrastructure Levy may provide useful funding sources to address site issues such as public access and disturbance.

Key lessons learnt and obstacles encountered:

It has been particularly difficult to fund Natura 2000 projects from programmes that have a principal socio-economic purpose.

Some of the research funding could concentrate more on finding and testing practical conservation problems and solutions rather than purely theoretical research.

There are opportunities for the UK to improve co-ordination or lead projects and perhaps there are also opportunities for government agencies to improve links with potential organisations and raise awareness of the benefits of Horizon 2020 and its potential relevance to Natura 2000 work.

Sourcing Match funding (often up to 50% is required), and matching the timing cycle for bidding in conjunction with other funds is a significant challenge.

Where estimates are available they should be provided. Otherwise indicate as VS Very significant; MU Moderate Use; MI Minor use; NU No use

E Current estimate of financial needs for management of Natura 2000 for the territory

The management of Natura 2000 sites can't be separated from the environmental management of the same pieces of land and water for other purposes. Natura 2000 sites in England, next to their main purpose of conserving species and habitats of European importance, provide significant benefits through a wide range of goods and services to society. The management and enhancement of Natura 2000 sites supports wider biodiversity, provides ecosystem services (e.g. through water purification, flood protection, carbon fixation and storage and pollination) and has astatic and recreational value. See also section F3. The management and investments in Natura 2000 thereby contributes to a range of policy objectives, such as those associated to national targets for biodiversity, the water environment, flood protection, clean air, climate change and health & well-being. Costs and benefits of Natura 2000 therefore can't be allocated to the sole fact that sites have a European status. The financial needs presented in this section, although derived from measures needed for Natura 2000, are therefore not separated from the costs of (often the same) measures needed for other objectives.

A large share of the financial needs presented in this section will be covered by existing programmes and plans. As there is no ring fencing of financial instruments in England for Natura 2000, measures are integrated in the funds, programmes and initiatives that (also) serve other objectives. Delivery of measures for Natura 2000 is therefore linked to the structure, timescales and available funding of these programmes, some of which is decided on an annual basis. Although it is clear that access to sufficient funding continues to be a significant barrier to implementation of measures, a further refinement analysis would be needed to establish how large the funding gap is for Natura 2000 in England.

The following estimates of financial needs for management of Natura 2000 in England are based on a combination of existing management commitments and additional costs highlighted in the IPENS Site Improvement Plans (SIPs). The figures include the cost estimates for all Natura sites in England including Marine sites. They relate to the identified financial needs between now and the end of 2020/21 and do not include organisational staff time. As estimates are based primarily on SIP data, including extrapolation for actions where cost estimates were not yet determined, they indicate an order of scale rather than a precise figure.

Summury tuble	
Category	Estimated average annual costs
On-going habitat management	£55-65M per year
Direct management or capital works	£111M per year
Management Advice/Plan	£25M per year
Investigation, Research and Monitoring	£6.6M per year
Other	£27.5M

Summary table

Total estimate for period 2015-2020/21 is \pounds 1.3-1.4 billion. This figure includes some of the \pounds 3 billion investment in agri-environment schemes over this period.

On-going habitat management

(£55-65M per year; £330-£390M for 6 year period 2015-2020/2021)

This covers the funding required for on-going annual habitat management on Natura 2000 sites and any infrastructure works required to establish annual management. For example measures to establish a specific grazing regime. It excludes one-off capital works or off site measures such as measures to reduce agricultural diffuse pollution, which are covered below.

The estimate is based on historic and current expenditure on Natura 2000 sites through agrienvironment, plus cost estimates in SIPs for changes and amendments needed to agrienvironment agreements (e.g. to introduce grazing in currently ungrazed areas).

We estimate we need a total of \pounds 55-65M per year. The majority of this (ca \pounds 54.4 M) is expected to be funded by RDPE and delivered through agri-environment schemes (existing HLS or new CS agreements). A smaller amount (circa \pounds 1.5M a year) of funding is required for delivery through the Conservation and Enhancement Scheme (or a similar scheme) for ineligible land and work not covered by Agri-environment options.

Direct management or Capital works

(£111M per year - £670M over the next 6 years 2015 to 2021)

works'					
Sub-Category	Main Funding Options	Average Annual Cost	Estimated Cost to 2021		
Water related Site management/Restoration	RDPE, WFD, GIA, HLF, LIFE	£65.0M	£390M		
Diffuse pollution	RDPE, CSF, GIA	£19.1M	£115M		
Flood Risk and Coastal management	GIA, FCRM	£17.5M	£105M		
Habitat creation/restoration	EU LIFE, RDPE, HLF, GIA	£8.5M	£52M		
Additional Direct Management works	GIA, Other Public bodies, NGOs	£1.3M	£8M		

Measures and costs estimates included in the category 'Direct management or capital

Table 1 below details the categories of measures is included in this section.

The costs associated with Direct management or Capital works are very significant (£670M over 6 years), and there are some individual actions with very large cost estimates associated with them (in particular river and lake restoration).

<u>Water related Site management/Restoration</u> - the largest part of the required funding (£390M) relates to river and lake restoration, which include some capital intensive actions. Estimates from SIPs of potential costs for river restoration projects alone range from £118 to £343 million, with measures delivered over long timescales. However, there is considerable uncertainty associated with cost estimates, as restoration plans are generated at a high level, plans are not available for all the rivers, and costs can only be refined locally over time based on more detailed studies and experience of delivery.

<u>Diffuse pollution</u> - The costs associated with the actions to reduce are mainly for capital works grants to tackle agricultural sources of diffuse pollution. The average cost per year is \pounds 19.1M but this is front loaded over the next three years.

<u>Flood risk and coastal management</u> - The costs mainly relate to actions to address coastal squeeze and the delivery of coastal realignment schemes. A large proportion of the actions do not have cost estimates, so a large proportion of the average cost per year of £17.5M is based on extrapolated data and could be a significant underestimate.

<u>Direct management</u> – This is additional funding required to carry out direct management works on land owned by Natural England, other Public Bodies and NGOs which we would expect to funded by GIA rather than a scheme.

Management Advice/Plan

(£25M per year - £150M over the next 6 years 2015 to 2021

Table 2. Measures and cost estimates included in the category ' Advice/Plan'					
Sub-Category	Main Funding Options	Average Annual Cost	Estimated Cost to 2021		
Invasives/bio-security plan	GIA, RDPE, EU LIFE	£11.5M	£69M		
Other plan or agreement	GIA, Other bodies, Staff time, EMFF	£10M	£60M		
Site Nitrogen Action Plan	Unknown	£5M	£30M		
Advice	GIA, Staff time, RDPE, DCS	£3.5M	£21M		

Table 2 below details the categories of measures included in this section

<u>Invasives/Biosecurity Plans</u> – The costs (11.5m per year on average) cover the development of plans to tackle invasive species and to reduce the risks of disease. A large amount of the costs relate to the control Himalayan balsam and implementation of catchment level control plans. Other costs relate to for example the control of rats (on the Scilly Isles), the control of Crassula and the control of Phytopthera.

<u>Other Plan or agreement</u> – The costs relate to a variety of partnership agreements and management plans. The largest proportion of the £60M overall figure relates to a partnership project on Dartmoor to fund Blanket Bog restoration works. The proposal is to put a LIFE+ bid together to fund the project. Other work relating to marine fishery management may require funding through EMFF (not included in these cost estimates).

<u>Site Nitrogen Action Plans</u> - There were no costs assigned to Site Nitrogen Action Plans within SIPs. The costs in the table below are based on separate piece of work looking at the cost of reducing nitrogen emissions close to Natura 2000 sites through targeted measures (mainly agricultural ammonia). The estimated figure of £5 million a year is based on a target of achieving a 25% emission reduction within 2km of sensitive SACs, at an average cost of 1-2 £/per kgN.

<u>Advice</u> – The costs cover the provision of advice to land managers, but also the provision of advice to the public through wardening, signage or awareness raising. In total just over £1M per year (out of £3.5M) is required to reduce the effects of public access and disturbance.

Monitoring, research and investigation

(£6.6M per year- £40M over the next 6 years 2015 to 2021)

These costs only include the additional costs identified through IPENS. They cover the actions required to:

- 1. investigate the cause of unfavourable condition of sites/features;
- 2. research/develop new methodologies or techniques; and
- 3. increase our knowledge of the management required.

The average cost per year over the next 6 years is estimated at £6.6M but the requirement is greater in the next 3 years as the investigation work is front loaded, in order to identify the problem and solutions prior to implementation before 2020. These cost estimates do not include on-going monitoring programmes or for example work needed to adapt the Natura 2000 network (e.g. staff time and surveys related to boundary changes or SSSI notifications).

Other

 $(\pounds 27.5M \text{ per year} - \pounds 165M \text{ for the next 6 years } 2015-2021)$

This heading covers two main areas:

1. Actions where there is currently no mechanism deliver the action required (\pounds 56M); and 2. Actions relating to statutory processes (\pounds 108M).

There is a wide range of actions in Site Improvement Plans for which mechanism for implementation is not identified or new mechanisms need to be developed. A large number of the associated actions do have costs assigned, so the extrapolated figures provide a very rough estimate of the costs required. Some actions have been costed, where the cost of the activity is known, but there is currently no mechanism to deliver the action in that particular circumstance or there is no facility to fund it. The main issues affected by the need to identify/develop mechanisms are hydrological functioning and grazing.

The statutory processes are mainly regulatory and relate to the costs of modifying/revoking consents or undertaking enforcement action to prevent damaging activities. In addition to action by Natural England, several actions relate to Local Authorities and Environment Agency permissions or enforcement undertakings. Other costs relate to the re-notification of sites (underpinning SSSIs) to provide better protection of supporting land required for the site to function naturally.

Communication activities are a vital component of successful delivery of many conservation measures and can have significant costs attached, for example for community consultation or awareness raising. Although many Site Improvement Plans indicate the need for these activities for particular issues, the costs of communications have not been structurally assessed. In funding priority conservation projects the costs of communications need to be taken into account.

F Strategic conservation priorities for Natura 2000 for the territory for period 2014-2020

The Improvement Programme for England's Natura 2000 Natura Sites (IPENS) developed Site Improvement Plans (SIPs) covering each European site in England. The SIPs contain prioritised lists of actions at site level. For issues that affect multiple features across the Natura 2000 network, Theme Plans have been developed to improve the approach to addressing these issues. Over 3000 actions have been identified in the SIPs and theme plans to manage the pressures and threats affecting the Natura 2000 sites in England. This forms a programme of site- and theme-based priorities. Furthermore, ongoing management and programmed measures need to continue as these have generally not been included in the SIPs and theme plans. These are imperative to the conservation and enhancement of Natura 2000. A full list of Natura 2000 sites covered by Site Improvement Plans is included in <u>Appendix 1</u>.

Whereas the IPENS programme identified funding options and lead delivery bodies for most actions, it is clear that measures can only be delivered as far as resources (including staff time of organisations involved) allow. To further aid decision making on England wide priorities for Natura 2000, this section F provides three strategic conservation priorities, while priority measures are summarised by ecosystem group in section G. The approach to setting these priorities is explained in the associated 'Background document to the 2016 England PAF update'.

Strategic conservation priorities for Natura 2000 in England, for the period 2014-2020 are:

- 1) Halting and reversing declines of designated interest features within the Natura 2000 network;
- Synergies: Implementation of Natura 2000 measures that also contribute to other objectives and priorities, in particular for the Water Framework Directive (WFD), Marine Strategy Framework Directive (MSFD), and the England and European Biodiversity targets for 2020;
- 3) Natura 2000 Core Priorities: Improving the condition of European interest features for which England's Natura 2000 sites make a particularly significant contribution to achieving a more favourable conservation status. This is also a longer term priority, associated to the delivery of Defra's 25 year plan for the environment.

Notes

1) The relevant Natura 2000 features related to priority 1 (halting declines) are indicated in <u>Appendix 2</u>. In section G, declining features have been indicated within the Natura 2000 core priority tables with reference no. 1.

2) Measures aimed at achieving existing national and EU ambitions associated with WFD, MSFD, the England Biodiversity 2020 outcomes and the EU Biodiversity 2020 targets can contribute significantly to achieving Natura 2000 conservation objectives. Similarly, measures identified for Natura 2000 are likely to contribute to achieving these outcomes. Priority 2 is focussed on measures that realise these synergies:

• <u>Appendix 3</u> lists the SIPs with potential synergies with targets under the Water Framework Directive and/or the England Biodiversity 2020 Strategy. Natura 2000 features that are likely to benefit from actions to achieve Biodiversity 2020 outcomes are also listed.

- <u>Appendix 4</u> lists the issues for which measures are likely to contribute to Marine Strategy Framework directive.
- <u>Appendix 5</u> lists the Natura 2000 features identified as having potential for making measurable progress on the nature sub-target under the EU 2020 biodiversity strategy.

Where measures included in Natura 2000 core priorities (see priority 3) are likely to contribute to these wider objectives, these potential synergies have been indicated in the Section G synergies tables.

3) An analysis was done to identify the priority measures and target features and sites for which England's Natura 2000 sites can make a particularly significant contribution to a more favourable conservation status (see background document). The outcomes of this analysis are represented by the Natura 2000 core priority tables in section G. The potential synergies between these core priority tables and priorities 1) and 2) are indicated through annotations in the synergies tables in section G.

Contribution to Favourable Conservation Status outside protected sites

Whilst section G focusses on measures needed for Natura 2000 sites (either on site or in the supporting environment of the sites), it should be recognised that managing Natura 2000 as a coherent network also depends on favourable management of the wider environment. In particular measures to enhance connectivity and climate change resilience, including those outlined in the <u>Climate change theme plan</u>, and <u>Habitat fragmentation theme plan</u>, are noted. Furthermore, achieving Favourable Conservation Status for Annex I habitats and Annex II species requires action in the wider countryside, as the designated Natura 2000 sites cover only a part of the total resource. <u>Appendix 6</u> provides a list of those Annex I habitats and Annex II species features which are considered a priority for the wider countryside/seaside. These are features that are in unfavourable conservation status in the UK and occur largely in England (estimated more than 50% of population or area), but are not largely confined to England SACs.

Measures such as those associated to the England Biodiversity 2020 objectives and the longer term 25 year plan for the environment are key to achieving the contribution to FCS needed outside the protected sites.

Priorities for the Marine environment

The approach to identifying the Natura 2000 core priorities for the PAF focusses on the specific contribution that England's Natura 2000 sites can make to achieving FCS through measures on or near these sites. It is recognised that in the marine environment, however, this objective can be promoted through generic (as well as site-based) management measures. Furthermore, the principles used to define terrestrial priorities cannot be robustly applied to the marine environment due to existing data and evidence gaps and the inappropriateness of England level data for very large scale marine features occurring across administrative boundaries. Whilst the scope of the England PAF is limited to 12 nautical miles on purely administrative grounds, a more integrated approach to priorities for the Marine environment is needed. The priorities for the England inshore marine environment have therefore been integrated in the Offshore PAF for the UK. Priorities and measures included in the offshore

UK PAF also apply to the England inshore (0-12nm) environment. This is reflected in Section G priority table for the subtidal marine ecosystem. The Offshore PAF will be published here: <u>http://jncc.defra.gov.uk/page-6934</u>.

F.1 Summary of priorities for period (and expected outcomes), for priority habitat types and species having regard to the need for measurable progress on the nature sub-target under EU 2020 biodiversity strategy and for ensuring good functioning of Natura 2000 network (SACs + SPAs)

The priorities for making measurable progress on the nature sub-target under EU 2020 biodiversity strategy are listed in <u>appendix 5</u>.

Habitats Directive priority features are indicated by * throughout this PAF.

F.2 Summary of priorities for other habitats and species covered by nature Directives having regard to the need for to measurable progress on nature subtarget under EU 2020 biodiversity strategy (Habitats and Birds Directives) and for ensuring good functioning of Natura 2000 network (SACs + SPAs)

The priorities for making measurable progress on the nature sub-target under EU 2020 biodiversity strategy are listed in <u>appendix 5</u>.

F.3 Strategic priorities in relation to investments in Natura 2000 linked to green tourism and jobs, to support climate change mitigation and adaptation or other ecosystem benefits, for research, education, training, awareness and promotion of co-operation (including cross-border) linked to Natura 2000 management

F.3.A Strategic priorities for investments in England's Natura 2000, in relation to jobs, tourism, climate change and ecosystem service benefits

Investing in Natura 2000 sites can bring significant socio-economic benefits by supporting local economic growth, job creation and enhancing welfare. In addition to biodiversity, the sites provide a range of benefits to society and the economy via the flow of ecosystem services. These include climate change mitigation and adaptation, water quality and provision, food provision, jobs and livelihoods, cost savings, recreation, tourism and health benefits¹. These benefits well outweigh the estimated costs of managing and protecting Natura 2000⁹.

A healthier Natura 2000 network can lead to a higher level of overall benefits provided to society and the economy, as well as increasing resilience to environmental pressures, including climate change.

Ecosystem services contribute to human wellbeing by providing a range of environmental, social and economic benefits; different sites provide different benefits. Strategic priorities for investment in England's Natura 2000 sites, to benefit jobs, climate change adaptation and mitigation and multiple ecosystem services are:

- Restoration of peatland* and wetland* sites.
- Maintaining and restoring woodland sites, with targeted woodland creation* in adjacent areas.
- Sustainable farming practices which support Natura 2000 sites, including farm resource efficiency in catchments of Natura sites.

- Natural flood management schemes, within a catchment context, involving wetland, upland, freshwater, coastal* and woodland sites.
- Sustainable fisheries*, forestry and water abstraction management.
- Strategic visitor facilities and management.

*Those priorities marked with an asterix have been identified by the Natural Capital Committee third report² as having strong evidence for the economic benefits of investment. The other priorities are also supported by evidence, see below.

This section considers some of the key economic benefits from investment in Natura 2000 sites:

Green Tourism and recreation:

Recreation and tourism provide economic benefits through both expenditure by visitors into the local economy (economic impact) and the value of the recreational experience (economic value).

 \circ A UK case-study³ assessed the benefits provided by Natura 2000 sites in terms of tourism, recreation and employment at c£240M in 2006.

Jobs:

Natura 2000 sites support jobs in a range of sectors, including tourism and recreation, farming, fisheries, water supply, education, management of the sites and support of these sectors.

- The UK case-study³ above, estimated that visitors with an affinity for Natura 2000 supported around **16,180 full time equivalent jobs**.
- \circ In the UK, there are 626.5 full-time-equivalent jobs for the management of the Natura 2000 network³.

Climate Change: adaptation and mitigation

Climate change adaptation is about taking measures to reduce the adverse consequences (and take advantage of the opportunities) of climate change, whilst climate change mitigation involves measures to reduce concentrations of green house gases in the atmosphere. Natura 2000 sites provide opportunities to contribute to both climate change adaptation and mitigation.

Adaptation: Natura 2000 sites need to build their resilience to climate change, through reducing fragmentation of habitat networks, restoration of natural processes, especially hydrology, and protection of the most vulnerable features. They also have an important role in helping other sectors adapt to climate change: for example ecosystem-based adaptation through actions such as restoration or improvement of coastal habitats to help reduce coastal flood-risk.

Mitigation: many Natura 2000 sites consist of ecosystems that are important current stores of carbon and offer significant opportunities for further carbon sequestration; woodlands, wetlands, grassland, marine and coastal sites are especially good at this. While healthy functioning peatlands are effective, damaged and drained peatlands, with areas of exposed peat can lose previously stored carbon to the atmosphere and water courses. Investment in restoration of peatland is particularly beneficial to climate change mitigation. Natura 2000
sites have an important role: a fifth of all terrestrial SACs in England are blanket bogs habitats and over a third of UK wetland Natura 2000 sites are currently in unfavourable condition and in need of restoration⁴.

- An estimated 140M tonnes of carbon is stored in England's upland deep peats. If lost to the atmosphere, this would equate to c500M tonnes of carbon dioxide, with a value of £billions, depending on the price of carbon⁵.
- The Natural Capital Committee estimates that improvements on around 140,000ha of upland peatland could deliver benefits through avoided carbon losses of approximately £560M over 40 years (in net present value terms)²
- Climate change could result in a three-fold increase in the rate of carbon loss from peatlands over the next few decades⁴ which can be mitigated through habitat restoration.
- The UK NEA⁶ recognises that woodland creation is a highly cost-effective and achievable form of emission abatement at less than £100/t carbon dioxide equivalent. They estimate the annual value of the social and environmental benefits from woodland, in terms of carbon sequestration, at £115 million.
- The Woodland Trust⁷ assessed the carbon dioxide equivalent of the stock of carbon in woodland in the UK and assigned a perpetuity value of $\pounds 16k$ per hectare of woodland.

Food

Natura 2000 sites provide food from agriculture, fisheries and wild food. Making fisheries compatible with Natura 2000 site objectives is encouraging the fishing industry to innovate to become more sustainable. Investments in appropriate agricultural systems are vital for some types of protected sites. At the same time, biodiversity benefits to agriculture can include contributions to soil formation, erosion control, flood and drought reduction and pollination.

The available area of semi-natural habitat near to crop fields has been found to be strongly related to pollination by bees. As a network of semi-natural habitats, Natura 2000 has a significant role to play in securing continuous provision of pollination services.

• In general, contribution of pollination services to UK agriculture is estimated to be **£400 million per year** based on the economic value of the crops produced (UK National Ecosystem Assessment 2014⁶).

Clean water supply

Water purification and provision are important ecosystem services that can be provided by natural ecosystems, including protected areas such as Natura 2000. The economic value of water purification and provision varies between sites but those with intact groundcover and root systems can be highly effective in improving water quality. The Natura 2000 network can lead to cost-effective means of water purification and supply, offering significant savings over man-made substitutes. Cost savings from ecosystem based water purification and provision, benefit both companies (reduced operational costs) and citizens (reduced water bills).

Flood risk management

Natura 2000 sites can affect both the probability and severity of extreme events and they can moderate their effects. Flooding risk is increasing as a result of climate change, due to higher

intensity of rainfall as well as rising sea levels. Increasing attention is being paid to natural flood management as a cost-efficient contribution to reducing flood risk. Dunes and coastal habitats can play a vital role in coastal flood protection. Wetlands can help to reduce or delay flood peaks, as can increasing structural diversity in upper catchments. A Woodland Trust study⁷ showed that greater woodland cover reduces flood risk, through evaporation, infiltration and interception of rainfall, while flood flows through woodland can reduce peak flows. In many cases, a degradation of natural ecosystems is likely to exacerbate consequences of natural hazards. However, understanding of the potential role of Natura 2000 sites in natural flood management, in a particular catchment, needs to be improved.

• The value of flood control benefits is estimated at $\pounds 608/ha/year$ for inland wetlands and $\pounds 3,730/ha/year$ for coastal wetlands⁸. If all inland wetlands are assumed to provide flood control and storm buffering benefits, the value would be $\pounds 366$ million per year.

Air quality

Natural vegetation, and especially trees and woodlands, improves air quality through the uptake, transport and assimilation of a wide range of gas and particulate air pollutants. Good air quality is especially supported by the maintenance and management of healthy woodlands, with diverse vegetation features that increase the surface area for the removal of pollutants. Natura 2000 sites can make an important contribution to maintaining air quality and protecting human health.

• The Woodland Trust $(2015)^7$ estimates that a well-located hectare of urban woodland can improve health to a value of nearly £150,000 a year, or over £4m on a perpetuity value at a 3.5% discount rate.

Health: mental and physical

Natural ecosystems are known to play an important role in supporting physical and mental health through opportunities for outdoor activities, recreation and relaxation. Protecting the diversity of species and habitats helps to maintain a wider variety of possibilities for recreation e.g. providing different natural settings and more opportunities for wildlife watching. Natura 2000 sites can play a positive role in protecting human health via other means such as the mitigation of natural hazards, and particularly by maintaining air quality.

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- 2. Natural Capital Committee, 2015 <u>The State of Natural Capital :Protecting and Improving Natural</u> <u>Capital for Prosperity and Wellbeing</u> Third report.
- 3. BIO Intelligence Service, Ecotrans, OÄR and Dunira Strategy. (2011) Estimating the Economic Value of the Benefits Provided by the Tourism/Recreation and Employment Supported by Natura 2000.
- 4. Joint Nature Conservation Committee, 2011. Towards an assessment of the state of UK Peatlands, *JNCC report* No. 445. <u>http://jncc.defra.gov.uk/pdf/jncc445_web.pdf</u>
- 5. Committee on Climate Change 2013. Managing the land in a changing climate Adaptation Sub-Committee progress report 2013. Chapter 4.
- National Ecosystem Assessment (2014) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC,LWEC, UK. <u>http://uknea.unepwcmc.org/LinkClick.aspx?fileticket=5L6%2fu%2b%2frKKA%3d&tabid=82</u>

- Woodland Trust, 2015. The Economic Benefits of Woodlands <u>http://www.woodlandtrust.org.uk/mediafile/100572682/rr-wt-010515-economic-benefits-woodland.pdf?cb=7d51e2b604e74bd499c654b32f71ea98</u>
- 8. UK NEA Economics Analysis Report Freshwaters: Morris & Camino 2011 http://uknea.unep-wcmc.org/LinkClick.aspx?fileticket=IVLEq%2BxAI%2BQ%3D&tabid=82
- 9. European Commission (2013) Factsheet The economic benefits of Natura 2000. <u>http://ec.europa.eu/environment/nature/natura2000/financing/docs/Economic%20Benefits%20Factsheet</u> <u>.pdf</u>

F3B. Priorities for research, education, training, awareness and promotion of cooperation (including cross-border) linked to Natura 2000 management

Research and investigation

The <u>IPENS evidence gap log</u> provides and overview of the main evidence gaps of theme in scope of the IPENS programme, as well as a comprehensive overview of the evidence gaps recorded in Site Improvement Plans. These indicate a significant amount of investigations needed to further inform action at site level as well as to make progress through the Theme plans to address widespread issues. A common message is that there is a gap in the detailed knowledge of the location and extent of some Natura 2000 habitats and species within sites. The need to investigate site level and larger scale factors affecting declining SPA species is another network wide gap.

All issue groups identified through IPENS indicate evidence gaps. Evidence needs indicated in the evidence gap log that relate to the dominant issues mentioned in section G are a priority in this PAF.

Given the lack of funding to address all these evidence gaps, <u>a strategic priority for research</u>, <u>training and cooperation is the development and application of innovative techniques that can</u> <u>efficiently address these evidence gaps</u>. Significant potential relates to the harnessing the power of data and technology such as remote sensing, Copernicus data, environmental genetics.

Education, training, awareness and promotion of cooperation

Implementation of many Natura 2000 measures need to be supported by training, education, comprehensive communications and awareness raising activities to promote their societal, economic and nature conservation benefits. See also section E for the associated funding needs.

A particular priority is to increase the level of public engagement with Marine Natura 2000 sites. Promotion of understanding of the underwater diversity of wildlife in our designated sites is important to gaining public support for measures that improve the condition of marine Natura 2000 sites. In addition it is important to focus research and innovation in the Marine environment on finding and implementing solutions where evidence shows there is an impact of activities.

A particular priority for communications and promotion in this period is to build further recognition in (implementation of) Operation Programmes of European Structural Investment Funds in the UK, of the economic benefits of the natural environment and Natura 2000 investments in particular. Clear identification and recognition of these benefits is needed, as well as cooperation and training of those involved to encourage further use of the opportunities in these programmes for investment in Natura 2000. To this end it is important

to regularly evaluate the progress of mainstreaming the funding for biodiversity, including more closely monitoring the use of EU structural funds for Natura 2000 in England.

G Description of key measures to achieve priorities

This section provides key measures that underpin the three strategic priorities in section F. The tables below describe the core priorities for Natura 2000 while indicating potential synergies with other objectives. The priorities are described for different ecosystem groups to encourage an integrated approach to the management of habitats and species, indicating for each:

- **Critical features:** the Natura 2000 habitats and species for which taking measures in and around England's designated Natura 2000 sites is considered as critical to achieving Favourable Conservation Status. The critical features are the primary target habitat and species.
- **Important features:** the Natura 2000 habitats or species for which taking measures in and around Natura 2000 sites is considered important to achieving Favourable Conservation Status. These target habitats and species should also benefit from the priority measures.
- Safeguard features: features for which the England Natura 2000 sites are largely in good condition or where the England Natura 2000 sites play a more limited role in achieving Favourable Conservation Status at UK level. Note that <u>an indication as Safeguard feature in these tables does not mean that no action is required!</u> The classification as safeguard feature doesn't change the protection afforded to these features. Significant conservation action may be needed for these features to achieve or maintain Favourable Conservation Status or an improved condition, in particular outside England's Natura 2000 sites or to address future threats to sites.
- **Dominant issues**: the five most dominant issues affecting the critical and important features across their designated sites. 'Issues' is the overarching term used for pressures and threats. Whilst only the five most dominant issues are reflected here to bring focus, multiple interrelated pressures and threats are sometimes best addressed through an integrated ecosystem approach.
- **Priority measures**: the main measures needed to address the dominant issues at the prominent sites and across the Natura 2000 network. Measures are an overarching term for actions, mechanisms and funding options.
- **Example SIPs:** Site Improvement Plans where critical and important features are affected by dominant issues. Five of the most representative SIPs are given as examples. Note that SIPs can cover multiple Natura 2000 sites, such as overlapping SACs and SPAs.
- **Synergies:** with a view to maximising multiple benefits across outcomes, the core priority tables have been annotated to indicate likely synergies between the core priority and wider objectives. The synergies table indicates the likely contribution to other targets through reference numbers.

These priority measures, the issues they address and the target features and sites are aimed at achieving the strategic priorities described in section F. They are primarily informed by the LIFE funded IPENS programme and information in the article 12 and article 17 reports

(2013). The Natura 2000 core priorities presented in this section have been established using a structured approach to identifying the main priorities for Natura 2000 in England. A background report that explains how these priorities were established is available.

Quick links to individual priority tables in this section

- Natura 2000 core priority: E1.A Coastal: Sand dunes
- Natura 2000 core priority: E1.B Shingle and cliff habitats
- Natura 2000 core priority: E1.C Coastal grazing marsh
- Natura 2000 core priority: E2.A Intertidal
- Natura 2000 core priority E2.B Subtidal / inshore marine
- Natura 2000 core priority: E3.A. Standing waters
- Natura 2000 core priority: E3.B. Rivers
- Natura 2000 core priority: E4.A. Upland heath and bog
- Natura 2000 core priority: E4.B. Upland fen
- <u>Natura 2000 core priority: E4.C. Lowland Heath</u>
- <u>Natura 2000 core priority: E4.D. Lowland Bog</u>
- Natura 2000 core priority: E4.E. Lowland Fen
- Natura 2000 core priority: E5.A. Grassland
- Natura 2000 core priority: E5.B. Mined / disturbed
- Natura 2000 core priority: E5.C. Cultivated grass
- Natura 2000 core priority: E5.D Floodplain grassland
- Natura 2000 core priority: E6.A. Woodland
- Natura 2000 core priority: E7.A. Rocky habitats

Two ecosystem groups had no critical interest features (important and safeguard features only) and are not part of the Natura 2000 core priorities, but are facing significant threats and so are also presented here:

E3.C. Reedbeds E4.F. Scrub

Interest features annotated with * denote Habitats Directive priority features.

Natura 2000 core priority:	E1.A Coastal: Sand dunes
Critical features	 H2120 Shifting dunes with marram ³ H2190 Humid dune slacks ³ A183 Lesser black-backed gull B ¹ A191 Sandwich tern B ¹
Example SIPs where critical & important features are affected by dominant issues	 The Wash and North Norfolk Coast ^{2, 3} Northumberland Coastal ^{2, 3} Braunton Burrows ^{2, 3} Morecambe Bay ^{2, 3} Sefton Ribble ^{2, 3}
Other important Natura 2000 features linked to this habitat group	 H2110 Shifting dunes³ S1395 Petalwort³ A192 Roseate tern B A193 Common tern B

Dominant issues	Priority Measures			
Public access and disturbance ⁴	Gather evidence about activities and impacts to inform appropriate management. Reduce bird disturbance and damage to habitats through a strategic approach to access management, awareness raising and wardening.			
Inappropriate scrub control	Implement sustained scrub control programmes. Raise public awareness.			
Invasive species ⁴	Surveillance, improve biosecurity and apply research to understand spread of INNS species and solutions. Develop management plan with funding to monitor, control and if possible, eradicate non-native invasive species. Develop coastal strategy. Develop pathway management plans.			
Inappropriate coastal management ⁴	Seek to negotiate and implement naturalised coastal processes with regard to the needs of Natura 2000 and flood defence requirements. Secure resources to deal with environmental impacts such as car parking or historic pollution.			
Fisheries: Commercial marine and estuarine ⁴	Investigate and introduce appropriate management measures. Compliance surveillance and monitoring. Revised approach to fisheries management.			
Linked theme plans	Coastal managementInvasive speciesHydrological functioningNitrogen depositionPublic access and disturbanceClimate change			
Safeguard features	 * H2130 Dune grassland ("grey dunes")³ * H2150 Coastal dune heathland³ H2160 Dunes with sea-buckthorn³ H2170 Dunes with creeping willow³ S4035 Fisher's estuarine moth 			
Synergies				

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority: E1.B Shingle and cliff habitats			
Critical features	H1210 H1220 A014 A137 A183 A188 A191 A195	Annual vegetation of drift lines Coastal shingle vegetation outside the reach of waves ¹ European storm-petrel B ¹ Ringed plover NB ¹ Lesser black-backed gull B ¹ Black-legged kittiwake B ¹ Sandwich tern B ¹ Little tern B ¹	
Example SIPs where critical & important features are affected by dominant issues	• • •	Alde – Ore Estuaries ^{2, 3} Dungeness ^{2, 3} Solent ^{2, 3} Chesil Beach and The Fleet ^{2, 3} Northumberland Coastal ^{2, 3}	
Other important Natura 2000 features linked to this habitat group	A016 A192 A193 A199 A200	Northern gannet B Roseate tern B Common tern B Common guillemot B Razorbill B	

Dominant issues	Priority Measures
Public access & disturbance ⁴	Gather evidence about activities and impacts to inform appropriate
	management. Reduce bird disturbance and damage to habitats through a
	strategic approach to access management, awareness raising and wardening.
	Develop code of conduct. Coordinate information exchange.
Invasive species ⁴	Surveillance, improve biosecurity and apply research to understand spread of
	INNS species and solutions. Develop management plan with funding to
	monitor, control and if possible, eradicate non-native invasive species.
	Develop pathway management plans.
Fisheries: Commercial marine	Investigate and introduce appropriate management measures. Compliance
and estuarine (offsite issue	surveillance and monitoring. Revised approach to fisheries management.
affecting the critical bird	
features) ⁴	
Change in species	Review bird population dynamics locally and nationally. Investigate site level
distributions	and larger scale factors affecting the declining SPA species. Research and
	investigations into: flexibility of protected site boundaries; better wider habitat
	provision. Form a strategic overview.
Vehicles: illicit	Improve partnership working to manage incidents and improve education and
	awareness. Report incidents of illicit vehicle use. Block illegal access routes
	where possible.

Linked theme plans	Public access and disturbanceCoastal managementInvasive speciesClimate change		
Safeguard features	H1230 Vegetated sea cliffs ³ S1441 Shore dock A137 Ringed plover B ¹ A194 Arctic tern B ¹		
Synergies			

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority: E1.C Coastal grazing marsh

Critical features	A037 A142 A183 A394	Bewick swan NB ^{1,5} Northern lapwing NB ¹ Lesser black-backed gull B ¹ Greater white-fronted goose NB ¹
Example SIPs where critical & important features are affected by dominant issues	• • •	Severn Estuary ^{2, 3} Sefton Ribble ^{2, 3} Alde-Ore Estuaries ^{2, 3} Broadland ^{2, 3} Breydon Water ^{2, 3}
Other important Natura 2000 features linked to this habitat group	A038 A050	Whooper swan NB Eurasian wigeon NB

Dominant issues	Priority Measures				
Public access and disturbance	Gather and review evidence to inform appropriate management. Develop a				
4	strategic approach to access. Advise user groups through awareness raising,				
	wardening and codes of conduct.				
Change in land management	Maintain appropriate levels and timing	of grazing, and management of			
	intertidal saltmarsh habitat, including the	hrough agri-environment agreements.			
	Monitoring and awareness raising.				
Impacts of development	Inform strategic planning decisions to minimise impact of development.				
Water pollution ⁴	Investigate any existing issues improve water and sediment quality in the				
	catchment.				
Change in species distribution	Review bird population dynamics locally and nationally. Investigate site level				
	and larger scale factors affecting the declining SPA species and fish numbers.				
	Research and investigations into: flexibility of protected site boundaries;				
	better wider habitat provision. Form a strategic overview.				
Linked theme plans	Public access and disturbance	Grazing			
	Hydrological functioning	Climate change			
	Invasive species	Diffuse water pollution			
Safeguard features	A051 Gadwall NB				
	A052 Eurasian teal B				
	A140 European golden plover NB				

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority: E2.A Intertidal				
Critical features	H1130 H1320 H1330 A048 A054 A062 A137 A149 A157 A162 A394	Estuaries ^{3,5} (intertidal element Cord-grass swards ³ Atlantic salt meadows ^{1,3,5} Common shelduck NB ^{1,5} Northern pintail NB ^{1,5} Greater scaup NB ¹ Ringed plover NB ¹ Dunlin NB ¹ Bar-tailed godwit NB ^{1,5} Common redshank NB ^{1,5} Greater white-fronted goose N	ts of esti B ¹	uaries only)
Example SIPs where critical & important features are affected by dominant issues	• • •	The Wash and North Norfolk C Solent ^{2, 3} Essex Estuaries ^{2, 3} Morecambe Bay ^{2, 3} Dee Estuary / Aber Dyfrdwy &	oast ^{2,3} Mersey	Narrows ^{2, 3}
Other important Natura 2000 features linked to this habitat group	H1140 sandflat H1310 colonisi H1420 scrub ³ A040 A045b A046a A046c A050	Intertidal mudflats and s ³ Glasswort and other annuals ng mud and sand ^{3, 5} Mediterranean saltmarsh Pink-footed goose NB Barnacle goose NB Dark-bellied brent goose NB Light-bellied brent goose NB Eurasian wigeon NB	A052 A056 A130 A132 A141 A143 A144 A151 A156 A160 A193	Eurasian teal NB Northern shoveler NB Eurasian oystercatcher NB Pied avocet NB & B Grey plover NB Red knot NB Sanderling NB Ruff NB ¹ Black-tailed godwit NB Eurasian curlew NB Common tern B

Dominant issues		Priority Measures			
Public access and disturbat	nce	Gather and review evidence to inform appropriate management. Develop a			
4		strategic approach to access. Advise	user groups through awareness raising,		
		wardening and codes of conduct.			
Coastal squeeze ⁴		Investigate impacts to inform development of remedial actions. Secure			
		mitigation and compensation for loss of habitats where appropriate.			
		Implement habitat creation programm	nes.		
Changes in species		Review bird population dynamics locally and nationally. Investigate site level			
distribution		and larger scale factors affecting the declining SPA species.			
Fisheries: commercial mar	rine	ne Investigate and introduce appropriate management measures. Compliance			
& estuarine ⁴		surveillance and monitoring.			
Water pollution (primary		Reduce point source water pollution	in the catchment. Reduce diffuse source		
concern is nutrients, espec	ially	pollution in the catchment through implementation of Diffuse Water Pollution			
nitrogen) ⁴		plans. Investigate nutrient sources and impacts of discharges. Establish site			
		specific targets.			
Linked theme plans	Publi	Public access and disturbance			
-	Coas	tal management			
	Clim	mate change			
	Diffu	fuse water pollution			
Safeguard features	* H1	150 Coastal lagoons	A051 Gadwall NB		
	H116	50 Shallow inlets and bays 3	A059 Common pochard B		
	H117	70 Reefs	A063 Common eider NB		

H8330 Sea caves (intertidal sea caves	A067 Common goldeneye NB ¹
only)	A082 Hen harrier NB ¹
	A084 Montague's harrier B ¹
S1355 Otter ³	A137 Ringed plover NB ¹
S1364 Grey seal	A140 European golden plover NB
S1365 Common seal	A148 Purple sandpiper NB ¹
	A169 Ruddy turnstone NB ¹
A026 Little egret NB ¹	A176 Mediterranean gull B
A043a Greylag goose NB ¹	-

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority: E2.B Subtidal / inshore marine

Issues and Measures See the commentary on <i>Priorities for the Marine</i> <i>Environment</i> in section F.	Priority issues and measures for the England subtidal/ inshore marine ecosystem are those included in the UK offshore Prioritised Actions Framework, see http://jncc.defra.gov.uk/page-6934 . It should also be noted that many impacts in the inshore marine ecosystem originate from activities in the terrestrial, riverine and estuarine environments so issues listed under other ecosystem groups may be relevant.
Features (Features which occur wholly or largely subtidally or within the inshore marine area are included. Features which occur in both the intertidal and subtidal areas are listed under both E2.A and E2.B)	 H1110 Subtidal sandbanks ³ H1130 Estuaries ^{3, 5} (subtidal elements of estuaries only) H1160 Shallow inlets and bays ³ H1170 Reefs H8330 Sea caves (subtidal sea caves only) S1095 Sea lamprey S1099 River lamprey S102 Allis shad S1103 Twaite shad S1364 Grey seal S1365 Common seal A001 Red throated diver NB A007 Slavonian grebe NB ¹ A016 Northern gannet B A063 Common eider NB A064 Long-tailed duck NB ¹ A065 Black (common) scoter NB A069 Red-breasted merganser NB ¹ A191 Sandwich tern NB ¹ A193 Common guillemot B A200 Razorbill B

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority: E3.A. Standing waters		
Critical features	S1092White-clawed crayfish 1, 3S4056Little Whirlpool Ram's-horn snailA037Bewick swan NB 1, 5A054Northern pintail NB 1, 5A059Common pochard NB 1A394Greater white-fronted goose NB 1	
Example SIPs where critical & important features are affected by dominant issues	 Broadland ^{2, 3} Martin Mere ² Abberton Reservoir ² New Forest ^{2, 3} Pevensey Levels ³ 	
Other important Natura 2000 features linked to this habitat group	 H3110 Nutrient-poor shallow waters with aquatic vegetation on sandy plains ³ H3130 Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels H3140 Calcium-rich nutrient-poor lakes, lochs and pools ³ H3150 Naturally nutrient-rich lakes or lochs which are often dominated by pondweed ³ A038 Whooper swan NB A050 Eurasian wigeon NB A052 Eurasian teal NB A056 Northern shoveler NB A151 Ruff NB ¹ 	

Dominant issues	Priority Measures		
Water pollution ⁴	Reduce point source water pollution in the catchment. Reduce diffuse source pollution in the catchment through implementation of Diffuse Water Pollution plans. Develop and implement Lake restoration projects. Investigate mechanisms to moderate pollution issues in lakes and investigate impacts.		
Invasive species	Improve biosecurity and pathway ma and if possible eradicate non-native i	Improve biosecurity and pathway management plans. Surveillance. Control and if possible eradicate non-native invasive species.	
Hydrological changes	Assess hydrological effects of draina functioning to secure appropriate wa	Assess hydrological effects of drainage and abstraction. Restore hydrological functioning to secure appropriate water levels.	
Change in species distributions	Conduct programmed surveys to monitor on-site designated species populations. Review bird population dynamics locally and nationally. Investigate site level (e.g. plant and invertebrate food resource) and larger scale (e.g. short stopping) factors affecting the declining SPA species. Form a strategic overview.		
Public access / disturbance	Gather and review evidence to inform appropriate management. Develop a strategic approach to access. Advise user groups through awareness raising, wardening and codes of conduct.		
Linked theme plans	Lake restoration Diffuse water pollution Invasive species	Hydrological functioning Climate change Public access and disturbance	
Safeguard features	H3160 Acid peat-stained lakes and ponds ³ * H3170 Mediterranean temporary ponds ³	A005 Great crested grebe NB A017 Great cormorant B ¹ A036 Mute swan NB A043a Greylag goose NB ¹	

S1166 Great crested newt ³	
S1355 Otter ³	_
S1831 Floating water-plantain	3

A051 Gadwall NB & B A061 Tufted duck NB ¹ A067 Common goldeneye NB ¹ A070 Goosander NB A125 Common coot NB¹

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority: E3.B. Rivers NB: For migratory lamprey and shad species which occur in subtidal / inshore marine sites during part of their life cycle, please also refer to priorities set out in the UK Offshore PAF.

Critical features	H3260 S1029 S1092 S1106 S1016	Rivers with floating vegetation often dominated by water-crowfoot ³ Freshwater pearl mussel ^{1, 3} White-clawed (or Atlantic stream) crayfish ^{1, 3} Atlantic salmon ³ Desmoulins whorl snail ^{1, 3}
Example SIPs where critical & important features are affected by dominant issues	• • •	River Eden ^{2, 3} River Wye ^{2, 3} Avon River and Valley ^{2, 3} River Tweed ^{2, 3} River Kent ^{2, 3}
Other important Natura 2000 features linked to this habitat group	S1102 S1103	Allis shad Twaite shad

Dominant issues	Priority Measures	
Water pollution ⁴	Reduce point source water pollution in the catchment and clarify future	
	requirements for point source improven	nents. Reduce diffuse source pollution
	in the catchment through implementation	on of Diffuse Water Pollution plans
	(phosphorus, sediment, nutrients and or	ganic pollutants). Secure compliance
	with Basic Measures and Baseline Reg	ulation for agriculture.
Physical modification	Secure funding to implement River Res	storation Plans, to allow the restoration
	of natural hydrogeomorphological proc	esses and channel morphology.
Invasive species	Improve biosecurity and pathway mana	gement plans. Surveillance. Control
	and if possible eradicate non-native inv	asive species. Research impacts of
	Signal crayfish.	
Siltation	Reduce siltation inputs from agriculture	e, tracks and roads in the catchment.
	Implement Diffuse Water Pollution Pla	ns. Secure compliance with Basic
	Measures and Baseline Regulation for	agriculture.
Water abstraction Regulate abstraction (including Natural England for the River Tw		England for the River Tweed) to
	restore river flows to favourable condit	ion targets. Implement measures
	identified in the Restoring Sustainable	Abstraction Programme. Improve the
	resilience of the river's water resources	through mitigation and adaptation
	measures in drought plans.	
Linked theme plans	River restoration	Hydrological functioning
	Diffuse water pollution	Climate change
	Invasive species	
		7
Safeguard features	S1095 Sea lamprey	S1149 Spined loach ³
	S1096 Brook lamprey	S1163 Bullhead
	S1099 River lamprey	S1355 Otter
Synorgios F3 B Divors		

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

E3.C. Reedbeds (not a Natura 2000 core priority) NB: Superscript numbers link the core priorities with other work areas via the synergies table		
Critical features	None	
Example SIPs where critical & important features are affected by dominant issues	 Humber Estuary ^{2, 3} Broadland ^{2, 3} The Wash and North Norfolk Coast ^{2, 3} Leighton Moss ^{2, 3} Minsmere to Walberswick Heaths and Marshes ^{2, 3} 	
Other important Natura 2000 features linked to this habitat group	A021 Bittern B A081 Marsh harrier B	

Dominant issues	Priority Measures		
Coastal squeeze	Investigate impacts to inform development of remedial actions, including		
	compensation for habitat loss and habit	compensation for habitat loss and habitat creation programmes.	
Public access & disturbance	Gather evidence about activities and im	pacts to inform appropriate	
	management. Reduce bird disturbance	and damage to habitats through a	
	strategic approach to access manageme	nt, awareness raising and wardening.	
Water pollution	Reduce point source water pollution in	the catchment. Reduce diffuse source	
	pollution in the catchment through imp	lementation of Diffuse Water Pollution	
	plans. Investigate nutrient sources and i	mpacts of discharges. Establish site	
	specific targets.		
Inappropriate water levels	Ensure management of water levels is appropriate for reed habitat and		
	designated birds, allowing more dynam	ic and naturally fluctuating levels	
	where required.		
Inappropriate coastal	Implement short and long-term measures to ensure sustainable interface		
management	between reedbeds and coast.		
Linked theme plans	Coastal management	Hydrological functioning	
F	Public access & disturbance		
	Diffuse water pollution		
Safeguard features	A021 Bittern NB		
	A082 Hen harrier NB ¹		
	A294 Aquatic warbler NB ¹		

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority: E4.A. Upland heath and bog	
Critical features	* H7130 Blanket bog ³ H4060 Alpine and subalpine heaths A082 Hen harrier B ^{1, 3} A098 Merlin B ¹
Example SIPs where critical & important features are affected by dominant issues	 North Pennines Group ^{2, 3} Lake District High Fells ^{2, 3} Border Mires and Kielder – Butterburn ^{2, 3} South Pennine Moors ^{2, 3} Dartmoor ^{2, 3}
Other important Natura 2000 features linked to this habitat group	H7140 Very wet mires often identified by an unstable 'quaking' surface ^{3, 5}

Dominant issues	Priority Measures	
Managed rotational burning	Ensure compliance with existing plans and guidance, review consents and carry out further research.	
Inappropriate grazing	Review grazing regimes and negotiate alterations where necessary for site condition. Investigate and trial appropriate means of management, such as targeted cattle grazing	
Air pollution	Further investigate the impacts of atmospheric nitrogen deposition. Control, reduce and ameliorate atmospheric nitrogen impacts. Develop and implement Site Nitrogen Action Plan.	
Hydrological changes	Restore hydrological functionality and manage appropriately. Remediate hydrologically significant areas of peat cracking and slumping outside of the site boundaries.	
Public access/disturbance	Gather and review evidence to inform appropriate management. Develop a strategic approach to access. Advise user groups through awareness raising, wardening and codes of conduct.	
Linked theme plans	Public access and disturbance Nitrogen deposition Grazing	Hydrological functioning Climate change
Safeguard features	H4010 Wet heathland with cross-leaved heath ³ H4030 European dry heaths ³	
	A140 European golden plover B A222 Short-eared owl B ^{1}	

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority: E4.B. Upland fen	
Critical features	 * H7220 Hard water springs depositing lime ³ H7230 Calcium-rich springwater fed fens (upland sites) ³ * H7240 High-altitude plant communities associated with areas of water seepage ³
Example SIPs where critical & important features are affected by dominant issues	 North Pennines Group ^{2, 3} Asby Complex ^{2, 3} Craven Limestone Complex ^{2, 3} Ingleborough Complex ^{2, 3} Border Mires and Kielder – Butterburn ^{2, 3}
Other important Natura 2000 features linked to this habitat group	H7140 Very wet mires often identified by an unstable 'quaking' surface (upland sites) ^{3,5}

Dominant issues	Priority Measures	Priority Measures	
Hydrological changes	Continue hydrological restoration of upland fen habitat		
Air pollution	Further investigate the impacts of atmospheric nitrogen deposition. Control, reduce and ameliorate atmospheric nitrogen impacts. Develop and implement Site Nitrogen Action Plan.		
Inappropriate grazing	Investigate and trial appropriate means of management, such as targeted cattle grazing		
Water pollution	Reduce point source water pollution from roads in the catchment. Reduce diffuse source pollution in the catchment through implementation of Diffuse Water Pollution plans.		
Change in land management	Investigate and trial appropriate means of management		
Linked theme plans	Hydrological functioning Grazing Nitrogen deposition	Diffuse water pollution Climate change	
Safeguard features	S1013 Geyer's whorl snail ³ S1015 Round-mouthed whorl snail S1393 Slender green feather moss S1528 Marsh saxifrage ³		

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority: E4.C. Lowland Heath		
Critical features	* H4020 Wet heathland with Dorset heath and cross-leaved heath ³	
Example SIPs where critical & important features are affected by dominant issues	 A224 European nightjar B¹ Dorset Heaths^{2,3} New Forest^{2,3} Thames Basin^{2,3} Newlyn Downs^{2,3} Carrine Common³ 	
Other important Natura 2000 features linked to this habitat group	S1044 Southern damselfly ³ A302 Dartford warbler B	

F	
Dominant issues	Priority Measures
Inappropriate scrub control	Implement sustained scrub control programme.
Public access/disturbance	Gather and review evidence to inform appropriate management. Develop a
	strategic approach to access. Advise user groups through awareness raising,
	wardening and codes of conduct.
Air pollution	Further investigate the impacts of atmospheric nitrogen deposition. Control,
	reduce and ameliorate atmospheric nitrogen impacts. Develop and implement
	Site Nitrogen Action Plan.
Forestry and woodland	Implement appropriate forestry management for heathland restoration.
management	
Undergrazing	Increase grazing levels through agreements or equivalent instruments.

Linked theme plans	Public access and disturbance Nitrogen deposition Grazing	Habitat fragmentation Climate change
Safeguard features	H4010 Wet heathland with cross-leaved h H4030 European dry heaths ³ * H4040 Dry coastal heaths with Cornish A082 Hen harrier NB ¹ A098 Merlin NB ¹ A099 Eurasian hobby B A246 Woodlark B ¹	eath ³ heath ³

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority: E4.D. Lowland Bog	
Critical features	* H7110 Active raised bogs ³ H7120 Degraded raised bog ^{1, 3}
Example SIPs where critical & important features are affected by dominant issues	 Walton Moss^{2,3} Duddon Mosses^{2,3} Thorne and Hatfield Moors^{2,3} Bolton Fell Moss^{2,3} Fenn's, Whixall, Bettisfield, Wem and Cadney Mosses^{2,3}
Other important Natura 2000 features linked to this habitat group	 H7140 Very wet mires often identified by an unstable 'quaking' surface ^{3, 5} H7150 Depressions on peat substrates ³

Dominant issues	Priority Measures	
Hydrological changes	Restore hydrological functionality and manage for optimum water levels. Increase control within hydrologically important areas for the site.	
Air pollution	Further investigate the impacts of atmospheric nitrogen deposition. Control,	
	Nitrogen Action Plan.	gen impacts. Develop and implement Site
Inappropriate scrub control	Implement sustained scrub control progr	amme, including to facilitate
	hydrological restoration.	
Water pollution	Reduce diffuse source pollution in the local area through implementation of	
	Diffuse Water Pollution plans. Establish	effective buffer areas and increase the
	area of low nutrient input land use in the	catchments.
Invasive species	Improve biosecurity and pathway manag possible eradicate non-native invasive sp restoration).	ement plans. Surveillance. Control and if becies (including to facilitate hydrological
I inked theme plans	Nitrogen deposition	Habitat fragmentation
Linked theme plans	Hydrological functioning	Climate change
	Invasive species	Diffuse water pollution
Safeguard features	None	

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority: E4.E. Lowland Fen	
Critical features	 * H7210 Calcium-rich fen dominated by great fen sedge (saw sedge)³ H7230 Calcium-rich springwater fed fens (lowland sites)³ S1016 Desmoulin's whorl snail^{1,3} S1903 Fen orchid³ A142 Northern lapwing NB¹
Example SIPs where critical & important features are affected by dominant issues	 Broadland ^{2, 3} Norfolk Valley Fens ^{2, 3} Holme Moor & Clean Moor ² Avon River and Valley ^{2, 3} River Lambourn and Kennet Floodplain ^{2, 3}
Other important Natura 2000 features linked to this habitat group	H7140 Very wet mires often identified by an unstable 'quaking' surface ^{3, 5}

Priority Measures	
Restore hydrological functionality and manage for optimum water levels.	
Implement or review Water level Mana	gement Plans. Increase control within
hydrologically important areas for the s	ite.
Ensure favourable land management the	rough agri-environment agreements
Reduce diffuse source pollution in the catchment through implementation of	
Diffuse Water Pollution Plans.	
Implement sustained scrub control programme.	
Further investigate the impacts of atmospheric nitrogen deposition. Control,	
reduce and ameliorate atmospheric nitro	ogen impacts. Develop and implement
Site Nitrogen Action Plan.	
ydrological functioning	Habitat fragmentation
itrogen deposition	Climate change
iffuse water pollution	
1013 Geyer's whorl snail ³	
1014 Narrow-mouthed whorl snail	
y i 1	Priority Measures Restore hydrological functionality and Implement or review Water level Mana hydrologically important areas for the s Ensure favourable land management the Reduce diffuse source pollution in the of Diffuse Water Pollution Plans. Implement sustained scrub control prog Further investigate the impacts of atmo reduce and ameliorate atmospheric nitro Site Nitrogen Action Plan. ydrological functioning trogen deposition ffuse water pollution 013 Geyer's whorl snail ³ 014 Narrow-mouthed whorl snail

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

E4.F. Scrub (not a Natura 2000 core priority) NB: Superscript numbers link the core priorities with other work areas via the synergies table	
Critical features	None
Example SIPs where critical & important features are affected by dominant issues	 North Pennines Group ^{2, 3} Salisbury Plain ³ Lake District High Fells ^{2, 3} Aston Rowant ³ Mole Gap to Reigate Escarpment ³
Other important Natura 2000 features linked to this habitat group	H5130 Juniper on heaths or calcareous grasslands ³

Dominant issues	Priority Measures	
Disease	Implement bio-security and disease cor	trol measures for Phytophthora disease
	and box blight. Monitor the extent of di	isease. Investigate and trial appropriate
	actions required, including active mana	gement and diversifying the species
	mix.	
Air pollution	Further investigate the impacts of atmo	spheric nitrogen deposition. Control,
	reduce and ameliorate atmospheric nitr	ogen impacts. Develop and implement
	Site Nitrogen Action Plan.	
Deer	Work with landowners or regional / nat	ional initiatives, to manage deer
	populations in a coordinated and sustain	ned way to prevent browsing.
Inappropriate grazing	Review grazing regimes and negotiate alterations where necessary for site	
	condition. Investigate and trial appropri-	iate means of management, such as
	targeted cattle grazing and stockproof boundaries.	
Unsustainable on-site	Trial innovative techniques to manage,	maintain and restore on-site
population	populations	
Linked theme plans	Nitrogen deposition	Habitat fragmentation
•	Invasive species	Climate change
	Grazing	
Safeguard features	H5110 Natural box scrub ³	

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority	: E5.A. Grassland
Critical features	H6520 Mountain hay meadows ^{1, 3, 5} S1654 Early gentian ^{3, 5}
Example SIPs where critical & important features are affected by dominant issues	 North Pennines Group ^{2, 3} Breckland ^{2, 3} Portland – Studland & St Albans Durlston ^{2, 3} Fontmell & Melbury Downs ³ North Pennine Dales Meadows ³
Other important Natura 2000 features linked to this habitat group	 H2330 Open grassland with grey-hair grass and common bent grass of inland dunes H6210 Dry grasslands and scrublands on chalk or limestone (important orchid sites)^{3,5} H6410 Purple moor-grass meadows³ A133 Stone-curlew B

Dominant issues	Priority Measures	
Inappropriate grazing	Establish appropriate grazing regimes, including the control and reversal of effects of overgrazing. Investigate and trial appropriate means of management, such as targeted cattle grazing.	
Change in land management	Ensure continuation of appropriate management, including trialling appropriate management for habitat mosaics.	
Air pollution	Further investigate the impacts of atmosphe ameliorate atmospheric nitrogen impacts. D Plan.	eric nitrogen deposition. Control, reduce and Develop and implement Site Nitrogen Action
Inappropriate scrub control	Implement sustained scrub control programmes.	
Fertiliser use	Ensure agri-environment agreements and consents for fertiliser use are appropriate. Raise awareness of SSSI protection legislation and enforcement measures.	
Linked theme plans	Nitrogen deposition Grazing Invasive species	Diffuse water pollution Habitat fragmentation Climate change
Safeguard features	 * H1340 Inland saltmarshes H6150 Montane acid grasslands ³ * H6230 Species –rich grassland with mat-gra H6430 Tall herb communities ³ S1065 Marsh fritillary butterfly ³ 	ass in upland areas

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority: E5.B. Mined / disturbed	
Critical features	 H6130 Grasslands on soils rich in heavy metals ^{1, 3} * S1390 Western rustwort ¹
Example SIPs where critical & important features are affected by dominant issues	 Phoenix United Mine and Crow's Nest³ St Austell Clay Pits³ Ox Close³ Tyne and Allen River Gravels³ Tyne and Nent³
Other important Natura 2000 features linked to this habitat group	None

	D. 1. 37	
Dominant issues	Priority Measures	
Natural changes to	Implement appropriate management to ensure the sustainability of designated features.	
site conditions	Monitor designated features using detailed ha	abitat surveys.
Inappropriate scrub	Implement sustained scrub control programm	nes possibly including soil stripping.
control		
Invasive species	Improve biosecurity and pathway management plans. Surveillance. Control and if	
	possible eradicate non-native invasive specie	s. Continue local projects with partners.
Inappropriate grazing	Investigate and trial appropriate means of management, such as targeted cattle grazing.	
Hydrological changes	Investigate impacts of hydrological change to inform remedies.	
Linked theme	Nitrogen deposition	Grazing
nlong	Invasive species	Climate change
plans	Hydrological functioning	C C
Safeguard	None	
footuros		
Italuits		

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority	: E5.C. Cultivated grass
Critical features	A037Bewick swan NB 1, 5A142Northern lapwing NB 1
Example SIPs where critical & important features are affected by dominant issues	 Somerset Levels & Moors ^{2, 3} Sefton Ribble ^{2, 3} Broadland ^{2, 3} Breydon Water ^{2, 3} Severn Estuary ^{2, 3}
Other important Natura 2000 features linked to this habitat group	A038Whooper swan NBA045bBarnacle goose NBA046aDark-bellied brent goose NBA046cLight-bellied brent goose NB

Dominant issues	Priority Measures	
Public access and disturbance	Gather and review evidence to inform	appropriate management. Develop a
	strategic approach to access. Advise u	ser groups through awareness raising,
	wardening and codes of conduct.	
Change in land management	Ensure continuation of appropriate management, including through agri-	
	environment agreements and good wo	orking relationships with land owners.
	Monitoring and advice to raise awarer	ness of the potential impact of
	surrounding habitat change on interest	t features.
Change in species distribution	Review bird population dynamics locally and nationally. Investigate site	
	level and larger scale factors affecting	the declining SPA species. Research
	and investigations into: flexibility of p	protected site boundaries; better wider
	habitat provision. Form a strategic over	erview.
Drainage	Implement water level management which is appropriate for SPA birds	
Agricultural management	Maintain appropriate agricultural management and the necessary access for	
practices	farming activities (e.g. maintenance o	f drove roads)
Linked theme plans	Public access and disturbance	Hydrological functioning
F	Grazing	Climate change
		-
Safeguard features	A140 European golden plover NB	
Sureguara reatures		

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
4	Potential synergy with Marine Strategy Framework Directive objectives
5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority	: E5.D Floodplain grassland
Critical features	A037Bewick swan NB1, 5A054Northern pintail NB1, 5A394Greater white-fronted goose NB1
Example SIPs where critical & important features are affected by dominant issues	 Ouse Washes ^{2, 3} Nene Washes ^{2, 3} Lower Derwent Valley ² Broadland ^{2, 3} Somerset Levels and Moors ^{2, 3}
Other important Natura 2000 features linked to this habitat group	 H6510 Lowland hay meadows S1614 Creeping marshwort A038 Whooper swan NB A040 Pink-footed goose NB A050 Eurasian wigeon NB A052 Eurasian teal NB A055 Garganey B A056 Northern shoveler NB A151 Ruff B & NB¹ A156a Black-tailed godwit B

Dominant issues	Priority Measures	
Water pollution	Implement Diffuse Water Pollution Plans to address inappropriate levels of nutrients delivered by flooding	
Hydrological changes	Investigate impacts of hydrological change (including yearly variations) to inform remedies. Restore hydrological functionality.	
Invasive species	Improve biosecurity and pathway management plans. Surveillance. Control and if possible eradicate non-native invasive species.	
Change in land management	Ensure continuation of appropriate management to sustain grazing quality, including through agri-environment agreements and good working relationships with land owners. Monitoring and advice to raise awareness of the potential impact of surrounding habitat change on interest features. Improve habitat connectivity.	
Public access/disturbance	Gather and review evidence to inform appropriate management. Develop a strategic approach to access. Advise user groups through awareness raising, wardening and codes of conduct.	
Linked theme plans	Hydrological functioning Diffuse water pollution Public access and disturbance Invasive species	Climate change River restoration Grazing Habitat fragmentation
Safeguard features	A036 Mute swan NB A051 Gadwall NB & B A053 Mallard B A056 Northern shoveler B A061 Tufted duck NB ¹ A082 Hen harrier NB ¹ A151 Ruff B ¹	

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
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5	Potential to contribute to measurable progress on the nature sub-target of the EU
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Natura 2000 core priority	latura 2000 core priority: E6.A. Woodland	
Critical features	 * H9180 Mixed woodland on base-rich soils associated with rocky slopes ³ * H91E0Alder woodland on floodplains ³ * H91J0 Yew-dominated woodland ^{3, 5} S1079 Violet click beetle ^{3,} S1902 Lady's-slipper orchid A314 Wood warbler B 	
Example SIPs where critical & important features are affected by dominant issues	 New Forest ^{2, 3} Morecambe Bay Pavements ^{2, 3} Wye Valley Woodlands/ Coetiroedd Dyffryn Gwy ^{2, 3} Windsor Forest and Great Park ³ Exmoor and Quantock Oakwoods ^{2, 3} 	
Other important Natura 2000 features linked to this habitat group	 H9120 Beech forests on acid soils ³ H9190 Dry oak-dominated woodland ³ S1308 Barbastelle Bat ³ S1323 Bechstein's Bat ³ 	

Dominant issues	Priority Measures	
Forestry and woodland	Manage woodland for greater structural diversity. Continue restoration to	
management	promote an appropriate species mix. Investigate and implement management	
Air pollution	Further investigate the impacts of atmospheric nitrogen deposition. Control	
	reduce and ameliorate atmospheric nitro	ogen impacts Develop and implement
	Site Nitrogen Action Plan.	Sen impacts. Develop and imprement
Disease	Monitor the national spread and survey	for any local occurrence of tree
	disease. Develop national / local strateg	ies to manage Chalara disease. Aim
	for mixed stand recruitment to mitigate	disease impacts.
Deer	Work with landowners or regional / nat	ional initiatives, to manage deer
D 11'	populations in a coordinated and sustain	ned way to prevent browsing.
Public access / disturbance	Gather and review evidence to inform appropriate management. Develop a	
	strategic approach to access. Advise and	a educate user groups inrough
	where necessary	s of conduct. Take enforcement action
T • 1 • 1 /1 • • • • • • • • •	Nitro con demosition	United freemontation
Linked theme plans	Invasive species	Climate change
	Public access and disturbance	Chinate change
	H0120 Pageh forests on neutral to rich ap	1e ³
Saleguard leatures	H9150 Detecti forests of fieutral to ficit so. H9160 Oak-hornbeam forests ³	115
	H9140 Western acidic oak woodland ³	
	* H91D0 Bog woodland	
	11) 1D0 D0g woodland	
	S1083 Stag beetle ³	
	S1303 Lesser horseshoe bat 3	
	S1304 Greater horseshoe bat	
	A072 European honey-buzzard B	
Synergies		

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
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5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Natura 2000 core priority: E7.A. Rocky habitats			
Critical features	* H8240 Limestone pavements ³		
Example SIPs where critical & important features are affected by dominant issues	 Craven Limestone Complex ^{2, 3} Asby Complex ^{2, 3} Ingleborough Complex ^{2, 3} Morecambe Bay Pavements ^{2, 3} North Pennines Group ^{2, 3} 		
Other important Natura 2000 features linked to this habitat group	 H8120 Base-rich scree H8210 Plants in crevices on base-rich rocks ³ 		

Dominant issues	Priority Measures		
Overgrazing	Secure reduction in grazing levels by restricting stock access to vulnerable locations.		
Air pollution	Further investigate the impacts of atmospheric nitrogen deposition. Control, reduce and ameliorate atmospheric nitrogen impacts. Develop and implement Site Nitrogen Action Plan.		
Change in land management	Ensure continuation of appropriate management, including through agri-environment agreements and good working relationships with land owners. Monitoring and advice to raise awareness of the potential impact of surrounding habitat change on interest features.		
Climate change	Review likely climate change impacts and identify adaptation actions		
Deer	Work with landowners or regional / national initiatives, to manage deer populations in a coordinated and sustained way to prevent browsing.		
Linked theme plan	ns Nitrogen deposition Grazing	Invasive species Climate change	
Safeguard feature	 H8110 Acidic scree ³ H8220 Plants in crevices on acid rocks ³ H8310 Caves not open to the public S1421 Killarney fern ³ A103 Peregripe felcon B¹ 		

Ref.	Synergy
1	Halting declines in the England Natura 2000 network
2	Potential synergy with Water Framework Directive objectives
3	Potential synergy with England Biodiversity 2020 objectives
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5	Potential to contribute to measurable progress on the nature sub-target of the EU
	Biodiversity 2020 strategy

Section H: Monitoring, evaluation and updating of PAFs

Monitoring of outcomes

Natural England will continue to undertake Common Standards monitoring of Natura 2000 sites to monitor the condition of sites and features.

This will be used along with other information, for the Article 17 reporting (due in 2019) on the conservation status of Habitats and species and the Article 12 reporting (due in 2019) on the status of birds.

Monitoring of funding

To improve the mainstreaming of biodiversity funding, it will be beneficial if the use of EU structural funds for Natura 2000 in England is more closely monitored.

Progress of delivering measures

It will be possible to track progress of delivering actions for protected sites through information that is included in Natural England's Designated Sites system which is based on Conservation Management System (CMSi) software. It is envisaged that implementation of Natura 2000 actions will be able to be tracked and monitored by Natural England and partners at the site level. The Environment Agency and other delivery partners also have access to the system.

Updating of the PAF:

The PAF is a live document that can be updated when needed. The following updates are envisaged:

- **Refreshment:** the next refreshment would be completed by 2018, in time to inform the development of the 2020-27 round of EU funding Programmes. This update will focus on:
 - Updates in the strategic priorities for Natura 2000 beyond the period 2014-2020
 - Progress and lessons learned in accessing EU funds for Natura 2000 and barriers encountered
 - Further specification of funding needs and opportunities for integration in operational programmes

The update can take account of new designations or extensions to sites, such as those that may follow the forthcoming review of SPAs or those being considered for marine mammals. It should be noted that these sites may require funding for priority actions that are not yet included in this PAF.

• **Full revision:** the PAF will be fully reviewed and revised every six years. The next full review will be completed by 2021. This should be compatible with the timetable for the completion of the Third Cycle of the Water Framework Directive River Basin Management Plan cycle also due in 2021.

The full review will include:

- Assessment of progress on achieving measures laid out in PAF
- Evaluation of funding sources actually achieved vs. planned

- Review of format and content (are they user friendly, and fit for purposes)
- Appraisal of level of integration of the PAF into operational plans, business plans (including NGOs, LA, Crown Estate, MOD, utilities)
- Non-planned opportunistic delivery of actions

Appendices:

The following appendices are attached:

Appendix 1. Natura 2000 sites and Site Improvement Plans in England

<u>Appendix 2.</u> Natura 2000 features with negative trends within England's Natura 2000 network

Appendix 3. Synergies with Water Framework Directive England Biodiversity 2020 targets

Appendix 4. Synergies with Marine Strategy Framework Directive

Appendix 5. Synergies with nature sub-target under EU 2020 biodiversity strategy

Appendix 6. England wider countryside priority features
Appendix 1. Natura 2000 sites and Site Improvement Plans in England.

The Natura 2000 sites listed here, covered by Site Improvement Plans, have been included in the prioritisation analysis for this revision of the PAF. The Site Improvement Plans can be found here: <u>http://publications.naturalengland.org.uk/category/5458594975711232</u>

The UK is currently considering several new or extensions to SPAs and SACs, *inter alia* to protect seabirds and marine mammals respectively. These new sites are not listed in the table below and have not yet been included in the prioritisation for this PAF. However, they may need priority measures when designated.

SIPID	SIPNAME	SACSPACODE	SACSPANAME	
SIP001	Abberton Reservoir	UK9009141	Abberton Reservoir SPA	
SIP002	Alde-Ore Estuaries	UK0030076	Alde-Ore & Butley Estuaries SAC	
SIP002	Alde-Ore Estuaries	UK9009112	Alde-Ore Estuary SPA	
SIP002	Alde-Ore Estuaries	UK0014780	Orfordness-Shingle Street SAC	
SIP003	Arnecliff and Park Hole Woods	UK0030142	Arnecliff and Park Hole Woods SAC	
SIP004	Arun Valley	UK0030366	Arun Valley SAC	
SIP004	Arun Valley	UK9020281	Arun Valley SPA	
SIP005	Asby Complex	UK0014778	Asby Complex SAC	
SIP006	Ashdown Forest	UK0030080	Ashdown Forest SAC	
SIP006	Ashdown Forest	UK9012181	Ashdown Forest SPA	
SIP007	Aston Rowant	UK0030082	Aston Rowant SAC	
SIP008	Avon Gorge Woodlands	UK0012734	Avon Gorge Woodlands SAC	
SIP009	Barnack Hills and Holes	UK0030031	Barnack Hills and Holes SAC	
SIP010	Baston Fen	UK0030085	Baston Fen SAC	
SIP011	Bath and Bradford on Avon Bats	UK0012584	Bath and Bradford on Avon Bats SAC	
SIP012	Bats Beer Quarry and Caves	UK0012585	Beer Quarry and Caves SAC	
SIP013	Beast Cliff-Whitby (Robin Hood's Bay)	UK0030086	Beast Cliff-Whitby (Robin Hood's Bay) SAC	
SIP014	Bees Nest and Green Clay Pits	UK0030087	Bees Nest and Green Clay Pits SAC	
SIP015	Benacre to Easton Bavents	UK0013104	Benacre to Easton Bavents Lagoons SAC	
SIP015	Benacre to Easton Bavents	UK9009291	Benacre to Easton Bavents SPA	
SIP016	Birklands and Bilhaugh	UK0012740	Birklands and Bilhaugh SAC	
SIP017	Blackstone Point	UK0030091	Blackstone Point SAC	
SIP018	Blean Complex	UK0013697	Blean Complex SAC	
SIP019	Bolton Fell Moss	UK0030362	Bolton Fell Moss SAC	
SIP020	Border Mires and Kielder Butterburn	UK0012923	Border Mires, Kielder-Butterburn SAC	
SIP021	Borrowdale Woodland Complex	UK0012745	Borrowdale Woodland Complex SAC	
SIP022	Bowland Fells	UK9005151	Bowland Fells SPA	
SIP023	Bracket's Coppice	UK0030095	Bracket's Coppice SAC	
SIP024	Braunton Burrows	UK0012570	Braunton Burrows SAC	
SIP025	Breckland	UK0019865	Breckland SAC	

SIPID	SIPNAME	SACSPACODE	SACSPANAME	
SIP025	Breckland	UK9009201	Breckland SPA	
SIP026	Bredon Hill	UK0012587	Bredon Hill SAC	
SIP027	Breney Common and Goss and	UK0030098	Breney Common and Goss and Tregoss	
	Tregoss Moors		Moors SAC	
SIP028	Breydon Water	UK9009181	Breydon Water SPA	
SIP029	Briddlesford Copses	UK0030328	Briddlesford Copses SAC	
SIP030	Broadland	UK9009253	Broadland SPA	
SIP030	Broadland	UK0013577	The Broads SAC	
SIP031	Brown Moss	UK0030100	Brown Moss SAC	
SIP032	Burnham Beeches	UK0030034	Burnham Beeches SAC	
SIP033	Butser Hill	UK0030103	Butser Hill SAC	
SIP034	Calf Hill and Cragg Woods	UK0030106	Calf Hill and Cragg Woods SAC	
SIP035	Cannock Chase	UK0030107	Cannock Chase SAC	
SIP036	Cannock Extension Canal	UK0012672	Cannock Extension Canal SAC	
SIP037	Carrine Common	UK0012795	Carrine Common SAC	
SIP038	Castle Eden Dene	UK0012768	Castle Eden Dene SAC	
SIP039	Castle Hill	UK0012836	Castle Hill SAC	
SIP040	Cerne and Sydling Downs	UK0030115	Cerne and Sydling Downs SAC	
SIP041	Chesil Beach and the Fleet	UK0017076	Chesil & The Fleet SAC	
SIP041	Chesil Beach and the Fleet	UK9010091	Chesil Beach & the Fleet SPA	
SIP042	Chew Valley Lake	UK9010041	Chew Valley Lake SPA	
SIP043	Solent	UK9011011	Chichester and Langstone Harbours SPA	
SIP043	Solent	UK9011051	Portsmouth Harbour SPA	
SIP043	Solent	UK9011061	Solent & Southampton Water SPA	
SIP043	Solent	UK0030059	Solent Maritime SAC	
SIP044	Chilmark Quarries	UK0016373	Chilmark Quarries SAC	
SIP045	Chilterns Beechwoods	UK0012724	Chilterns Beechwoods SAC	
SIP046	Clints Quarry	UK0030035	Clints Quarry SAC	
SIP047	Cothill Fen	UK0012889	Cothill Fen SAC	
SIP048	Cotswold Beechwoods	UK0013658	Cotswold Beechwoods SAC	
SIP049	Craven Limestone Complex	UK0014776	Craven Limestone Complex SAC	
SIP050	Crookhill Brick Pit	UK0030349	Crookhill Brick Pit SAC	
SIP051	Crowdy Marsh	UK0030329	Crowdy Marsh SAC	
SIP052	Culm Grasslands	UK0012679	Culm Grasslands SAC	
SIP053	Cumbrian Marsh Fritillary Site	UK0030126	Cumbrian Marsh Fritillary Site SAC	
SIP054	Dartmoor	UK0012929	Dartmoor SAC	
SIP055	Deben Estuary	UK9009261	Deben Estuary SPA	
SIP056	Dee Estuary Aber Dyfrdwy and	UK0030131	Dee Estuary SAC	
	Mersey Narrows			
SIP056	Dee Estuary Aber Dyfrdwy and Mersey Narrows	UK9013011	The Dee Estuary SPA	
SIP056	Dee Estuary Aber Dyfrdwy and	UK9020287	Mersey Narrows and North Wirral	

SIPID	SIPNAME	SACSPACODE	SACSPANAME	
	Mersey Narrows		Foreshore SPA	
SIP057	Denby Grange Colliery Ponds	UK0030036	Denby Grange Colliery Ponds SAC	
SIP058	Lower Derwent Valley	UK0012844	Lower Derwent Valley SAC	
SIP058	Lower Derwent Valley	UK9006092	Lower Derwent Valley SPA	
SIP059	Devils Dyke	UK0030037	Devils Dyke SAC	
SIP060	Dew's Ponds	UK0030133	Dew's Ponds SAC	
SIP061	Dixton Wood	UK0030135	Dixton Wood SAC	
SIP062	Dorset Heaths	UK9010101	Dorset Heathlands SPA	
SIP062	Dorset Heaths	UK0030038	Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC	
SIP062	Dorset Heaths	UK0019857	Dorset Heaths SAC	
SIP063	Dover to Kingsdown Cliffs	UK0030330	Dover to Kingsdown Cliffs SAC	
SIP064	Downton Gorge	UK0012735	Downton Gorge SAC	
SIP065	Drigg Coast	UK0013031	Drigg Coast SAC	
SIP066	Duddon Mosses	UK0019833	Duddon Mosses SAC	
SIP067	Duncton to Bignor Escarpment	UK0030138	Duncton to Bignor Escarpment SAC	
SIP068	Dungeness	UK0013059	Dungeness SAC	
SIP068	Dungeness	UK9012091	Dungeness to Pett Level SPA	
SIP069	Durham Coast	UK0030140	Durham Coast SAC	
SIP070	East Devon Heaths	UK9010121	East Devon Heaths SPA	
SIP070	East Devon Heaths	UK0012602	East Devon Pebblebed Heaths SAC	
SIP071	East Hampshire Hangers	UK0012723	East Hampshire Hangers SAC	
SIP072	Ebernoe Common	UK0012715	Ebernoe Common SAC	
SIP073	Ellers Wood and Sand Dale	UK0030039	Ellers Wood and Sand Dale SAC	
SIP074	Emer Bog	UK0030147	Emer Bog SAC	
SIP075	Ensor's Pool	UK0012646	Ensor's Pool SAC	
SIP076	Epping Forest	UK0012720	Epping Forest SAC	
SIP077	Essex Estuaries	UK9009245	Blackwater Estuary (Mid-Essex Coast Phase 4) SPA	
SIP077	Essex Estuaries	UK9009243	Colne Estuary (Mid-Essex Coast Phase 2) SPA	
SIP077	Essex Estuaries	UK9009244	Crouch & Roach Estuaries (Mid-Essex Coast Phase 3) SPA	
SIP077	Essex Estuaries	UK9009242	Dengie (Mid-Essex Coast Phase 1) SPA	
SIP077	Essex Estuaries	UK0013690	Essex Estuaries SAC	
SIP077	Essex Estuaries	UK9009246	Foulness (Mid-Essex Coast Phase 5) SPA	
SIP078	Eversden and Wimpole Woods	UK0030331	Eversden and Wimpole Woods SAC	
SIP079	Exe Dawlish	UK0030130	Dawlish Warren SAC	
SIP079	Exe Dawlish	UK9010081	Exe Estuary SPA	
SIP080	Exmoor and Quantock Oakwoods	UK0030148	Exmoor and Quantock Oakwoods SAC	
SIP081	Exmoor Heaths	UK0030040	Exmoor Heaths SAC	
SIP082	Fal and Helford	UK0013112	Fal and Helford SAC	

SIPID	SIPNAME	SACSPACODE	SACSPANAME	
SIP083	Fen Bog	UK0030332	Fen Bog SAC	
SIP084	Fenland	UK0014782	Fenland SAC	
SIP085	Fenn's, Whixall, Bettisfield, Wem and Cadney Mosses	UK0012912	Fenn's, Whixall, Bettisfield, Wem and Cadney Mosses SAC	
SIP086	Fens Pools	UK0030150	Fens Pools SAC	
SIP087	Flamborough and Filey Coast	UK9006101	Flamborough & Filey Coast pSPA	
SIP087	Flamborough and Filey Coast	UK0013036	Flamborough Head SAC	
SIP088	Folkestone to Etchinghill Escarpment	UK0012835	Folkestone to Etchinghill Escarpment SAC	
SIP089	Fontmell and Melbury Downs	UK0012550	Fontmell and Melbury Downs SAC	
SIP090	Ford Moss	UK0030151	Ford Moss SAC	
SIP091	Gang Mine	UK0012817	Gang Mine SAC	
SIP092	Godrevy Head to St Agnes	UK0012549	Godrevy Head to St Agnes SAC	
SIP093	Great Yarmouth Winterton Horsey	UK9009271	Great Yarmouth North Denes SPA	
SIP093	Great Yarmouth Winterton Horsey	UK0013043	Winterton-Horsey Dunes SAC	
SIP094	Great Yews	UK0012770	Great Yews SAC	
SIP095	Grimsthorpe	UK0030043	Grimsthorpe SAC	
SIP096	Hackpen Hill	UK0030162	Hackpen Hill SAC	
SIP097	Haisborough, Hammond and Winterton	UK0030369	Haisborough, Hammond and Winterton cSAC	
SIP098	Hamford Water	UK9009131	Hamford Water SPA	
SIP098	Hamford Water	UK0030377	Hamford Water cSAC	
SIP099	Harbottle Moors	UK0030333	Harbottle Moors SAC	
SIP100	Hartslock Wood	UK0030164	Hartslock Wood SAC	
SIP101	Hastings Cliffs	UK0030165	Hastings Cliffs SAC	
SIP102	Helbeck and Swindale Woods	UK0030167	Helbeck and Swindale Woods SAC	
SIP103	Hestercombe House	UK0030168	Hestercombe House SAC	
SIP104	Holburn Lake and Moss	UK9006041	Holburn Lake and Moss SPA	
SIP105	Holme Moor and Clean Moor	UK0012883	Holme Moor and Clean Moor SAC	
SIP106	Holnest	UK0030350	Holnest SAC	
SIP107	Hornsea Mere	UK9006171	Hornsea Mere SPA	
SIP108	Humber Estuary	UK0030170	Humber Estuary SAC	
SIP108	Humber Estuary	UK9006111	Humber Estuary SPA	
SIP109	Ingleborough Complex	UK0012782	Ingleborough Complex SAC	
SIP110	Inner Dowsing, Race Bank and North Ridge	UK0030370	Inner Dowsing, Race Bank and North Ridge cSAC	
SIP111	Isle of Wight Downs	UK0016254	Isle of Wight Downs SAC	
SIP112	River Lambourn and Kennet- Lambourn Floodplain	UK0030044	Kennet & Lambourn Floodplain SAC	
SIP112	River Lambourn and Kennet- Lambourn Floodplain	UK0030257	River Lambourn SAC	
SIP113	Kennet Valley Alderwoods	UK0030175	Kennet Valley Alderwoods SAC	

SIPID	SIPNAME	SACSPACODE	SACSPANAME	
SIP114	Kingley Vale	UK0012767	Kingley Vale SAC	
SIP115	Kirk Deighton	UK0030178	Kirk Deighton SAC	
SIP116	Lake District High Fells	UK0012960	Lake District High Fells SAC	
SIP117	Lands End and Cape Bank	UK0030375	Lands End and Cape Bank cSAC	
SIP118	Lee Valley	UK9012111	Lee Valley SPA	
SIP119	Leighton Moss	UK9005091	Leighton Moss SPA	
SIP120	Lewes Downs	UK0012832	Lewes Downs SAC	
SIP121	Saltfleetby-Theddlethorpe Dunes &	UK0030270	Saltfleetby-Theddlethorpe Dunes &	
	Gibraltar Point		Gibraltar Point SAC	
SIP122	Little Wittenham	UK0030184	Little Wittenham SAC	
SIP123	Liverpool Bay/ Bae Lerpwl	UK0030376	Shell Flat and Lune Deep cSAC	
SIP123	Liverpool Bay/ Bae Lerpwl	UK9020294	Liverpool Bay/ Bae Lerpwl SPA	
SIP124	Lizard Point	UK0030374	Lizard Point cSAC	
SIP125	Lower Bostraze and Leswidden	UK0030064	Lower Bostraze and Leswidden SAC	
SIP126	Lundy	UK0013114	Lundy SAC	
SIP127	Lydden and Temple Ewell Downs	UK0012834	Lydden and Temple Ewell Downs SAC	
SIP128	Lyme Bay and Torbay McSAC	UK0030372	Lyme Bay and Torbay McSAC	
SIP129	Lyppard Grange Ponds	UK0030198	Lyppard Grange Ponds SAC	
SIP130	Manchester Mosses	UK0030200	Manchester Mosses SAC	
SIP131	Marazion Marsh	UK9020289	Marazion Marsh SPA	
SIP132	Margate and Long Sands	UK0030371	Margate and Long Sands cSAC	
SIP133	Martin Mere	UK9005111	Martin Mere SPA	
SIP134	Greater Thames Complex	UK9009171	Benfleet and Southend Marshes SPA	
SIP134	Greater Thames Complex	UK9012031	Medway Estuary & Marshes SPA	
SIP134	Greater Thames Complex	UK9012021	Thames Estuary & Marshes SPA	
SIP134	Greater Thames Complex	UK9012011	The Swale SPA	
SIP135	Mells Valley	UK0012658	Mells Valley SAC	
SIP136	Mendip Limestone Grasslands	UK0030203	Mendip Limestone Grasslands SAC	
SIP137	Mendip Woodlands	UK0030048	Mendip Woodlands SAC	
SIP138	Mersey Estuary	UK9005131	Mersey Estuary SPA	
SIP139	Minsmere to Walberswick Heaths and Marshes	UK0012809	Minsmere to Walberswick Heaths & Marshes SAC	
SIP139	Minsmere to Walberswick Heaths and Marshes	UK9009101	Minsmere-Walberswick SPA	
SIP140	Mole Gap to Reigate Escarpment	UK0012804	Mole Gap to Reigate Escarpment SAC	
SIP141	Morecambe Bay	UK9005031	Duddon Estuary SPA	
SIP141	Morecambe Bay	UK0013027	Morecambe Bay SAC	
SIP141	Morecambe Bay	UK9005081	Morecambe Bay SPA	
SIP142	Morecambe Bay Pavements	UK0014777	Morecambe Bay Pavements SAC	
SIP143	Mottey Meadows	UK0030051	Mottey Meadows SAC	
SIP144	Mottisfont Bats	UK0030334	Mottisfont Bats SAC	
SIP145	Naddle Forest	UK0030335	Naddle Forest SAC	

SIPID	SIPNAME	SACSPACODE	SACSPANAME	
SIP146	Nene	UK0030222	Nene Washes SAC	
SIP146	Nene	UK9008031	Nene Washes SPA	
SIP147	New Forest	UK9011031	New Forest SPA	
SIP147	New Forest	UK0012557	The New Forest SAC	
SIP148	Newham Fen	UK0012890	Newham Fen SAC	
SIP149	Newlyn Downs	UK0030065	Newlyn Downs SAC	
SIP150	Norfolk Valley Fens	UK0012892	Norfolk Valley Fens SAC	
SIP151	North Downs Woodlands	UK0030225	North Downs Woodlands SAC	
SIP152	North Meadow and Clattinger Farm	UK0016372	North Meadow and Clattinger Farm SAC	
SIP153	North Pennine Dales Meadows	UK0014775	North Pennine Dales Meadows SAC	
SIP154	North Pennines Group	UK0014774	Moor House-Upper Teesdale SAC	
SIP154	North Pennines Group	UK0030033	North Pennine Moors SAC	
SIP154	North Pennines Group	UK9006272	North Pennine Moors SPA	
SIP155	North Somerset and Mendip Bats	UK0030052	North Somerset and Mendip Bats SAC	
SIP156	North York Moors	UK0030228	North York Moors SAC	
SIP156	North York Moors	UK9006161	North York Moors SPA	
SIP157	Northumberland Coastal	UK0017072	Berwickshire & North Northumberland Coast SAC	
SIP157	Northumberland Coastal	UK9006031	Coquet Island SPA	
SIP157	Northumberland Coastal	UK9006021	Farne Islands SPA	
SIP157	Northumberland Coastal	UK9006011	Lindisfarne SPA	
SIP157	Northumberland Coastal	UK0017097	North Northumberland Dunes SAC	
SIP157	Northumberland Coastal	UK9006131	Northumbria Coast SPA	
SIP157	Northumberland Coastal	UK0030292	Tweed Estuary SAC	
SIP158	Oak Mere	UK0012970	Oak Mere SAC	
SIP159	Orton Pit	UK0030053	Orton Pit SAC	
SIP160	Ouse Washes	UK0013011	Ouse Washes SAC	
SIP160	Ouse Washes	UK9008041	Ouse Washes SPA	
SIP161	Overstrand Cliffs	UK0030232	Overstrand Cliffs SAC	
SIP162	Ox Close	UK0030234	Ox Close SAC	
SIP163	Oxford Meadows	UK0012845	Oxford Meadows SAC	
SIP164	Pagham Harbour	UK9012041	Pagham Harbour SPA	
SIP165	Parkgate Down	UK0030338	Parkgate Down SAC	
SIP166	Paston Great Barn	UK0030235	Paston Great Barn SAC	
SIP167	Pasturefields Salt Marsh	UK0012789	Pasturefields Salt Marsh SAC	
SIP168	Peak District Dales	UK0019859	Peak District Dales SAC	
SIP169	Penhale Dunes	UK0012559	Penhale Dunes SAC	
SIP170	Peters Pit	UK0030237	Peters Pit SAC	
SIP171	Pevensey Levels	UK0030367	Pevensey Levels SAC	
SIP172	Pewsey Downs	UK0012552	Pewsey Downs SAC	
SIP173	Phoenix United Mine and Crow's	UK0030238	Phoenix United Mine and Crow's Nest	

SIPID	SIPNAME	SACSPACODE	SACSPANAME	
	Nest		SAC	
SIP174	Plymouth Sound and Tamar Estuary	UK0013111	Plymouth Sound & Estuaries SAC	
SIP174	Plymouth Sound and Tamar Estuary	UK9010141	Tamar Estuaries Complex SPA	
SIP175	Polruan to Polperro	UK0030241	Polruan to Polperro SAC	
SIP176	Poole Harbour	UK9010111	Poole Harbour SPA	
SIP177	Portholme	UK0030054	Portholme SAC	
SIP178	Portland-Studland & St Albans- Durlston	UK0019861	Isle of Portland to Studland Cliffs SAC	
SIP178	Portland-Studland & St Albans- Durlston	UK0019863	St Albans Head to Durlston Head SAC	
SIP180	Prescombe Down	UK0012553	Prescombe Down SAC	
SIP181	Quants	UK0030242	Quants SAC	
SIP182	Queendown Warren	UK0012833	Queendown Warren SAC	
SIP183	Rex Graham Reserve	UK0019866	Rex Graham Reserve SAC	
SIP184	Richmond Park	UK0030246	Richmond Park SAC	
SIP185	Avon River and Valley	UK9011091	Avon Valley SPA	
SIP185	Avon River and Valley	UK0013016	River Avon SAC	
SIP186	River Axe	UK0030248	River Axe SAC	
SIP187	River Camel	UK0030056	River Camel SAC	
SIP188	River Clun	UK0030250	River Clun SAC	
SIP189	River Dee and Bala Lake	UK0030252	River Dee and Bala Lake SAC	
SIP190	River Derwent and Bassenthwaite Lake	UK0030032	River Derwent and Bassenthwaite Lake SAC	
SIP191	River Eden	UK0012643	River Eden SAC	
SIP192	River Ehen	UK0030057	River Ehen SAC	
SIP193	River Itchen	UK0012599	River Itchen SAC	
SIP194	River Kent	UK0030256	River Kent SAC	
SIP195	River Derwent	UK0030253	River Derwent SAC	
SIP196	River Mease	UK0030258	River Mease SAC	
SIP197	River Tweed	UK0012691	River Tweed SAC	
SIP198	River Wensum	UK0012647	River Wensum SAC	
SIP199	River Wye	UK0012642	River Wye SAC	
SIP200	Rixton Clay Pits	UK0030265	Rixton Clay Pits SAC	
SIP201	Rochdale Canal	UK0030266	Rochdale Canal SAC	
SIP202	Rodborough Common	UK0012826	Rodborough Common SAC	
SIP203	Roman Wall Loughs	UK0030267	Roman Wall Loughs SAC	
SIP204	Rook Clift	UK0030058	Rook Clift SAC	
SIP205	Rooksmoor	UK0012681	Rooksmoor SAC	
SIP206	Roudsea Wood and Mosses	UK0019834	Roudsea Wood and Mosses SAC	
SIP207	Roydon Common and Dersingham Bog	UK0012801	Roydon Common and Dersingham Bog SAC	
SIP208	Rutland Water	UK9008051	Rutland Water SPA	

SIPID	SIPNAME	SACSPACODE	SACSPANAME	
SIP209	Salisbury Plain	UK9011101	Porton Down SPA	
SIP209	Salisbury Plain	UK0012683	Salisbury Plain SAC	
SIP209	Salisbury Plain	UK9011102	Salisbury Plain SPA	
SIP210	Sandlings	UK9020286	Sandlings SPA	
SIP211	Isles of Scilly Complex	UK0013694	Isles of Scilly Complex SAC	
SIP211	Isles of Scilly Complex	UK9020288	Isles of Scilly SPA	
SIP212	Sefton Ribble	UK9005103	Ribble & Alt Estuaries SPA	
SIP212	Sefton Ribble	UK0013076	Sefton Coast SAC	
SIP213	Severn Estuary Mor Hafren	UK0013030	Severn Estuary SAC	
SIP213	Severn Estuary Mor Hafren	UK9015022	Severn Estuary SPA	
SIP215	Shortheath Common	UK0030275	Shortheath Common SAC	
SIP216	Sidmouth to West Bay	UK0019864	Sidmouth to West Bay SAC	
SIP217	Simonside Hills	UK0030336	Simonside Hills SAC	
SIP218	Singleton and Cocking Tunnels	UK0030337	Singleton and Cocking Tunnels SAC	
SIP219	Skipwith	UK0030276	Skipwith Common SAC	
SIP220	Solway Firth	UK0013025	Solway Firth SAC	
SIP220	Solway Firth	UK9005012	Upper Solway Flats & Marshes SPA	
SIP221	Somerset Levels and Moors	UK9010031	Somerset Levels and Moors SPA	
SIP222	South Dartmoor Woods	UK0012749	South Dartmoor Woods SAC	
SIP223	South Devon Shore Dock	UK0030060	South Devon Shore Dock SAC	
SIP224	South Hams	UK0012650	South Hams SAC	
SIP225	South Pennine Moors	UK9007021	Peak District Moors (South Pennine Moors Phase 1) SPA	
SIP225	South Pennine Moors		South Pennine Moors Phase 2 SPA	
SIP225	South Pennine Moors		South Pennine Moors SAC	
SIP226	South Solway Mosses		South Solway Mossos SAC	
SIP227	South West London Waterbodies	UK9012171	South West London Waterbodies SPA	
SIP228	St Austell Clay Pits	UK0030282	St Austell Clav Pits SAC	
SIP229	Start Point to Plymouth Sound and	UK0030373	Start Point to Plymouth Sound and	
011 225	Eddystone		Eddystone cSAC	
SIP230	Staverton Park and The Thicks,	UK0012741	Staverton Park and The Thicks,	
	Wantisden		Wantisden SAC	
SIP231	Stodmarsh	UK0030283	Stodmarsh SAC	
SIP231	Stodmarsh	UK9012121	Stodmarsh SPA	
SIP232	Stour and Orwell Estuaries	UK9009121	Stour and Orwell Estuaries SPA	
SIP233	Studland to Portland	UK0030382	Studland to Portland cSAC	
SIP234	Subberthwaite, Blawith and Torver Low Commons	UK0030285	Subberthwaite, Blawith and Torver Low Commons SAC	
SIP235	Tarn Moss	UK0030339	Tarn Moss SAC	
SIP236	Teesmouth and Cleveland Coast	UK9006061	Teesmouth and Cleveland Coast SPA	
SIP237	Thames Basin	UK9012141	Thames Basin Heaths SPA	
SIP237	Thames Basin	UK0012793	Thursley, Ash, Pirbright & Chobham SAC	

SIPID	SIPNAME	SACSPACODE	SACSPANAME	
SIP237	Thames Basin	UK9012131	Thursley, Hankley & Frensham Commons SPA	
SIP238	Outer Thames Estuary	UK9020309	Outer Thames Estuary pSPA	
SIP240	North East Kent (Thanet)	UK0013077	Sandwich Bay SAC	
SIP240	North East Kent (Thanet)	UK9012071	Thanet Coast & Sandwich Bay SPA	
SIP240	North East Kent (Thanet)	UK0013107	Thanet Coast SAC	
SIP241	The Lizard	UK0012799	The Lizard SAC	
SIP242	The Mens	UK0012716	The Mens SAC	
SIP243	The Stiperstones and The Hollies	UK0012810	The Stiperstones and The Hollies SAC	
SIP245	The Wash and North Norfolk Coast	UK9008022	Gibraltar Point SPA	
SIP245	The Wash and North Norfolk Coast	UK9009031	N Norfolk Coast SPA	
SIP245	The Wash and North Norfolk Coast	UK0019838	North Norfolk Coast SAC	
SIP245	The Wash and North Norfolk Coast	UK0017075	The Wash & North Norfolk Coast SAC	
SIP245	The Wash and North Norfolk Coast	UK9008021	The Wash SPA	
SIP246	Thorne Hatfield	UK0030166	Hatfield Moor SAC	
SIP246	Thorne Hatfield	UK9005171	Thorne & Hatfield Moors SPA	
SIP246	Thorne Hatfield	UK0012915	Thorne Moor SAC	
SIP247	Thrislington	UK0012838	Thrislington SAC	
SIP248	Tintagel Marsland Clovelly Coast	UK0013047	Tintagel-Marsland-Clovelly Coast SAC	
SIP249	Tregonning Hill	UK0012604	Tregonning Hill SAC	
SIP251	Tyne and Allen River Gravels	UK0012816	Tyne and Allen River Gravels SAC	
SIP252	Tyne and Nent	UK0030293	Tyne and Nent SAC	
SIP253	Ullswater Oakwoods	UK0030295	Ullswater Oakwoods SAC	
SIP254	Upper Nene Valley Gravel Pits	UK9020296	Upper Nene Valley Gravel Pits SPA	
SIP255	Walmore Common	UK9007051	Walmore Common SPA	
SIP256	Walton Moss	UK0030093	Walton Moss SAC	
SIP257	Wast Water	UK0030063	Wast Water SAC	
SIP258	Waveney and Little Ouse Valley Fens	UK0012882	Waveney and Little Ouse Valley Fens SAC	
SIP259	Wealden Heaths Woolmer Forest	UK9012132	Wealden Heaths Phase II SPA	
SIP259	Wealden Heaths Woolmer Forest	UK0030304	Woolmer Forest SAC	
SIP260	West Dorset Alder Woods	UK0030299	West Dorset Alder Woods SAC	
SIP261	West Midlands Mosses	UK0013595	West Midlands Mosses SAC	
SIP262	Wimbledon Common	UK0030301	Wimbledon Common SAC	
SIP263	Windsor Forest and Great Park	UK0012586	Windsor Forest and Great Park SAC	
SIP264	Witherslack Mosses	UK0030302	Witherslack Mosses SAC	
SIP265	Wormley Hoddesdonpark Woods	UK0013696	Wormley-Hoddesdonpark Woods SAC	
SIP266	Wye and Crundale Downs	UK0012831	Wye and Crundale Downs SAC	
SIP267	Wye Valley and Forest of Dean Bat Sites	UK0014794	Wye Valley and Forest of Dean Bat Sites	
SIP268	Wye Valley Woodlands	UK0012727	Wye Valley Woodlands SAC	
SIP269	Yewbarrow Woods	UK0030306	Yewbarrow Woods SAC	

SIPID	SIPNAME	SACSPACODE	SACSPANAME
SIP270	Solent and Isle of Wight Lagoons	UK0017073	Solent and Isle of Wight Lagoons SAC
SIP271	South Wight Maritime	UK0030061	South Wight Maritime SAC
SIP272	Falmouth Bay to St Austell Bay	UK9000009	Falmouth Bay to St Austell Bay pSPA
SIP273	Strensall	UK0030284	Strensall Common SAC

Appendix 2. Natura 2000 features with negative trends within England's Natura 2000 network

EU code	Current name as adopted in	Lay title or English name	trend in	
	Directive 97/62/EC		2000 network	
H1220	Perennial vegetation of stony banks	Coastal shingle vegetation outside the reach of waves	decrease	habitat
H1330	Atlantic salt meadows (Glauco- Puccinellietalia maritimae)	Atlantic salt meadows	decrease	habitat
H6130	Calaminarian grasslands of the Violetalia calaminariae	Grasslands on soils rich in heavy metals	decrease	habitat
H6520	Mountain hay meadows	Mountain hay meadows	decrease	habitat
H7120	Degraded raised bogs still capable of natural regeneration	Degraded raised bog	decrease ¹	habitat
S1016	Vertigo moulinsiana	Desmoulin's whorl snail	decrease	species
S1029	Margaritifera margaritifera	Freshwater pearl mussel	decrease	species
S1092	Austropotamobius pallipes	White-clawed (or Atlantic stream) crayfish	decrease	species
S1390	Marsupella profunda Lindb.	Western rustwort	decrease	species
A014	Hydrobates pelagicus	European storm-petrel	decrease	Breeding
A017	Phalacrocorax carbo	Great cormorant	decrease ²	Breeding
A082	Circus cyaneus	Hen harrier	decrease	Breeding
A084	Circus pygargus	Montagu's harrier	decrease ³	Breeding
A098	Falco columbarius	Merlin	decrease	Breeding
A103	Falco peregrinus	Peregrine falcon	Decrease ²	Breeding
A137	Charadrius hiaticula	Ringed plover	Decrease ²	Breeding
A151	Philomachus pugnax	Ruff	decrease	Breeding
A183	Larus fuscus	Lesser black-backed gull	decrease	Breeding
A188	Rissa tridactyla	Black-legged kittiwake	decrease	Breeding
A191	Sterna sandvicensis	Sandwich tern	decrease	Breeding
A194	Sterna paradisaea	Arctic tern	decrease ³	Breeding
A195	Sterna albifrons	Little tern	decrease	Breeding
A222	Asio flammeus	Short-eared owl	decrease ³	Breeding
A224	Caprimulgus europaeus	European nightjar	decrease	Breeding
A246	Lullula arborea	Woodlark	decrease ²	Breeding
A007	Podiceps auritus	Slavonian grebe	decrease ³	Non breeding
A026	Egretta garzetta	Little egret	decrease ²	Non breeding
A037	Cygnus columbianus bewickii	Bewick swan	decrease	Non breeding
A043a	Anser anser	Greylag goose	decrease ²	Non breeding
A048	Tadorna tadorna	Common shelduck	decrease	Non breeding
A054	Anas acuta	Northern pintail	decrease	Non breeding
A059	Aythya ferina	Common pochard	decrease	Non breeding
A061	Aythya fuligula	Tufted duck	decrease ²	Non breeding
A062	Aythya marila	Greater Scaup	decrease	Non breeding
A064	Clangula hyemalis	Long-tailed duck	decrease ³	Non breeding

 ¹ H7120 degraded raised bog is decreasing as areas on SACs become H7110 active raise bog following restoration works.
² Not a bird of conservation concern
³ Small proportion of UK population in UK SPAs and not showing severe declines (BoCC4 BDp_{1,2}/WDp_{1,2}).

A067	Bucephala clangula	Common goldeneye	decrease ³	Non breeding
A069	Mergus serrator	Red-breasted merganser	decrease ²	Non breeding
A082	Circus cyaneus	Hen harrier	decrease ³	Non breeding
A098	Falco columbarius	Merlin	decrease ³	Non breeding
A125	Fulica atra	Common coot	decrease ²	Non breeding
A137	Charadrius hiaticula	Ringed plover	decrease	Non breeding
A142	Vanellus vanellus	Northern lapwing	decrease	Non breeding
A148	Calidris maritima	Purple sandpiper	decrease ³	Non breeding
A149	Calidris alpina alpina	Dunlin	decrease	Non breeding
A151	Philomachus pugnax	Ruff	decrease	Non breeding
A157	Limosa lapponica	Bar-tailed godwit	decrease	Non breeding
A162	Tringa totanus	Common redshank	decrease	Non breeding
A169	Arenaria interpres	Ruddy turnstone	decrease ³	Non breeding
A191	Sterna sandvicensis	Sandwich tern	decrease ³	Non breeding
A294	Acrocephalus paludicola	Aquatic warbler	decrease ³	Non breeding
A394	Anser albifrons albifrons	Greater white-fronted goose	decrease	Non breeding

Features with unknown trend within England's Natura 2000 network

EU code	Current name as adopted in Directive 97/62/EC	Lay title or English name	trend in England Natura 2000 network	
H1110	Sandbanks which are slightly covered by sea water all the time	Sandbanks which are slightly covered by sea water all the time	unknown	habitat
H1130	Estuaries	Estuaries	unknown	habitat
H1140	Mudflats and sandflats not covered by seawater at low tide	Intertidal mudflats and sandflats	unknown	habitat
H1170	Reefs	Reefs	unknown	habitat
H3140	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.	Calcium-rich nutrient-poor lakes, lochs and pools	unknown	habitat
H7220	Petrifying springs with tufa formation (<i>Cratoneurion</i>)	Hard-water springs depositing lime	unknown	habitat
H8120	Calcareous and calcshist screes of the montane to alpine levels (<i>Thlaspietea rotundifolii</i>)	Base-rich scree	unknown	habitat
H8330	Submerged or partially submerged sea caves	Sea caves	unknown	habitat
H9130	Asperulo-Fagetum beech forests	Beech forests on neutral to rich soils	unknown	habitat
H9190	Old acidophilous oak woods with <i>Quercus robur</i> on sandy plains	Dry oak-dominated woodland	unknown	habitat
S1065	Euphydryas (Eurodryas, Hypodryas) aurinia	Marsh fritillary butterfly	unknown	species
S1079	Limoniscus violaceus	Violet click beetle	unknown	species
S1099	Lampetra fluviatilis	River lamprey	unknown	species
S1102	Alosa alosa	Allis shad	unknown	species
S1103	Alosa fallax (Mainly Wales & Severn Estuary)	Twaite shad	unknown	species
S1166	Triturus cristatus	Great crested newt	unknown	species
S1308	Barbastella barbastellus	Barbastelle	unknown	species
S1323	Myotis bechsteinii	Bechstein's bat	unknown	species
S1654	Gentianella anglica (Pugsley) E.F. Warburg	Early gentian	unknown	species
A052	Anas crecca	Eurasian teal	unknown	Breeding

A053	Anas platyrhynchos	Mallard	unknown	Breeding
A099	Falco subbuteo	Eurasian hobby	unknown	Breeding
A314	Phylloscopus sibilatrix	Wood warbler	unknown	Breeding
A177	Hydrocoloeus minutus	Little gull	unknown	Non breeding

Trend of annex I habitats and Annex II species based on Article 17 (2013) country level reporting <u>http://jncc.defra.gov.uk/page-6563</u>

Trend of birds based on 10th Article 12 (2013) species status spreadsheets: short term trend of population size in the UK SPA network was used as a proxy for England trends, and adjusted by Natural England specialists where needed to reflect the situation in England SPAs.

http://jncc.defra.gov.uk/default.aspx?page=6526

Appendix 3. Synergies with Water Framework Directive and England Biodiversity 2020 Strategy

Appendix 3 Table-1. SIP synergies

SIPs with potential synergy with Water Framework Directive: this column indicates the Site Improvement Plans for Natura 2000 sites that are considered a protected area under the Water Framework Directive and for which the Site Improvement Plan lists issues (pressures and threats) that should also be tackled under the Water Framework Directive. See PAF background document for further information.

SIPs with potential synergy with Biodiversity 2020: this column indicates the Site Improvement Plans that are considered to have potential synergies with England biodiversity 2020 outcomes 1A, 1B, 1c, 1D or 3. See PAF background document for an explanation of how the synergies were identified.

SIP ID	SIPNAME	Potential	Potential
		synergy with	synergy with
		WFD	Bio2020
SIP001	Abberton Reservoir	у	
SIP002	Alde-Ore Estuaries	У	У
SIP003	Arnecliff and Park Hole Woods	У	У
SIP004	Arun Valley	У	у
SIP005	Asby Complex	У	у
SIP006	Ashdown Forest	У	у
SIP007	Aston Rowant		У
SIP008	Avon Gorge Woodlands		У
SIP185	Avon River and Valley	У	У
SIP009	Barnack Hills and Holes		У
SIP010	Baston Fen	У	у
SIP011	Bath and Bradford on Avon Bats		у
SIP012	Bats Beer Quarry and Caves		у
SIP013	Beast Cliff-Whitby (Robin Hood's Bay)	у	у
SIP014	Bees Nest and Green Clay Pits		
SIP015	Benacre to Easton Bavents	у	у
SIP016	Birklands and Bilhaugh		У
SIP017	Blackstone Point		У
SIP018	Blean Complex		У
SIP019	Bolton Fell Moss	У	У
SIP020	Border Mires and Kielder Butterburn	У	У
SIP021	Borrowdale Woodland Complex		У
SIP022	Bowland Fells	У	У
SIP023	Bracket's Coppice		У
SIP024	Braunton Burrows	У	У
SIP025	Breckland	У	У
SIP026	Bredon Hill		у
SIP027	Breney Common and Goss and Tregoss Moors	У	У
SIP028	Breydon Water	У	У
SIP029	Briddlesford Copses		У
SIP030	Broadland	У	У
SIP031	Brown Moss	У	У
SIP032	Burnham Beeches		У
SIP033	Butser Hill		у
SIP034	Calf Hill and Cragg Woods		У

SIP ID	SIPNAME	Potential	Potential
		synergy with	synergy with
		WFD	Bio2020
SIP035	Cannock Chase	у	У
SIP036	Cannock Extension Canal	у	
SIP037	Carrine Common		у
SIP038	Castle Eden Dene		
SIP039	Castle Hill		у
SIP040	Cerne and Sydling Downs		у
SIP041	Chesil Beach and the Fleet	у	у
SIP042	Chew Valley Lake	y	y
SIP044	Chilmark Quarries		y
SIP045	Chilterns Beechwoods		y
SIP046	Clints Quarry	v	y V
SIP047	Cothill Fen	v	v
SIP048	Cotswold Beechwoods	. ,	y V
SIP049	Craven Limestone Complex	v	y V
SIP050	Crookhill Brick Pit	1	y V
SIP051	Crowdy Marsh	v	y V
SIP052	Culm Grasslands	V	y V
SIP053	Cumbrian Marsh Fritillary Site	7	y V
SIP054	Dartmoor	V	y V
	Deben Estuary	y V	y V
	Dee Estuary Aber Dyfrdwy and Mersey Narrows	y V	y V
SIP057	Deep Lituary Aber Dynawy and Mersey Narrows	y V	y V
	Devils Dyke	У	У
	Devils Dyke		
	Divton Wood		N
	Distoil wood		У
	Douset field is	У	У
	Dover to Kingsdown clins		У
	Dring Coast		У
	Didge Coast	У	У
	Duadon Mosses	У	У
		.,	У
	Durigeness	У	y v
SIP009	Fast Davies Heathe	y 	y v
	Edst Devon Hedris	У	y v
SIPU/1	East Hampshire Hangers		у У
SIPU72			у
SIPU73	Ellers wood and Sand Dale		у
SIP074	Emer Bog	У	
SIP075	Ensor's Pool		
SIP076	Epping Forest		У
SIP077	Essex Estuaries	У	У
SIP078	Eversden and Wimpole Woods		У
SIP079	Exe Dawlish	У	У
SIP080	Exmoor and Quantock Oakwoods	У	у
SIP081	Exmoor Heaths	У	У
SIP082	Fal and Helford	У	У
SIP083	Fen Bog	у	У
SIP084	Fenland	у	У
SIP085	Fenn's, Whixall, Bettisfield, Wem and Cadney Mosses	У	У
SIP086	Fens Pools	у	У
SIP087	Flamborough and Filey Coast	У	У
SIP088	Folkestone to Etchinghill Escarpment		У

SIP ID	SIPNAME	Potential	Potential
		synergy with	synergy with
		WFD	Bio2020
SIP089	Fontmell and Melbury Downs		у
SIP090	Ford Moss	У	у
SIP091	Gang Mine		у
SIP092	Godrevy Head to St Agnes		у
SIP093	Great Yarmouth Winterton Horsey	У	у
SIP094	Great Yews		у
SIP134	Greater Thames Complex	У	у
SIP095	Grimsthorpe		у
SIP096	Hackpen Hill		
SIP097	Haisborough, Hammond and Winterton		У
SIP098	Hamford Water	у	У
SIP099	Harbottle Moors		У
SIP100	Hartslock Wood		У
SIP101	Hastings Cliffs	у	у
SIP102	Helbeck and Swindale Woods		у
SIP103	Hestercombe House		y
SIP104	Holburn Lake and Moss		y
SIP105	Holme Moor and Clean Moor	у	
SIP106	Holnest		
SIP107	Hornsea Mere	У	У
SIP108	Humber Estuary	y	y
SIP109	Ingleborough Complex	y	y
SIP110	Inner Dowsing, Race Bank and North Ridge	,	y V
SIP111	Isle of Wight Downs	v	y V
SIP211	Isles of Scilly Complex	y	y V
SIP113	Kennet Valley Alderwoods	y	y V
SIP114	Kingley Vale	,	y
SIP115	Kirk Deighton		y
SIP116	Lake District High Fells	v	y V
SIP117	Lands End and Cape Bank	,	y V
SIP118	Lee Valley	v	y V
SIP119	Leighton Moss	y	y V
SIP120	Lewes Downs	,	v
SIP122	Little Wittenham	v	y V
SIP123	Liverpool Bay/ Bae Lerpwl	,	y V
SIP124	Lizard Point		y V
SIP125	Lower Bostraze and Leswidden		y V
SIP058	Lower Derwent Valley	v	,
SIP126	Lundy	y	V
SIP127	Lydden and Temple Ewell Downs	,	v
SIP128	Lyme Bay and Torbay McSAC		y V
SIP129	Lyppard Grange Ponds		y V
SIP130	Manchester Mosses	v	y V
SIP131	Marazion Marsh	v	y V
SIP132	Margate and Long Sands		y V
SIP133	Martin Mere	v	,
SIP135	Mells Valley	,	v
SIP136	Mendip Limestone Grasslands		, V
SIP137	Mendip Woodlands		,
SIP138	Mersey Estuary	v	v
SIP139	Minsmere to Walberswick Heaths and Marshes	v	v
SIP140	Mole Gap to Reigate Escarpment	,	, V
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SIP ID	SIPNAME	Potential	Potential
		synergy with	synergy with
		WFD	Bio2020
SIP141	Morecambe Bay	У	У
SIP142	Morecambe Bay Pavements	у	У
SIP143	Mottey Meadows	у	У
SIP144	Mottisfont Bats		у
SIP145	Naddle Forest		У
SIP146	Nene	у	У
SIP147	New Forest	у	у
SIP148	Newham Fen		
SIP149	Newlyn Downs	у	у
SIP150	Norfolk Valley Fens	у	у
SIP151	North Downs Woodlands		y
SIP240	North East Kent (Thanet)	V	y V
SIP152	North Meadow and Clattinger Farm	y V	y V
SIP153	North Pennine Dales Meadows		V
SIP154	North Pennines Group	V	y V
SIP155	North Somerset and Mendip Bats	1	y V
SIP156	North York Moors	V	v
SIP157	Northumberland Coastal	v	v
SIP158	Oak Mere	v	y V
SIP159	Orton Pit	v	,
SIP160	Ouse Washes	v	V
SIP238	Outer Thames Estuary	1	y V
SIP161	Overstrand Cliffs	V	y V
SIP162	Ox Close	1	y V
SIP163	Oxford Meadows	V	y V
SIP164	Pagham Harbour	V	y V
SIP165	Parkgate Down	1	y V
SIP166	Paston Great Barn		y V
SIP167	Pasturefields Salt Marsh		1
SIP168	Peak District Dales	V	V
SIP169	Penhale Dunes	y V	y V
SIP170	Peters Pit	1	y V
SIP171	Pevensey Levels		y V
SIP172	Pewsey Downs		y V
SIP173	Phoenix United Mine and Crow's Nest		y V
SIP174	Plymouth Sound and Tamar Estuary	V	y V
SIP175	Polruan to Polnerro	y V	y V
SIP176	Poole Harbour	y V	y V
SIP177	Portholme	y V	y V
SIP178	Portland-Studland & St Albans-Duriston	y V	y V
SIP180	Prescombe Down	У	y V
SIP181			y V
SID182	Quants Queendown Warren		y V
SID183	Rev Graham Reserve		y V
SIP184	Richmond Park		1
SIP186	River Axe	V	V
SIP197	River Camel	y V	y V
SIF 107	River Clup	у	У
SID180	River Dee and Bala Lake	У	у
	River Decentio Bala Lake	V	у
	River Derwent and Rassenthwaite Lake	у	у
SIP101	River Eden	у V	y V
211 1 21		У	У

SIP ID	SIPNAME	Potential	Potential
		synergy with	synergy with
		WFD	Bio2020
SIP192	River Ehen	у	у
SIP193	River Itchen	у	у
SIP194	River Kent	у	у
SIP112	River Lambourn and Kennet-Lambourn Floodplain	у	у
SIP196	River Mease	у	У
SIP197	River Tweed	У	У
SIP198	River Wensum	У	У
SIP199	River Wye	у	у
SIP200	Rixton Clay Pits		
SIP201	Rochdale Canal	у	
SIP202	Rodborough Common		у
SIP203	Roman Wall Loughs	У	у
SIP204	Rook Clift		у
SIP205	Rooksmoor		
SIP206	Roudsea Wood and Mosses	У	у
SIP207	Roydon Common and Dersingham Bog	У	у
SIP208	Rutland Water	У	у
SIP209	Salisbury Plain		у
SIP121	Saltfleetby-Theddlethorpe Dunes & Gibraltar Point	У	у
SIP210	Sandlings		у
SIP212	Sefton Ribble	У	у
SIP213	Severn Estuary Mor Hafren	У	у
SIP215	Shortheath Common		у
SIP216	Sidmouth to West Bay	У	у
SIP217	Simonside Hills	У	у
SIP218	Singleton and Cocking Tunnels		у
SIP219	Skipwith	У	
SIP043	Solent	У	у
SIP270	Solent and Isle of Wight Lagoons	У	у
SIP220	Solway Firth	У	у
SIP221	Somerset Levels and Moors	У	у
SIP222	South Dartmoor Woods		у
SIP223	South Devon Shore Dock		у
SIP224	South Hams	У	У
SIP225	South Pennine Moors	У	У
SIP226	South Solway Mosses	У	у
SIP227	South West London Waterbodies	У	у
SIP271	South Wight Maritime	У	у
SIP228	St Austell Clay Pits		у
SIP229	Start Point to Plymouth Sound and Eddystone		у
SIP230	Staverton Park and The Thicks, Wantisden		У
SIP231	Stodmarsh	У	У
SIP232	Stour and Orwell Estuaries	У	У
SIP273	Strensall		
SIP233	Studland to Portland		У
SIP234	Subberthwaite, Blawith and Torver Low Commons	у	У
SIP235	Tarn Moss	У	У
SIP236	Teesmouth and Cleveland Coast	у	У
SIP237	Thames Basin	У	У
SIP241	The Lizard	у	У
SIP242	The Mens		у
SIP243	The Stiperstones and The Hollies		У

SIP ID	SIPNAME	Potential synergy with WFD	Potential synergy with Bio2020
SIP245	The Wash and North Norfolk Coast	у	у
SIP246	Thorne Hatfield	y	y
SIP247	Thrislington		
SIP248	Tintagel Marsland Clovelly Coast	У	у
SIP249	Tregonning Hill		у
SIP251	Tyne and Allen River Gravels		у
SIP252	Tyne and Nent		у
SIP253	Ullswater Oakwoods		у
SIP254	Upper Nene Valley Gravel Pits	У	у
SIP255	Walmore Common	У	у
SIP256	Walton Moss	У	у
SIP257	Wast Water	У	у
SIP258	Waveney and Little Ouse Valley Fens	У	у
SIP259	Wealden Heaths Woolmer Forest	У	у
SIP260	West Dorset Alder Woods	У	у
SIP261	West Midlands Mosses	У	у
SIP262	Wimbledon Common		у
SIP263	Windsor Forest and Great Park		у
SIP264	Witherslack Mosses	У	у
SIP265	Wormley Hoddesdonpark Woods		у
SIP266	Wye and Crundale Downs		у
SIP267	Wye Valley and Forest of Dean Bat Sites	У	у
SIP268	Wye Valley Woodlands	У	у
SIP269	Yewbarrow Woods		у

Appendix 3 – Table 2. Features with potential synergy with Biodiversity 2020

Annex I habitats and Annex II species considered to have potential synergy with England Biodiversity 2020 outcome 1A or Outcome 3. See PAF background document for an explanation of how the synergies were identified.

EU code	Lay title or English name	Potential
		synergy with
		Biodiversity
		2020
H1110	Sandbanks which are slightly covered by sea water all the time	У
H1130	Estuaries	У
H1140	Intertidal mudflats and sandflats	у
H1160	Shallow inlets and bays	У
H1230	Vegetated sea cliffs	У
H1310	Glasswort and other annuals colonising mud and sand	У
H1320	Cord-grass swards	У
H1330	Atlantic salt meadows	У
H1420	Mediterranean saltmarsh scrub	У
H2110	Shifting dunes	У
H2120	Shifting dunes with marram	у
H2130	Dune grassland	у
H2150	Coastal dune heathland	у
H2160	Dunes with sea-buckthorn	у
H2170	Dunes with creeping willow	у
H2190	Humid dune slacks	у
H3110	Nutrient-poor shallow waters with aquatic vegetation on sandy plains	у
H3140	Calcium-rich nutrient-poor lakes, lochs and pools	у
H3150	Naturally nutrient-rich lakes or lochs which are often dominated by pondweed	У
H3160	Acid peat-stained lakes and ponds	У
H3170	Mediterranean temporary ponds	У
H3260	Rivers with floating vegetation often dominated by water-crowfoot	У
H4010	Wet heathland with cross-leaved heath	У
H4020	Wet heathland with Dorset heath and cross-leaved heath	у
H4030	Dry heaths	У
H4040	Dry coastal heaths with Cornish heath	У
H5110	Natural box scrub	У
H5130	Juniper on heaths or calcareous grasslands	У
H6130	Grasslands on soils rich in heavy metals	У
H6150	Montane acid grasslands	У
H6210	Dry grasslands and scrublands on chalk or limestone	У
H6410	Purple moor-grass meadows	У
H6430	Tall herb communities	У
H6520	Mountain hay meadows	У
H7110	Active raised bogs	У
H7120	Degraded raised bog	У
H7130	Blanket bog	У
H7140	Very wet mires often identified by an unstable 'quaking' surface	У
H7150	Depressions on peat substrates	У
H7210	Calcium-rich fen dominated by great fen sedge (saw sedge)	У
H7220	Hard-water springs depositing lime	У
H7230	Base-rich fens	У
H7240	High-altitude plant communities associated with areas of water seepage	У
H8110	Acidic scree	У
H8210	Plants in crevices on base-rich rocks	У

EU code	Lay title or English name	Potential
		synergy with
		Biodiversity
		2020
H8220	Plants in crevices on acid rocks	у
H8240	Limestone pavements	у
H9120	Beech forests on acid soils	у
H9130	Beech forests on neutral to rich soils	у
H9160	Oak-hornbeam forests	у
H9180	Mixed woodland on base-rich soils associated with rocky slopes	у
H9190	Dry oak-dominated woodland	у
H91A0	Western acidic oak woodland	у
H91E0	Alder woodland on floodplains	У
H91J0	Yew-dominated woodland	У
S1013	Geyer's whorl snail	У
S1016	Desmoulin's whorl snail	У
S1029	Freshwater pearl mussel	У
S1044	Southern damselfly	У
S1065	Marsh fritillary butterfly	У
S1079	Violet click beetle	У
S1083	Stag beetle	У
S1092	White-clawed (or Atlantic stream) crayfish	У
S1096	Brook lamprey	У
S1106	Atlantic salmon	У
S1149	Spined loach	У
S1163	Bullhead	У
S1166	Great crested newt	У
S1303	Lesser horseshoe bat	у
S1308	Barbastelle	У
S1323	Bechstein's bat	У
\$1355	Otter	У
\$1395	Petalwort	У
S1421	Killarney fern	У
S1528	Marsh saxifrage	У
S1654	Early gentian	У
S1831	Floating water-plantain	У
S1903	Fen orchid	У
A082	Hen harrier	у

Appendix 4. Synergies with Marine Strategy Framework Directive

Appendix 4 -Table 1. The following core priority issues are considered to have potential synergy with the Marine Strategy Framework Directive descriptors (see background document and Table 2 below for further detail).

Core Priority Ecosystem	Core Priority Issues with synergies to MSFD
E1.A Dunes	Invasive species
E1.B Shingle and cliff habitats	Inappropriate coastal management
	Fisheries – Commercial marine and estuarine
	Invasive species
E2.A Intertidal	Coastal squeeze
	Fisheries – Commercial marine and estuarine
	Water pollution
E1.C Coastal grazing marsh	Water pollution
E3.A Standing waters	Water pollution
E3.B Rivers	Water pollution
	Siltation

NB: The Offshore PAF covers activity in the marine environment which will also have strong synergies with MSFD descriptors.

SIP Issue	Relevant MSFD Descriptors
Coastal squeeze / Inappropriate	7 Permanent alteration of hydrographical conditions does not adversely
coastal management	offect marine accounters
	anect marine ecosystems.
Fisheries: Commercial marine &	3. Populations of commercially exploited fish and shellfish are within safe
estuarine	biological limits, exhibiting a population age and size distribution that is
	indicative of a healthy stock.
	6. Sea-floor integrity is at a level that ensures that the structure and
	functions of the ecosystems are safeguarded and benthic ecosystems, in
	particular, are not adversely affected.
Invasive species	2. Non-indigenous species introduced by human activities are at levels that
	do not adversely alter the ecosystems.
Water pollution	5. Human-induced eutrophication is minimized, especially adverse effects
-	thereof, such as losses in biodiversity, ecosystem degradation, harmful
	algal blooms and oxygen deficiency in bottom waters.
	8. Concentrations of contaminants are at levels not giving rise to pollution
	effects.
	9. Contaminants in fish and other seafood for human consumption do not
	exceed levels established by Community legislation or other relevant
	standards.

Appendix 4 – Table 2. Relationship between SIP issues and MSFD descriptors.

Appendix 5. Natura 2000 features having potential for making measurable progress on the nature sub-target under EU 2020 biodiversity strategy.

This appendix lists the habitats and species for which the England Natura 2000 network has most potential to (further) contribute to sub-target 1 under the EU 2020 biodiversity strategy.

The EU sub-target 1 reads: "[...] by 2020, compared to current assessments:

i) 100% more habitat assessments and 50% more species assessments under the Habitats Directive show (a favourable or) an improved conservation status; and

ii) 50% more species assessments under the Birds Directive show a secure or improved status"

Current conservation measures for England Natura 2000 sites already make a significant contribution to the improving status of many habitats and species at UK level, and therewith to this EU-biogeographic level⁴ target. The potential of England Natura 2000 measures to make further contribution to *measurable* progress on the EU nature sub-target is dependent on *inter alia*:

For Annex I habitats and Annex II species:

- How heavy the UK conservation status of a habitat or species weighs in the Atlantic Biogeographic conservation status assessment (UK % of Atlantic region and therefore the potential influence on the Atlantic status and qualifier)
- The current UK and EU conservation status and the trend
- The weight of England Natura 2000 sites in the UK conservation status assessments (proportion in England SACs).

For SPA birds:

- The international importance of UK breeding or Non-Breeding population
- The proportion of the UK population covered by UK SPAs
- The trend in England SPAs

Based on those considerations, table 1 and table 2 below list the Annex I habitats, Annex II species and SPA birds which have been identified as having potential for making measurable progress on the nature sub-target under the EU 2020 biodiversity strategy. For details on the analysis, see the Background document to this PAF.

⁴ More information about biogeographic regions can be found here: <u>http://ec.europa.eu/environment/nature/natura2000/sites_hab/biogeog_regions/index_en.htm</u>

EU code	Lay title or English name	UK % of Atlantic region	UK influence on Atlantic status and qualifier	EU status	UK status	Estimated proportion of UK in England SACs
<u>\$1654</u>	Early Gentian	100%	Direct Influence	U2=	U2=	>75%
<u>H6520</u>	Mountain hay meadows	100%	Direct influence	U2-	U2-	>40%
<u>*H91J0</u>	Yew-dominated woodland	94%	Direct influence	U2=	U2=	>40%
<u>H1130</u>	Estuaries	42%	Important contribution	U2-	U2-	>40%
<u>H1330</u>	Atlantic salt meadows	41%	Important contribution	U2=	U2=	>40%
<u>H7140</u>	Very wet mires often identified by an unstable 'quaking' surface	37%	Important contribution	U2-	U2-	>40%
<u>H1310</u>	Glasswort and other annuals colonising mud and sand	36%	Important contribution	U2-	U2=	>40%
<u>(*)H6210</u>	Dry grasslands and scrublands on chalk or limestone	36%	Important contribution	U2-	U2=	>40%

Appendix 5. Table 1. Annex I habitats and annex II species with potential to further contribute to EU nature sub target 1.

*Habitats Directive priority habitat

(*) H6210 important orchid sites are a Habitats Directive priority habitat U2=: Unfavourable-Bad conservation status, stable trend; U2-: Unfavourable-Bad conservation status, declining.

Appendix 5. Table 2. SPA birds with potential to further contribute to EU nature sub target 1.

EU code	Lay title or English name	Breeding (B)/ non breeding (NB)	Bird of conservation concern (BoCC 4)	international importance (WI/BI in BoCC4)	% population in UK SPA	trend in England SPAs
A037	Bewick swan	NB	У	У	~70%	Declining
A048	Common shelduck	NB	У	У	~70%	Declining
A054	Northern pintail	NB	У	У	~60%	Declining
A157	Bar-tailed godwit	NB	У	У	~85%	Declining
A162	Common redshank	NB	У	У	~ 40%	Declining

Appendix 6. England wider countryside priority features

Listed below are Annex I habitats and Annex II species that are not in favourable conservation status (U1- unfavourable inadequate, U2 – unfavourable-bad or XX - unknown) in the UK and occur largely in England, but are not largely confined to England SACs. These can be considered a priority for the England wider countryside/ seaside in relation to achieving a more Favourable Conservation Status.

EU code	Current name as adopted in Directive 97/62/EC	Lay title or English name	UK conser vation status	% of UK habitat/ population in England (estimate)	% of UK habitat/ population in England SACs (estimate)	priority for wider countryside /seaside
H1110	Sandbanks which are slightly	Sandbanks which are	U1	more than 50%	less than 75%	yes
	covered by sea water all the time	slightly covered by sea water all the time				
H1130	Estuaries	Estuaries	U2	more than 50%	less than 75%	yes
<u>H1140</u>	Mudflats and sandflats not covered by seawater at low tide	Intertidal mudflats and sandflats	U2	more than 50%	less than 75%	yes
<u>H1170</u>	Reefs	Reefs	U1	more than 50%	less than 75%	yes
<u>H1220</u>	Perennial vegetation of stony banks	Coastal shingle vegetation outside the reach of waves	U2	more than 50%	less than 75%	yes
<u>H1310</u>	Salicornia and other annuals colonising mud and sand	Glasswort and other annuals colonising mud and sand	U2	more than 50%	less than 75%	yes
<u>H1330</u>	Atlantic salt meadows (<i>Glauco-</i> <i>Puccinellietalia maritimae</i>)	Atlantic salt meadows	U2	more than 50%	less than 75%	yes
<u>H3140</u>	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.	Calcium-rich nutrient- poor lakes, lochs and pools	U2	more than 50%	less than 75%	yes
<u>H3150</u>	Natural eutrophic lakes with <i>Magnopotamion</i> or Hydrocharition-type vegetation	Naturally nutrient-rich lakes or lochs which are often dominated by pondweed	U2	more than 50%	less than 75%	yes
<u>H3260</u>	Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation	Rivers with floating vegetation often dominated by water- crowfoot	U2	more than 50%	less than 75%	yes
<u>H6130</u>	Calaminarian grasslands of the Violetalia calaminariae	Grasslands on soils rich in heavy metals	U2	more than 50%	less than 75%	yes
<u>H6210</u>	Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco- Brometalia</i>)	Dry grasslands and scrublands on chalk or limestone	U2	more than 50%	less than 75%	yes
<u>H6410</u>	<i>Molinia</i> meadows on calcareous, peaty or clayey-silt- laden soils (<i>Molinion</i> <i>caeruleae</i>)	Purple moor-grass meadows	U2	more than 50%	less than 75%	yes
<u>H6510</u>	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	Lowland hay meadows	U2	more than 50%	less than 75%	yes
<u>H6520</u>	Mountain hay meadows	Mountain hay meadows	U2	more than 50%	less than 75%	yes
<u>H7120</u>	Degraded raised bogs still capable of natural regeneration	Degraded raised bog	U2	more than 50%	less than 75%	yes

<u>H7140</u>	Transition mires and quaking bogs	Very wet mires often identified by an unstable 'quaking' surface	U2	more than 50%	less than 75%	yes
<u>H7150</u>	Depressions on peat substrates of the <i>Rhynchosporion</i>	Depressions on peat substrates	U2	more than 50%	less than 75%	yes
<u>H7210</u>	Calcareous fens with Cladium mariscus and species of the Caricion davallianae	Calcium-rich fen dominated by great fen sedge (saw sedge)	U2	more than 50%	less than 75%	yes
<u>H7220</u>	Petrifying springs with tufa formation (<i>Cratoneurion</i>)	Hard-water springs depositing lime	U2	more than 50%	less than 75%	yes
<u>H7230</u>	Alkaline fens	Base-rich fens	U2	more than 50%	less than 75%	yes
<u>H8120</u>	Calcareous and calcshist screes of the montane to alpine levels (<i>Thlaspietea rotundifolii</i>)	Base-rich scree	U2	more than 50%	less than 75%	yes
<u>H8310</u>	Caves not open to the public	Caves not open to the public	XX	more than 50%	less than 75%	yes
<u>H8330</u>	Submerged or partially submerged sea caves	Sea caves	ХХ	more than 50%	less than 75%	yes
<u>H9120</u>	Atlantic acidophilous beech forests with <i>llex</i> and sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robori-</i> <i>petraeae</i> or <i>Ilici-Fagenion</i>)	Beech forests on acid soils	U2	more than 50%	less than 75%	yes
<u>H9130</u>	Asperulo-Fagetum beech forests	Beech forests on neutral to rich soils	U2	more than 50%	less than 75%	yes
<u>H9160</u>	Sub-Atlantic and medio- European oak or oak- hornbeam forests of the <i>Carpinion betuli</i>	Oak-hornbeam forests	U2	more than 50%	less than 75%	yes
<u>H9180</u>	<i>Tilio-Acerion</i> forests of slopes, screes and ravines	Mixed woodland on base-rich soils associated with rocky slopes	U2	more than 50%	less than 75%	yes
<u>H9190</u>	Old acidophilous oak woods with <i>Quercus robur</i> on sandy plains	Dry oak-dominated woodland	U2	more than 50%	less than 75%	yes
<u>H91J0</u>	<i>Taxus baccata</i> woods of the British Isles	Yew-dominated woodland	U2	more than 50%	less than 75%	yes
<u>\$1014</u>	Vertigo angustior	Narrow-mouthed whorl snail	U1	more than 50%	less than 75%	yes
<u>\$1016</u>	Vertigo moulinsiana	Desmoulin's whorl snail	U2	more than 50%	less than 75%	yes
<u>\$1044</u>	Coenagrion mercuriale	Southern damselfly	U1	more than 50%	less than 75%	yes
<u>\$1065</u>	Euphydryas (Eurodryas, Hypodryas) aurinia	Marsh fritillary butterfly	U1	more than 50%	less than 75%	yes
<u>\$1092</u>	Austropotamobius pallipes	White-clawed (or Atlantic stream) crayfish	U2	more than 50%	less than 75%	yes
<u>\$1099</u>	Lampetra fluviatilis	River lamprey	U1	more than 50%	less than 75%	yes
<u>\$1163</u>	Cottus gobio	Bullhead	XX	more than 50%	less than 75%	yes
<u>\$1166</u>	Triturus cristatus	Great crested newt	XX	more than 50%	less than 75%	yes
<u>\$1308</u>	Barbastella barbastellus	Barbastelle	XX	more than 50%	less than 75%	yes
<u>\$1323</u>	Myotis bechsteinii	Bechstein's bat	U1	more than 50%	less than 75%	yes
<u>\$1390</u>	Marsupella profunda Lindb.	Western rustwort	U2	more than 50%	less than 75%	yes
<u>51441</u>	Kumex rupestris Le Gall	Shore dock	01	more than 50%	less than 75%	yes
<u>51654</u>	E.F. Warburg	Early gentian	02	more than 50%	less than 75%	yes