Torquay Neighbourhood Plan

Referendum Version

Habitats Regulations Assessment Report

March 2019

CONTENTS

PART 1: SCREENING REPORT

1 BACKGROUND

1.1 Introduction

This document updates and replaces the Torquay Neighbourhood Plan (TNP) Habitats Regulations Assessment (HRA) based on the Examiner's recommendations in July 2018 and further modifications made post examination. The purpose of Habitats Regulations Assessment is to assess the impacts of a land use plan, in combination with the effects of other plans and projects, against the conservation objectives of a European site, and to ascertain whether it would adversely affect the integrity[1] of that site. Where significant negative effects are identified, alternative options should be examined to avoid any potential damaging effects.

Torbay Council as a competent authority needs to ascertain whether the TNP is likely to have a significant effect on European sites (either alone or in combination with other plans or projects).The assessment only considers the habitats and species that are qualifying interest features of the European sites.

1.2 Legal Requirement of Habitats Regulations Assessment

Under Article 6(3) of the Habitats Directive[2] (Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna *"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."* If this assessment cannot rule out that the plan/project will not result in significant effects, the authority must undertake an Appropriate Assessment of the implications in view of the conservation objectives of those sites affected. Following the European Court of Justice (People over Wind & Sweetman v Coillte Teoranta case C-323/17 on 12 April 2018) which confirmed that mitigation measures should not be taken into account during the screening process but, if needed form part of the Appropriate Assessment Report.

1 Integrity is described as the site's coherence, ecological structure and function across the whole area that enables it to sustain the habitat, complex of habitats and/or levels of populations of species for which it was classified, (ODPM, 2005).

2 The Conservation (Natural Habitats, &c.) Regulations 1994 transposed the Habitats Directive into national law. The Regulations came into force on 30 October 1994, and have been subsequently amended several times. They apply to land and to territorial waters out to 12 nautical miles from the coast. The Conservation of Habitats and Species Regulations 2018 consolidate all the various amendments made to the 1994 Regulations in respect of England and Wales.

The Structure of this Document

This HRA sets out the findings of the assessment work carried out for the Torquay Neighbourhood Plan. It consists of Part 1: Screening Report and Part 2: Appropriate Assessment Report. Following this introductory section the report is organised into seven further sections:

- Section 2 – describes the method used for the HRA process;
- Section 3 – identifies European sites within and in close proximity of Torquay;
- Section 4 – provides a list of plans and programmes that could have in combination effects;
- Section 5 – identifies the potential effects arising from the Neighbourhood Plan on European sites;
- Section 6 – outlines the key findings of the Screening stage;
- Section 7 – outlines the Appropriate Assessment and the findings of the assessment; and
- Section 8 – outlines the HRA key conclusions and recommendations.

2 METHOD

The approach taken for this HRA follows the method set out in formal guidance documents and has additionally been informed by recent good practice examples. The key stages of the HRA process overall, and the specific tasks undertaken for each stage are set out in Table 2.1 below:

Table 2.1: HRA Key Stages

Stage	Tasks
Stage 1: Screening	1. Identify European sites in and around the plan area. 2. Examine the conservation objectives of each interest feature of the European site(s) potentially affected. 3. Analyse the policy / plan and the changes to environmental conditions that may occur as a result of the plan. Consider the extent of the effects on European sites (magnitude, duration and location) based on best available information. 4. Examine other plans and programmes that could contribute (cumulatively) to identified impacts/ effects. 5. Produce Screening assessment based on evidence gathered and consult statutory nature conservation body on findings. 6. If effects are judged likely or uncertainty exists – the precautionary principle applies: proceed to Stage 2.
Stage 2: Appropriate Assessment	1. Agree scope and method of Appropriate Assessment with statutory nature conservation body. 2. Collate all relevant information and evaluate potential impacts on site(s) in light of conservation objectives.
Stage 3: Assessment of alternative solutions	1. Consider how effect on integrity of site(s) could be avoided by changes to plan and the consideration of alternatives (e.g. an alternative policy/ spatial location). Develop mitigation measures (including timescale and mechanisms for delivery). 2. Prepare HRA/ AA report and consult statutory body. 3. Finalise HRA/AA report in line with statutory advice to accompany plan for wider consultation.
Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain	An assessment of whether the development is necessary for imperative reasons of overriding public interest (IROPI) and, if so, of the compensatory measures needed to maintain the overall coherence of the Natura 2000 network.

Natural England (NE) has produced additional, detailed guidance "The Habitats Regulations Assessment of Local Development Documents" (Tyldesley, 2009) (superseded by the online DTA Habitats Regulations Handbook https://www.dtapublications.co.uk/handbooks) that

complements the DCLG guidance[3], and builds on assessment experience and relevant court rulings the most recent is the Judgment of the European Court of Justice People over Wind & Sweetman v Coillte Teoranta case C-323/17 on 12 April 2018. The guidance sets out criteria to assist with the Screening process and addresses the management of uncertainty in the assessment process. Proposals falling within categories A and B are considered not to have an effect on a European site and can be eliminated from the assessment procedure. Proposals falling within Category C and D would require further analysis, including the consideration of "in-combination" effects to determine whether they should be included in the next stages of the HRA process. The categories of the potential effect of land use plans on European sites are shown in Table 2.2 below.

Table 2.2: Categories of the potential effects of land-use plans on European sites

Category A: No negative effect	
A1	Policies that will not themselves lead to development e.g. because they relate to design or other qualitative criteria for development, or they are not a land use planning policy.
A2	Policies intended to protect the natural environment, including biodiversity.
A3	Policies intended to conserve or enhance the natural, built or historic environment, where enhancement measures will not be likely to have any negative effect on a European Site.
A4	Policies that positively steer development away from European sites and associated sensitive areas.
A5	Policies that would have no effect because no development could occur through the policy itself, the development being implemented through later policies in the same plan, which are more specific and therefore more appropriate to assess for their effects on European Sites and associated sensitive areas.
Category B: No significant effect	
B	Effects are trivial or 'de minimis', even if combined with other effects.
Category C: Likely significant effect alone	
C1	The option, policy or proposal could directly affect a European site because it provides for, or steers, a quantity or type of development onto a European site, or adjacent to it.

3 Department for Communities and Local Government, (August 2006) - Planning for the Protection of European Sites: Appropriate Assessment. Guidance for Regional Spatial Strategies and Local Development Documents, DCLG.

C2	The option, policy or proposal could indirectly affect a European site e.g. because it provides for, or steers, a quantity or type of development that may be very close to it, or ecologically, hydrologically or physically connected to it or it may increase disturbance as a result of increased recreational pressures.
C3	Proposals for a magnitude of development that, no matter where it was located, the development would be likely to have a significant effect on a European site.
C4	An option, or policy that makes provision for a quantity / type of development (and may indicate one or more broad locations e.g. a particular part of the plan area), but the effects are uncertain because the detailed location of the development is to be selected following consideration of options in a later, more specific plan. The consideration of options in the later plan will assess potential effects on European Sites, but because the development could possibly affect a European site a significant effect cannot be ruled out on the basis of objective information.
C5	Options, policies or proposals for developments or infrastructure projects that could block options or alternatives for the provision of other development or projects in the future, which will be required in the public interest, that may lead to adverse effects on European sites, which would otherwise be avoided.
C6	Options, policies or proposals, which depend on how the policies etc. are implemented in due course, for example, through the development management process. There is a theoretical possibility that if implemented in one or more particular ways, the proposal could possibly have a significant effect on a European site.
C7	Any other options, policies or proposals that would be vulnerable to failure under the Habitats Regulations at project assessment stage; to include them in the plan would be regarded by the EC as 'faulty planning'.
C8	Any other proposal that may have an adverse effect on a European site, which might try to pass the tests of the Habitats Regulations at project assessment stage by arguing that the plan provides the imperative reasons of overriding public interest to justify its consent despite a negative assessment.
Category D: Likely significant effect in combination	
D1	The option, policy or proposal alone would not be likely to have significant effects but if its effects are combined with the effects of other policies or proposals provided for or coordinated by the LDD (internally) the cumulative effects would be likely to be significant.
D2	Options, policies or proposals that alone would not be likely to have significant effects but if their effects are combined with the effects of other plans or projects, and possibly the effects of other developments provided for in the LDD as well, the combined effects would be likely to be significant.
D3	Options or proposals that are, or could be, part of a programme or sequence of development delivered over a period, where the implementation of the early stages

	would not have a significant effect on European sites, but which would dictate the nature, scale, duration, location, timing of the whole project, the later stages of which could have an adverse effect on such sites.

Source*: The Habitats Regulations Assessment of Local Development Documents Revised Draft Guidance for Natural England, February 2009, prepared by Tydesley and Associates for Natural England.*

3 IDENTIFICATION OF EUROPEAN SITES

The Natural England guidance recommends considering all European sites within a 10 - 15km buffer of a plan or project, in Torbay a 20 km buffer was recommended. A total of six European sites were identified. Two of which are present within Torbay boundaries and four further European sites are within the 20km buffer zone of Torquay's boundaries (see Appendix D, Map1). These are listed below:

1. Exe Estuary SPA & Ramsar (11km)
2. Dawlish Warren SAC (11km)
3. South Hams SAC (8km)
4. Dartmoor SAC (18km)
5. South Dartmoor Woods SAC (14km)
6. Lyme Bay and Torbay Marine SAC

Site characteristics and the conservation objectives of each site were set out in Appendix E and more information can be accessed on Natural England website below:
http://publications.naturalengland.org.uk/category/5374002071601152

4 CONSIDERATION OF OTHER PLANS AND PROGRAMMES

The Habitats Directive requires competent authorities to include the assessment of effects on a European site in combination with other plans or projects. For the purpose of this assessment, only key relevant plans that could potentially result in in-combination effects have been considered because they will also result in similar changes to environmental conditions. These are listed below:

- Torbay Local Plan 2012-2030 (2015);
- Devon and Torbay Local Transport Plan (3) 2011-2026;
- Devon County Council Waste Local Plan to 2031 (2014);
- Devon County Council Minerals Local Plan 2011-2031 (2017);
- English Riviera Destination Management Plan 2016 – 2021;
- Torbay Economic Strategy 2017-2022;
- Torbay Harbour Authority Port Masterplan (2013);
- South Devon and Dorset Shoreline Management Plan Review (SMP2) 2009; and
- The emerging Joint Plymouth and South West Devon Local Plan (currently at the examination).

5 LIKELY SIGNIFICANT EFFECT

Identification of potential and likely impacts was undertaken using a site focus, which considers the environmental conditions of the site and the factors required to maintain site integrity. It also considers the potential pathways of impacts arising from the Torquay Neighbourhood Plan alone or in combination with other plans and policies. Table 5.1 below summarises the main factors that may affect the integrity of the European sites (identified in section 3 above) as a result of development. The potential issues arising as a result of proposed development are:

- Increased water discharges (consented), which can lead to reduced water quality at European sites;
- Increased surface water runoff, which can lead to reduced water quality at European sites;
- Increased recreational activity, which can lead to increased disturbance at European sites;
- Increased noise and light pollution, which can lead to increased disturbance at European sites; and
- Land take, which can lead to habitat loss and fragmentation of designated and/or supporting habitats.

Table 5.1: Factors affect European sites integrity

European site	Site Vulnerabilities				
	Habitat loss/ fragment-ation	Noise, vibration and lighting	Nutrient enrichment	Water levels and quality	Recreational pressure
South Hams SAC	√	√	X	X	X
Lyme Bay & Torbay SAC	X	X	X	√	X
Dartmoor SAC	X	X	X	X	X
South Dartmoor Woods SAC	X	X	X	X	X
Dawlish Warren SAC	X	X	X	X	X
Exe Estuary SPA & Ramsar	X	X	X	X	X

Key

√	Likely significant effects
X	No likely significant effects

6 SCREENING CONCLUSIONS

The Torquay Neighbourhood Plan is not considered to have likely significant effects (LSE) on South Dartmoor Woods SAC, Dawlish Warren SAC and Exe Estuary SPA and Ramsar due to the distances involved. They are therefore screened out of the assessment at this stage and further assessment is not considered to be required under the Habitats Regulations. However, the Plan could have likely significant effect on the South Hams SAC and the Lyme Bay and Torbay Marine SAC that could affect the integrity of these two sites.

The approach to considering mitigation measures at stage1 screening has been influence by the Judgment of the European Court of Justice, case C-323/17 on 12th April 2018, which interpreted that *"it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the* harmful *effects of a plan or project on the site"*.

Since the likelihood of significant effects cannot be ruled out at this stage , the Council, as competent authority, must proceeds to stage two 'Appropriate Assessment' to assess the potential impacts, and identify mitigation measures required to avoid adverse effects on European sites.

PART 2: APPROPRIATE ASSESSMENT REPORT

7 APPROPRIATE ASSESSMENT

7.1 Introduction

This section addresses stage two Appropriate Assessment of the HRA process (Article 6(3) of Council Directive 92/43/EEC). The AA assesses the adverse effects on European sites in light of the conservation objectives and recommends mitigation measures as required. The Screening Report have considered the two European sites within Torbay i.e. the South Hams SAC and the Lyme Bay and Torbay Marine SAC.

The assessment involves a careful check of each policy and housing and employment site allocated in the Torquay Neighbourhood Plan. The record of the check for the likelihood of significant effects is set out in Appendices A, B and C below.

7.2 Lyme Bay and Torbay Marine SAC

There will be additional pressure placed on Lyme Bay and Torbay Marine SAC from the level of growth suggested by the Torquay Neighbourhood Plan either alone or in combination with other plans and policies. This additional pressure includes a risk of water pollution and recreational activities on the interest features (i.e. reefs and sea caves). Due to the distance involved, the level of water-based traffic entering Lyme Bay from Torbay area is likely to be minimal and therefore would have insignificant effect on the reefs in Lyme Bay. The risk from human activities resulting from the Torquay Neighbourhood Plan therefore considered to be limited to the area between Mackerel Cove to Dartmouth (see Appendix D, Map 2).

The level of growth suggested by the Torquay Neighbourhood Plan could potentially have negative effects on water quality from contaminated run-off as a result of cumulative impact of development. The likely significant effects of development in Torquay have been mitigated through the policies in the Torbay Local Plan Policies Nature Conservation (NC1) Waste Water Disposal (W5) and Water Management (ER2). The three policies contain a number of avoidance and reduction measures which restrict development that could have negative effects on the Lyme Bay and Torbay Marine SAC.

Policy ER2 requires all development to seek minimising generation of increased runoff, having regard to the drainage hierarchy. This applies in particular to development in Torquay that discharge into Hope's Nose/ Ilsham Combined Sewer Outfall (CSO).

Development proposals in Torquay will need to demonstrate that they avoid or cancel out the risk of increased run-off and thereby an increased risk of spills at the Ilsham CSO. This could be achieved through drainage discharge into:

a. an adequate infiltration system (e.g. swales, soak ways, infiltration basins, filter drains, rain gardens), or where that is not reasonably practicable;
b. a main river or water course, or where that is not reasonably practicable;
c. a surface water sewer or highway drain; or in the last resort where none of the above are reasonably practicable;
d. To a combined (foul and surface water) sewer, where discharge is controlled to be at greenfield discharge rates.

Development that increase risk of spills at the CSO is likely to contribute to the LSE on the Marine SAC and will therefore require AA in order to assess their in-combination effects with other plans and projects.

Policy W5 requires new development to have separate foul and storm water drainage systems. It recommends sustainable drainage systems (SUDS) and water sensitive urban design (WSUD) to reduce the impact of climate change and urban creep. In addition, the timing and delivery of development will take account of the view of South West Water (through continued, ongoing discussions between LPA and SWW) to ensure that there is sufficient capacity within local waste water treatment infrastructure to accommodate growth and can ensure that there would be no increase in the levels of pollutants likely to have an adverse effect on the integrity of the Lyme Bay and Torbay Marine SAC.

7.3 South Hams SAC

Impact on the integrity of South Hams SAC is primarily related to loss and disturbance of foraging and commuting habitats used by the greater horseshoe bat population. Reduction in the sustenance zone and removal of linear features used by commuting bats, through development, could have a significant negative effects on the bat population.

Torquay is outside of the South Hams SAC sustenance zone[4], however there are two strategic flyway ends; at Sladnor Park and Edginswell Future Growth Area (see Appendix D, Map 3).

4 Natural England :South Hams SAC - Greater horseshoe bat consultation zone planning guidance, 2010

There is a possibility of disturbance of flyways at Kerswell Gardens. Greater horseshoe bats are particularly light sensitive and tend to avoid areas that are subject to artificial illumination. Development proposals should seek to avoid loss of foraging habitats and hedgerows. A landscape buffer would be required along the western edge of the area between any future built development and the A 380 (see Appendix D, Map 4). This would be consistent with the TNT Policy E6 and the Local Plan Policy NC1.

Kerswell Gardens (TNPE03) and Edginswell Business Park (TNPE10) were assessed in the Local Plan HRA[5] as part of the Edginswell Future Growth Area (FGA) that was allocated in the Torbay Local Plan. The two sites form the northern part of the FGA and they are divided by the A3022 (Riviera Way). Most of area has already been developed or has planning consent for development. The historic hamlet of Edginswell forms the southern edge of the Edginswell Business Park.

The two sits are located at the eastern end of a greater horseshoe bat Strategic Flyway that runs along the valley from Kingskerswell towards Torquay. This flyway leads as far as northern part of the FGA where it meets a dead end against the built up edge of Torquay. Given the nature of land-use in adjacent areas, which includes extensive existing development and well-lit roads, the two sites do not appear to provide any important routes between high quality foraging habitats and any key roost sites. This is supported by Ecological assessment prepared by Aspect Ecology[6], which concluded the absence of any records of GHB activity in the area.

The Local Plan HRA have recommended a landscape buffer along the western edge of the FGA (Appendix D, Map 4), including the two sites, between any future built development and the A380. This buffer would provide opportunities to retain or create connective corridors of suitable commuting and foraging habitat for a wide variety of biodiversity, including bats in general, and GHBs in particular.

7.4 In-combination Assessment

Subject to implementation of the proposed mitigation measures in Section 7 above, the impacts of additional development in Torquay would be reduced to an insignificant level and therefore the Torquay Neighbourhood Plan policies will not affect the integrity of any of the European sites identified alone or in-combination with other plans and projects, and the

5 Kestrel Wildlife Consultants Ltd. (2014) - HRA Site Appraisal Report of Torbay Local Plan Strategic Delivery Areas (Proposed Submission Plan)
6 P/2013/0677

conservation objectives of the European sites would be sustained.

8 CONCLUSIONS AND RECOMMENDATIONS

The Torquay Neighbourhood Plan has been assessed to determine the likelihood of significant effects on any European site. Torbay Council as a competent authority needs to ascertain whether the plan is likely to have a significant effect on European sites (either alone or in combination with other plans or projects).The assessment only considers the habitats and species that are qualifying interest features of the European sites.

The findings, identify that Torquay Neighbourhood Plan will not have likely significant effects on four out of the six European sites identified within 20 km of Torbay boundaries; either alone or in combination with other plans or projects. Based on the precautionary principle, the potential likely significant effects on Lyme Bay and Torbay Marine SAC and South Hams SAC have been taken forward to at stage 2 Appropriate Assessment.

The assessment involves a careful check of each policy and housing and employment site allocated in the Torquay Neighbourhood Plan. The record of the assessment for the likelihood of significant effects and proposed mitigation measures were set out in section 7 above and Appendices A-C.

The TNP Policy E6 and the Local Plan Policies NC1, W5 and ER2 put in place restrictions on development that could have negative effect on the two international sites. Subject to implementation of the proposed mitigation measures, the impacts of additional development in Torquay would be avoided or reduced to an insignificant level and therefore the Torquay Neighbourhood Plan policies will not affect the integrity of any of the European sites identified and the conservation objectives of these sites would be sustained.

9 REFERENCES

1. Torquay Neighbourhood Forum (2017) - The Torquay Neighbourhood Plan (submitted version)
2. Kestrel Wildlife Consultants Ltd. (2014) - HRA Site Appraisal Report of Torbay Local Plan Strategic Delivery Areas (Proposed Submission Plan).
3. Natural England (2010) - South Hams SAC, Greater horseshoe bat consultation zone planning guidance.

10 APPENDICES

10.1 Appendix A: the TNP Policies Appropriate Assessment Matrix

Policy	Category	European site Affected	Screening outcome	Is AA required?	Mitigation and avoidance measures
TS1 –TS4	A1	N/A	No negative effects	No	N/A
TH1	D3	Lyme Bay and Torbay Marine SAC	The level of growth suggested in this area could potentially have negative impacts on the Marine SAC as a result of potential increase in use of Hope's Nose/Ilsham Combined Sewer Outfall.	Yes	See Appendix B below
TH2 -TH13	A1	N/A	No negative effects	No	N/A
TJ1	D3 C1	Lyme Bay and Torbay Marine SAC South Hams SAC	The level of growth suggested in this area could potentially have negative impacts on the Marine SAC as a result of potential increase in use of Hope's Nose/Ilsham Combined Sewer Outfall. See TNPE03 and TNPE10 in Appendix C	Yes	See Appendix C below
TJ2 - TJ3	A1	N/A	No negative effects	No	N/A
TT1 – TT3	A1	N/A	No negative effects	No	N/A
TE1 – TE7	A2	N/A	No negative effects	No	N/A
THW1 – THW6	A1	N/A	No negative effects	No	N/A
TSL1 - TSL3	A1	N/A	No negative effects	No	N/A
TTR1 - TTR2	A1	N/A	No negative effects	no	N/A

10.2 Appendix B: Housing sites Appropriate Assessment Matrix

Housing site	Category	European site	Screening outcome	Is AA required?	Mitigation and avoidance measures
Allocated housing sites Policy TH1 (Table 1 of TNP)[7]	D3	Lyme Bay and Torbay Marine SAC	The level of growth suggested in this area could potentially have negative impacts on the Marine SAC as a result of potential increase in use of Hope's Nose/Ilsham Combined Sewer Outfall.	Yes	1. The Local Plan Policies NC1, W5 and ER2 restrict development that could have negative impact on the Lyme Bay and Torbay Marine SAC. 2. All development should seek to minimize the generation of increased runoff, having regard to the drainage hierarchy. Development in Torquay that haven't met the drainage hierarchy will be subject to the delivery of River Fleet Flood Alleviation Scheme as set out in the Local Plan policy ER2. 3. The Local Plan policy W5 requires new development to have separate foul and storm water drainage systems. It also recommends sustainable drainage systems (SUDS) and water sensitive urban design (WSUD).

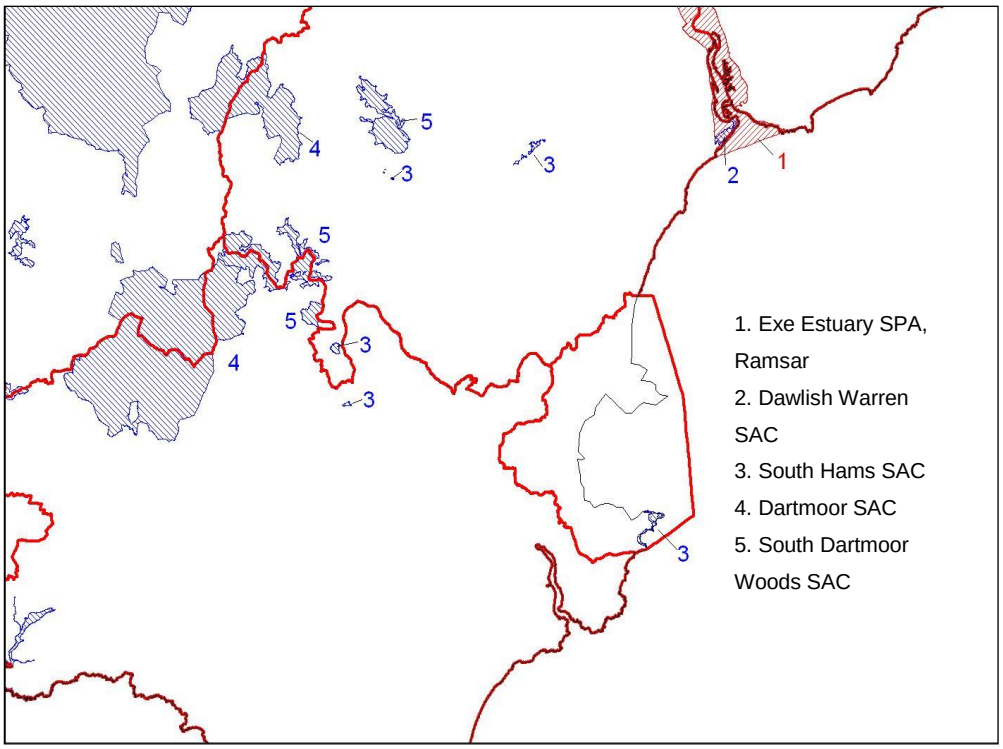
10.3 Appendix C: Employment sites Appropriate Assessment Matrix

Employment site	Category	European Site	Screening outcome	Is AA required?	Mitigation and avoidance measures
Allocated employment sites	D3	Lyme Bay and Torbay Marine SAC	The level of growth suggested in this area could potentially have negative impacts on the Marine SAC as a result of potential increase in use of Hope's Nose/Ilsham Combined Sewer Outfall.	Yes	See allocated housing site mitigation measures above
TNPE01 - Torbay Hospital and	A4	N/A	No negative effects	No	N/A

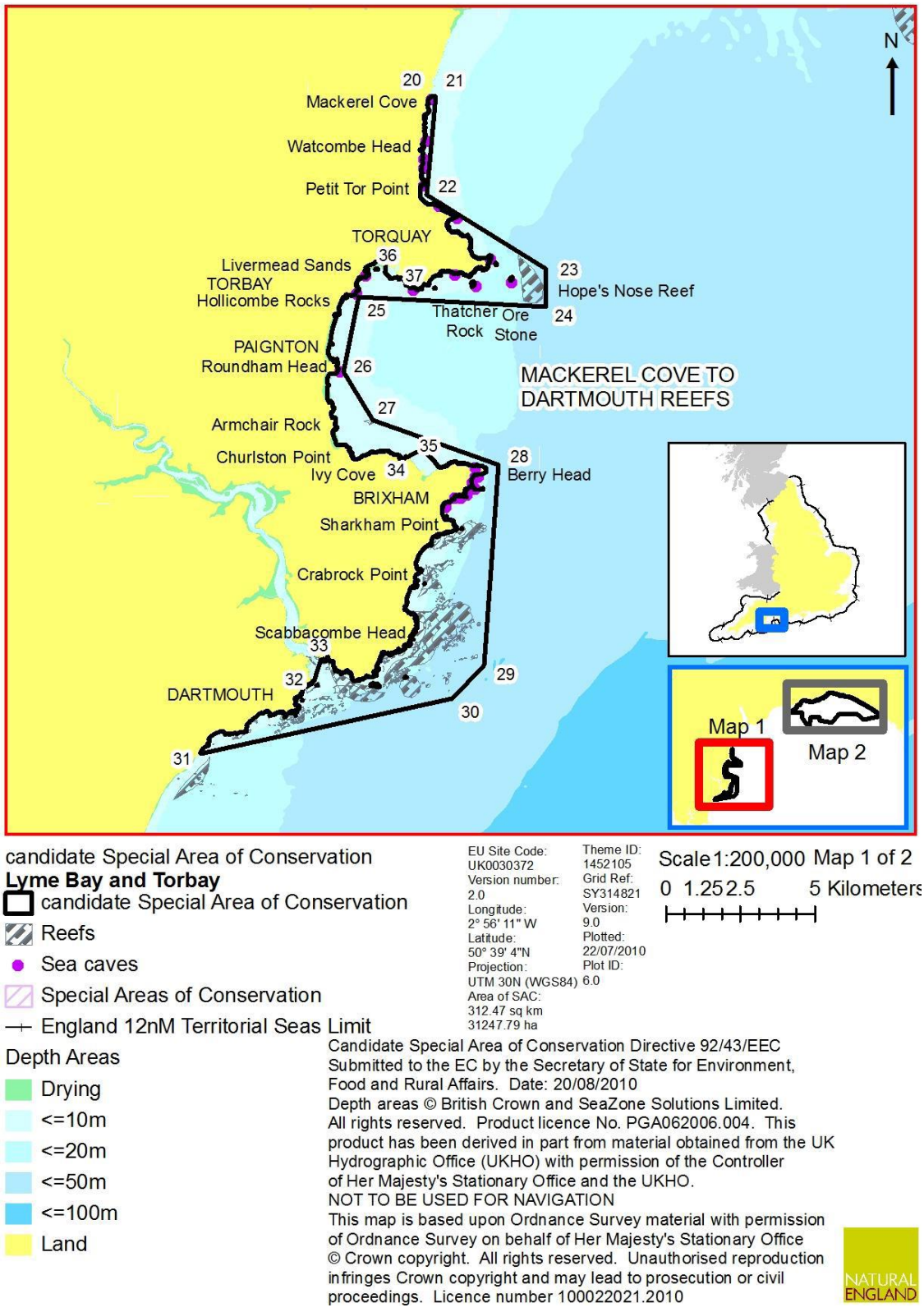
7 Post Examination Torquay Neighbourhood Plan https://www.torbay.gov.uk/council/policies/planning-policies/neighbourhood-plans/torquay-np/

TNPE02- Woodlands Trading Estate	A4	N/A	No negative effects	No	N/A
TNPE03 - Kerswell Gardens	C1	South Hams SAC	The site is not within South Hams SAC sustenance zone. It is, however, lies at the eastern end of greater horseshoe bat strategic flyway.	Yes	Development proposals should seek to avoid loss of foraging habitats and hedgerows. A landscape buffer (Appendix D, Map 4) would be required along the western edge of the area between any future built development and the A 380 (this would be consistent with the Local Plan Policy NC1)
TNPE04 - Lymington Road Area and Chatto Road Industrial Estate	A4	N/A	No negative effects	No	N/A
TNPE05 - Lummaton Quarry	A4	N/A	No negative effects	No	N/A
TNPE06 - Torquay Town Centre	A4	N/A	No negative effects	No	N/A
TNPE07 - Broomhill Industrial Estate	A4	N/A	No negative effects	No	N/A
TNPE08 - Newton Road commercial area	A4	N/A	No negative effects	No	N/A
TNPE09 - Browns Bridge	A4	N/A	No negative effects	No	N/A
TNPE10 - Edginswell Business Park	C2	South Hams SAC	The site is not within South Hams SAC sustenance zone. It is, however, lies at the eastern end of greater horseshoe bat strategic flyway.	Yes	Development proposals should seek to avoid loss of foraging habitats and hedgerows. A landscape buffer (Appendix D, Map 4) would be required along the western edge of the area between any future built development and the A 380 (this would be consistent with the Local Plan Policy NC1).
TNPE11 - Barton Hill/Barton Way/Hele Road commercial and industrial area	A4	N/A	No negative effects	No	N/A

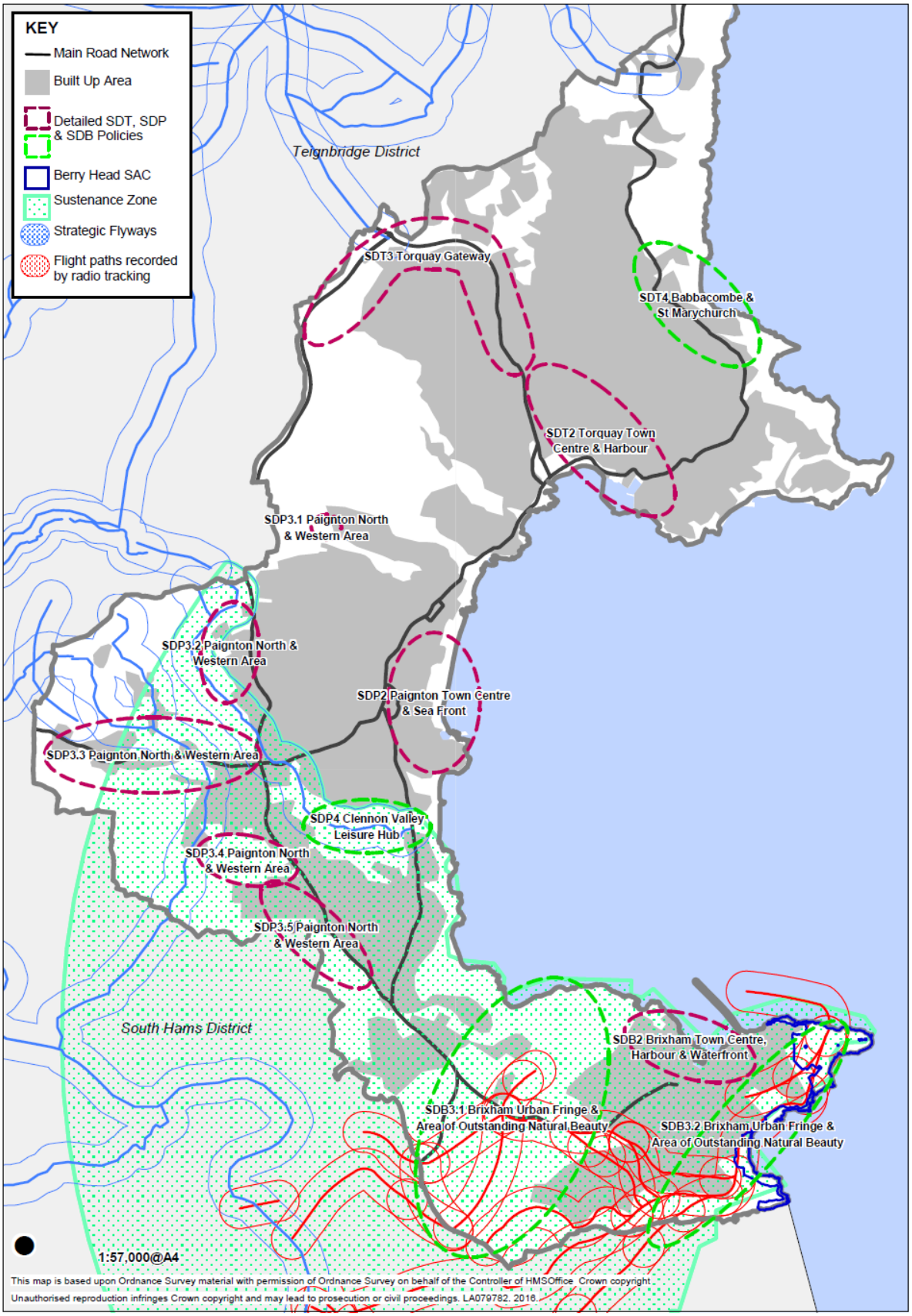
10.4 Appendix D: European Sites Location



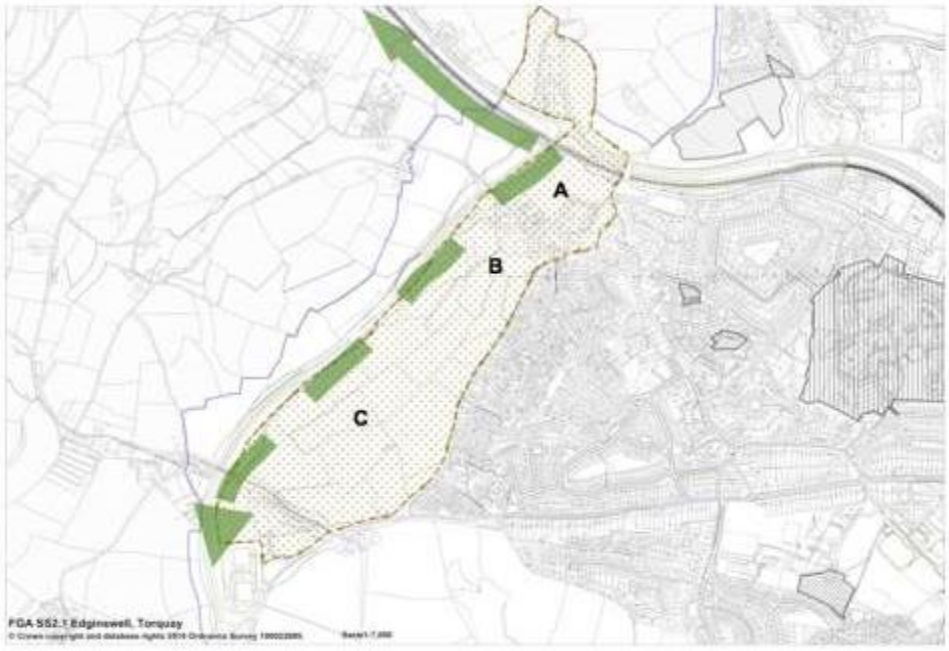
Map 1: European sites within 20km of Torbay



Map2: Lyme Bay and Torbay Marine SAC



Map 3: the South Hams SAC



Map 4: landscape buffer at Edginswell Future Growth Area[8]

8 Kestrel Wildlife Consultants Ltd. (2014) - HRA Site Appraisal Report of Torbay Local Plan Strategic Delivery Areas (Proposed Submission Plan).

10.5 Appendix E: European Site Characteristics

Site	SOUTH HAMS SAC. Located within: Torbay Unitary & Devon County Authorities. Area (ha): 129.53
Qualifying Interests	**SAC** Annex I habitats primary reason for selection: • European dry heaths • Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*) Annex I Habitats qualifying feature: • Vegetated sea cliffs of the Atlantic and Baltic coasts • Caves not open to the public • *Tilio-Acerion* forests of slopes, screes and ravines Annex II species primary reason for selection: • Greater horseshoe bat *Rhinolophus ferrumequinum*
Conservation Objectives	**Component SSSI: Berry Head to Sharkham SSSI** The conservation objectives for the European interests on the SSSI are: • To maintain, in favourable condition the Caves not open to the public, European Dry Heaths, Semi-natural dry grasslands and scrub facies on calcareous substrate, Vegetated sea cliffs of the Atlantic and Baltic Coasts. • To maintain, in favourable condition, the habitats for the population of greater horseshoe bat (*Rhinolophus ferrumequinum*) *Note: maintenance implies restoration if the feature is not currently in favourable condition.*
	Component SSSI: Haytor and Smallacombe Iron Mine The conservation objectives for the European interests on the SSSI are: • To maintain, in favourable condition Caves not open to the public. • To maintain, in favourable condition, the habitats for the population of greater horseshoe bat (*Rhinolophus ferrumequinum*)
	Component SSSI: Buckfastleigh Caves The conservation objectives for the European interests on the SSSI are: • To maintain, in favourable condition the Caves not open to the public. • To maintain, in favourable condition, the habitats for the population of greater horseshoe bat (*Rhinolophus ferrumequinum*)

<table>
<tr><td></td><td colspan="6">Component SSSI: Bulkamore Iron Mine

The conservation objectives for the European interests on the SSSI are:

• To maintain, in favourable condition the Caves not open to the public.
• To maintain, in favourable condition, the habitats for the population of greater horseshoe bat (Rhinolophus ferrumequinum)</td></tr>
<tr><td></td><td colspan="6">Component SSSI: Chudleigh Caves and Woods

The conservation objectives for the European interests on the SSSI are:

• To maintain, in favourable condition the Tilio - Acerion forests of slopes, screes and ravines, and the Caves not open to the public.
• To maintain, in favourable condition, the habitats for the population of greater horseshoe bat (Rhinolophus ferrumequinum)</td></tr>
<tr><td>Key Environmental Conditions (factors that maintain site integrity)</td><td colspan="6">• Appropriate management of the heathland is required to maintain the structural diversity including undisturbed bare ground, age structure and vegetation mosaic. *
• Maintaining hydrological conditions. *
• Maintain natural woodland processes and diverse woodland structure. *
• The roosts of the Greater horseshoe bat are sensitive to disturbance (internal and external) and would need to be limited to acceptable levels.*
• The internal conditions (temperature, light, ventilation, stability etc) of the cave systems, disused quarries and mine-shafts that support the Greater horseshoe bat population should be maintained.
• Any development or intrusion that may influence these factors would leave the suitability of the site and the species at risk. The most likely cause of disturbance to the site is the unauthorised entry into the roosts and indirect threats that could stem from the disturbance of feeding areas, impacts on flight paths, light and noise pollution.</td></tr>
<tr><td rowspan="7">Condition of SSSI Units (Compiled August 2011) **</td><td>% Area meeting PSA target</td><td>% Area favourable</td><td>% Area unfavourable recovering</td><td>% Area unfavourable no change</td><td>% Area unfavourable declining</td><td>% Area destroyed / part destroyed</td></tr>
<tr><td colspan="6">Berry Head to Sharkham Point SSSI (11 units)</td></tr>
<tr><td>100.00%</td><td>86.58%</td><td>13.42%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td></tr>
<tr><td colspan="6">Bulkamore Iron Mine SSSI (6 units)</td></tr>
<tr><td>100.00%</td><td>100.00%</td><td>0.00%</td><td>0.00%</td><td>00.00%</td><td>0.00%</td></tr>
<tr><td colspan="6">Haytor and Smallacombe Iron Mines SSSI (5 units)</td></tr>
<tr><td>100.00%</td><td>100.00%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td></tr>
</table>

<table>
<tr><td></td><td colspan="6">Buckfastleigh Caves SSSI (5 units)</td></tr>
<tr><td></td><td>100.00%</td><td>39.98%</td><td>60.02%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td></tr>
<tr><td></td><td colspan="6">Chudleigh Caves And Woods SSSI (8 units)</td></tr>
<tr><td></td><td>67.43%</td><td>67.43%</td><td>0.00%</td><td>0.00%</td><td>32.57%</td><td>0.00%</td></tr>
<tr><td>Site Vulnerabilities</td><td colspan="6">• Direct loss of habitat through development allocations pressures and transport developments
• Direct loss of habitat through neglect or inappropriate management
• Increased deposition from industrial processes
• Public access
• Recreational pressure – caving/climbing activities
• Direct loss, disturbance and alteration of micro-climate of roost sites for Greater Horseshoe Bats
• Loss of feeding areas (within 2km of roost site for juvenile bats and 6km of roost site for adult bats))(i.e. woods, grazing) ***
• Impacts on flight paths, e.g. loss or change in management of hedgerows used for navigation by bats; alteration of street lighting regimes in areas used by bats ***
• Light and noise pollution
• Sea level changes *
• Potential impacts of port development in Torbay area (Brixham) *</td></tr>
<tr><td>Site</td><td colspan="6">DARTMOOR SAC. Located within: Devon County Authorities. Area (ha): 23165.77</td></tr>
<tr><td>Qualifying Interests</td><td colspan="6">SAC
Annex I habitats primary reason for selection
• Northern Atlantic wet heaths with Erica tetralix
• European dry heaths
• Blanket bogs (Priority feature)
• Old sessile oak woods with Ilex and Blechnum in the British Isles
Annex II species primary reason for selection
• Southern damselfly Coenagrion mercuriale
Annex II species qualifying feature
• Atlantic salmon Salmo salar
• Otter Lutra lutra</td></tr>
<tr><td>Conservation Objectives</td><td colspan="6">Tor Royal Bog
The conservation objectives for the European interests on the SSSI are:
• To maintain, in favourable condition, the blanket bog.</td></tr>
<tr><td></td><td colspan="6">East Dartmoor
The conservation objectives for the European interests on the SSSI are:
• To maintain, in favourable condition, the blanket bogs, Northern Atlantic wet heaths with Erica tetralix, and European dry heaths.
• To maintain, in favourable condition, the habitats for the populations of Atlantic salmon (Salmo salar).</td></tr>
</table>

<table>
<tr><td></td><td colspan="6">North Dartmoor
The conservation objectives for the European interests on the SSSI are:
• To maintain, in favourable condition, the blanket bogs, Northern Atlantic wet heaths with Erica tetralix, European dry heaths, old sessile oak woods with Ilex and Blechnum in the British Isles.
• To maintain, in favourable condition, the habitats for the populations of southern damselfly (Coenagrion mercuriale), otter (Lutra lutra), and Atlantic salmon (Salmo salar).</td></tr>
<tr><td></td><td colspan="6">South Dartmoor
The conservation objectives for the European interests on the SSSI are:
• To maintain, in favourable condition, the blanket bogs, Northern Atlantic wet heaths with Erica tetralix, European dry heaths.
To maintain, in favourable condition, the habitats for the populations of otter (Lutra lutra), and Atlantic salmon (Salmo salar).</td></tr>
<tr><td>Key Environmental Conditions (factors that maintain site integrity)</td><td colspan="6">• Appropriate management of the heathland is required to maintain the structural diversity including undisturbed bare ground, age structure and vegetation mosaic
• Maintaining hydrological conditions and regimes
• Appropriate management (no burning, extensive summer grazing) of vegetation structure and diversity with particular attention to bryophytes, dwarf shrubs and graminoids
• Maintain natural woodland processes and diverse woodland structure
• Maintain high air quality.
• Maintain quality of wetland habitat for southern damselfly, which includes extent of larval habitat, levels of shading, water quality with low nutrient levels, suitable composition of silt and gravel, adequate water levels throughout the year, and a suitable composition and structure of vegetation within runnels
• Manage fish stocks
• Levels of disturbance, particularly bankside usage, need to be kept to acceptable levels</td></tr>
<tr><td rowspan="8">Condition of SSSI Units (Compiled August 2011) **</td><td>% Area meeting PSA target</td><td>% Area favourable</td><td>% Area unfavourable recovering</td><td>% Area unfavourable no change</td><td>% Area unfavourable declining</td><td>% Area destroyed / part destroyed</td></tr>
<tr><td colspan="6">Tor Royal Bog SSSI (2 units)</td></tr>
<tr><td>41.03%</td><td>41.03%</td><td>0.00%</td><td>58.79%</td><td>0.00%</td><td>0.00%</td></tr>
<tr><td colspan="6">East Dartmoor SSSI (22 units)</td></tr>
<tr><td>100.00%</td><td>51.48%</td><td>48.52%</td><td>0.00%</td><td>00.00%</td><td>0.00%</td></tr>
<tr><td colspan="6">North Dartmoor SSSI (70 units)</td></tr>
<tr><td>99.72%</td><td>22.28%</td><td>77.44%</td><td>0.00%</td><td>0.28%</td><td>0.00%</td></tr>
<tr><td colspan="6">South Dartmoor SSSI (52 units)</td></tr>
</table>

	99.18%	7.36%	91.82%	0.36%	0.46%	0.00%
	Wistman's Wood SSSI (4 units)					
	100.00%	36.76%	63.24%	0.00%	00.00%	0.00%
	Dandles Wood SSSI (4units)					
	100.00%	96.71%	3.29%	0.00%	0.00%	0.00%
Site Vulnerabilities	• Ecological character of site dependent to a large extent upon long-established traditional farming methods. • Blanket bog and wet heath is vulnerable to uncontrolled and unplanned fires • Dartmoor is used for military training and artillery and mortar fire has led to the formation of numerous craters, and gully erosion in some areas, though this activity has ceased and the craters are now healing naturally. • Dry heath on Dartmoor has suffered extensive damage through overgrazing and frequent burning. As a consequence of this some areas of former dry heath have been converted to grass moorland, and large areas are in unfavourable condition because of low dwarf-shrub cover. • In relation to water resources the potential drying of blanket bogs would affect this priority feature, and low flows in rivers could affect otter and salmon habitat • Wet and dry heaths are vulnerable to eutrophication through nitrogen deposition					
Site	**SOUTH DARTMOOR WOODS SAC. Located within: Devon County Authority. Area (ha): 2157.15**					
Qualifying Interests	SAC Annex I habitats primary reason for selection: • Old sessile oak woods with Ilex and Blechnum in the British Isles Annex I Habitats qualifying feature: • European dry heaths					
Conservation Objectives	Component SSSI's :Yarner Wood and Trendlebere Down (part) The conservation objectives for the European interests on the SSSI's are : • To maintain western acidic oakwoods with Ilex and Blechnum (W16, W17 & some W11 & W10e) and upland dry heath in favourable condition					
	Component SSSI's : Holne Woods, Bovey Valley Woodlands and part of Yarner Wood and Trendlebere Down The conservation objectives for the European interests on the SSSI's are : • (subject to natural change-if necessary), to maintain western acidic oakwoods with Ilex and Blechnum (W16, W17 & some W11 & W10e) and upland dry heath in favourable condition					
	Component SSSI's : Holne Woods The conservation objectives for the European interests on the SSSI's are : • (subject to natural change-if necessary), to maintain western acidic oakwoods with Ilex and Blechnum (W16, W17 & some W11 & W10e) and upland dry heath in favourable condition					

Key Environmental Conditions (factors that maintain site integrity)	• Appropriate management of the heathland is required to maintain the structural diversity including undisturbed bare ground, age structure and vegetation mosaic. * • Maintaining hydrological conditions and regimes. * • Appropriate management (no burning, extensive summer grazing) of vegetation structure and diversity with particular attention to bryophytes, dwarf shrubs and graminoids. * • Maintain natural woodland processes and diverse woodland structure. * • Maintain high air quality.					
Condition of SSSI Units (Compiled August 2011) **	% Area meeting PSA target	% Area favourable	% Area unfavourable recovering	% Area unfavourable no change	% Area unfavourable declining	% Area destroyed / part destroyed
	Bovey Valley Woodlands SSSI (14 units)					
	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
	Hembury Woods SSSI (2 units)					
	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
	Holne Woodlands SSSI (18 units)					
	100.00%	57.31%	42.69%	0.00%	0.00%	0.00%
	Sampford Spiney SSSI (15 units)					
	100.00%	87.34%	12.66%	0.00%	0.00%	0.00%
	Shaugh Prior Woods SSSI (5 units)					
	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
	Teign Valley Woods SSSI (7 units)					
	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
	Yarner Wood & Trendlebere Down SSSI (8 units)					
	100.00%	199.78%	0.22%	0.00%	0.00%	0.00%

<table>
<tr><td>Site Vulnerabilities</td><td colspan="6">• Heavy recreational pressure.
• Long-term decline in lichens due to air pollution and/or climate change.
• Dry heath subject to heavy grazing and uncontrolled fires (arson).
• Dry heaths are vulnerable to eutrophication through nitrogen deposition.</td></tr>
<tr><td>Site</td><td colspan="6">DAWLISH WARREN SAC. Located within: Devon County Authority. Area (ha): 58.84</td></tr>
<tr><td>Qualifying Interests</td><td colspan="6">SAC
Annex I habitats primary reason for selection:
• Humid dune slacks
Annex I Habitats qualifying feature:
• Shifting dunes along the shoreline with Ammophila arenaria (`white dunes`)
• Fixed dunes with herbaceous vegetation (`grey dunes`) * Priority feature
Annex II species primary reason for selection:
• Petalwort Petalophyllum ralfsii</td></tr>
<tr><td>Conservation Objectives</td><td colspan="6">Component SSSI: Dawlish Warren
The conservation objectives for the European interests on the SSSI are:
• To maintain, in favourable condition, the fixed dunes with herbaceous vegetation (“grey dunes”), humid dune slacks, and shifting dunes along the shoreline with Ammophila arenaria (marram grass) (“white dunes”).
• To maintain, in favourable condition, the habitats for the population of petalwort (Petalophyllum ralfsii).</td></tr>
<tr><td>Key Environmental Conditions (factors that maintain site integrity) *</td><td colspan="6">Management of access to minimise trampling and disturbance.
Appropriate management of the dunes to allow for the following combination of physical factors:
• unrestrained natural mobility to retain a variety of successional stages;
• natural substrate supply;
• maintenance of substrate composition;
• water quality; and
• climate/rainfall.
Selective scrub management and grazing may be necessary as well as control of invasive species.</td></tr>
<tr><td rowspan="3">Condition of SSSI Units (Compiled August 2011) **</td><td>% Area meeting PSA target</td><td>% Area favourable</td><td>% Area unfavourable recovering</td><td>% Area unfavourable no change</td><td>% Area unfavourable declining</td><td>% Area destroyed / part destroyed</td></tr>
<tr><td colspan="6">Dawlish Warren SSSI (9 units)</td></tr>
<tr><td>85.84%</td><td>6.27%</td><td>79.57%</td><td>0.00%</td><td>14.16%</td><td>0.00%</td></tr>
<tr><td>Site Vulnerabilities</td><td colspan="6">• Recreational pressure – Erosion serious problem.
• Declining water-table, and inappropriate ditch management.
• Much of the fixed dune grassland is a golf course and is subjected to wear, whilst modifications to the course can have an impact on adjoining species-rich grassland, for example, by spray-drift of chemicals.
• Inappropriate coastal management, including stabilisation/flood defence. *
• Insufficient scrub and weed control, leading to encroachment of scrub and rank grassland species.*</td></tr>
</table>

Site	EXE ESTUARY SPA/RAMSAR Located within: Devon County Authority. Area (ha): 2345.71
Qualifying Interests	SPA Over winter the area regularly supports (Article 4.1): • Slavonian Grebe Podiceps auritus - 5% of the GB population • Avocet Recurvirostra avosetta - 28.3% of the GB population Over winter the area regularly supports (Article 4.2): • Brent Goose Branta bernicla bernicla - 0.6% of the population • Dunlin Calidris alpina alpine - 1.1% of the population in Great Britain • Oystercatcher Haematopus ostralegus - 1.2% of the population in Great Britain • Black-tailed Godwit Limosa limosa islandica - 7.2% of the population in Great Britain • Grey Plover Pluvialis squatarola - 1.1% of the population in Great Britain Ramsar Criterion 5: Assemblages of international importance – species with peak counts in winter, 20263 waterfowl. Criterion 6: Species/populations occurring at levels of international importance. • Dark-bellied brent goose Branta bernicla bernicla - 1509 individuals Species/populations identified subsequent to designation for possible future consideration under criterion 6. • Black-tailed godwit Limosa limosa islandica - 857 individuals
Conservation Objectives	Component SSSI: Exe Estuary The conservation objectives for the European interests on the SSSI are : subject to natural change, to maintain*, in favourable condition, the habitats for the internationally important populations of the regularly occurring Annex 1 bird species, under the Birds Directive, in particular: • Mudflat and sandflat communities (excluding seagrass bed communities). • Saltmarsh communities. • Shallow coastal waters. subject to natural change, to maintain*, in favourable condition, the habitats for the population of internationally important populations of regularly occurring migratory bird species, under the Birds Directive, in particular: • Intertidal mud and sandflat communities (excluding seagrass bed communities). • Saltmarsh communities. • Seagrass bed communities. subject to natural change, to maintain*, in favourable condition, internationally important assemblage of waterfowl, under the Birds Directive, in particular: • Mudflat and sandflat communities (excluding seagrass bed communities). • Saltmarsh communities. • Seagrass bed communities. • Intertidal and subtidal boulder and cobble scar communities.

<table>
<tr><td>Key Environmental Conditions (factors that maintain site integrity)</td><td colspan="6">Maintenance of current extent and distribution of feeding and roosting habitat, in particular:
• Mudflat and sandflat communities (excluding seagrass bed communities). *
• Saltmarsh communities. *
• Shallow coastal waters. *

Absence of disturbance, absence of obstructions to view lines, food availability, vegetation characteristics of Atlantic saltmeadows, water quality and quantity, habitat connectivity. *</td></tr>
<tr><td rowspan="5">Condition of SSSI Units (Compiled August 2011) **</td><td>% Area meeting PSA target</td><td>% Area favourable</td><td>% Area unfavourable recovering</td><td>% Area unfavourable no change</td><td>% Area unfavourable declining</td><td>% Area destroyed / part destroyed</td></tr>
<tr><td colspan="6">Dawlish Warren SSSI (9 units)</td></tr>
<tr><td>85.84%</td><td>6.27%</td><td>79.57%</td><td>0.00%</td><td>14.61%</td><td>0.00%</td></tr>
<tr><td colspan="6">Exe Estuary SSSI (46 units)</td></tr>
<tr><td>100.00%</td><td>84.33%</td><td>15.67%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td></tr>
<tr><td>Site Vulnerabilities</td><td colspan="6">• Recreational activity – disturbance to waterfowl
• Dredging could have an adverse effect on the Dawlish Warren Sandspit and sediment movement patterns.
• Oil/ chemical spills
• Mussel bed development pressure
• Maintain hydrological conditions and regimes
• Flood plain development and associated implications for hydrology and requirements for flood protection and constraints to water level management*
• Inappropriate ditch management, causing lowering of local water table*
• Invasive freshwater species*
• Grazing – parts of the site are undergrazed or overgrazed, with resultant buildup of thatch and scrub encroachment, or damage for example poaching/trampling.*</td></tr>
<tr><td>Site</td><td colspan="6">Lyme Bay and Torbay SAC (31,248 ha) Dorset and Devon Coast</td></tr>
<tr><td>Qualifying Interest</td><td colspan="6">SAC
Annex I habitats primary reason for selection
• Reefs
• Submerged or partially submerged sea cave</td></tr>
<tr><td>Conservation Objectives</td><td colspan="6">The conservation objective for Lyme Bay and Torbay Annex 1 Reefs:
Subject to natural change, maintain or restore the Reefs in / to favourable condition, in particular the sub-features:
• Bedrock reef communities
• Biogenic reef communities

The conservation objective for Lyme Bay and Torbay Annex 1 Submerged or partially submerged sea cave:
Subject to natural change, maintain the Submerged or partially submerged sea cave in favourable condition.</td></tr>
</table>

<table>
<tr><td>Key Environmental Conditions (factors that maintain site integrity)</td><td colspan="5">Annex 1 Reefs
• No reduction in extent of reef allowing for natural change.
• Maintain the full variety of biotopes identified for the site, allowing for natural succession or known cyclical change.
• Maintain the distribution of biotopes, allowing for natural succession/known cyclical change.
• No change in the extent of the biotope(s), allowing for natural succession/known cyclical change.
• No decline in biotope quality due to change in species composition or loss of notable species, allowing for natural succession/known cyclical change. Where declines in biotope quality have occurred due to damage from scallop dredging, these declines will need to be reversed.
• Maintain age/size class structure of individual species populations. Where decline in age/size class structure of individual species populations have occurred due to damage from scallop dredging, these declines will need to be reserved.
Annex 1 Submerged or partially submerged sea cave
• No reduction in number of caves within a site allowing for natural change. No change in dimensions of a cave, allowing for natural change that is part of a wider coastal geomorphological management regime.
• Maintain the full variety of biotopes identified for the caves, allowing for natural succession or known cyclical change.</td></tr>
<tr><td rowspan="4">Assessment of interest feature (s) against selection criteria</td><td>features of interest</td><td>Representativity (a)</td><td>Relative surface (b)</td><td>Structure and function (c)</td><td>Global assessment (d)</td></tr>
<tr><td>Reefs</td><td>Grade A (excellent)</td><td>Grade C</td><td>Grade II (well conserved)</td><td>Grade A (excellent conservation value)</td></tr>
<tr><td>Sea caves</td><td>Grade A (good representativity)</td><td>N/A</td><td>Grade A (excellent conservation value)</td><td>Grade B (good conservation value)</td></tr>
<tr><td>Site Vulnerabilities</td><td colspan="5">Annex 1 Reefs

Physical loss

• Removal (e.g. capital dredging, offshore development)
• Smothering (e.g. by aggregate dredging, disposal of dredge spoil)
Physical damage

• Siltation (e.g. run-off, channel dredging, outfalls)
• Abrasion (e.g. boating, anchoring, demersal fishing)
Non -physical disturbance

• Noise (e.g. boat activity)
• Visual (e.g. recreational activity)
Toxic contamination

• Introduction of synthetic compounds (e.g. pesticides, TBT, PCBs)
• Introduction of non-synthetic compounds (e.g. heavy metals, hydrocarbons)</td></tr>
</table>

	Non - toxic contamination • Changes in nutrient loading (e.g. agricultural run-off, outfalls) • Changes in organic loading (e.g. mariculture, outfalls) • Changes in turbidity (e.g. run-off, dredging) **Biological disturbance** • Introduction of microbial pathogens • Introduction of non-native species and translocation • Selective extraction of species (e.g. bait digging, wildfowling, commercial & recreational fishing) **Annex 1 Submerged or partially submerged sea cave** **Physical damage** • Siltation (e.g. run-off, channel dredging, outfalls) • Abrasion (e.g. boating, anchoring, demersal fishing) **Non - toxic contamination** • Changes in organic loading (e.g. mariculture, outfalls) • Changes in salinity (e.g. water abstraction, outfalls)