



European Site Conservation Objectives: Supplementary advice on conserving and restoring site features

**Tankerton Slopes and Swalecliffe
Special Area of Conservation (SAC)
Site code: UK0030378**



Adult Fisher's estuarine moth © Keith Tailby from www.ukmoths.org.uk

Date of Publication: 11 February 2019

About this document

This document provides Natural England's supplementary advice about the European Site Conservation Objectives relating to Tankerton Slopes and Swalecliffe SAC

This advice should therefore be read together with the SAC Conservation Objectives available [here](#).

You should use the Conservation Objectives, this Supplementary Advice and any case-specific advice given by Natural England when developing, proposing or assessing an activity, plan or project that may affect this site"

This Supplementary Advice to the Conservation Objectives presents attributes which are ecological characteristics of the designated species and habitats within a site. The listed attributes are considered to be those that best describe the site's ecological integrity and which, if safeguarded, will enable achievement of the Conservation Objectives. Each attribute has a target which is either quantified or qualitative depending on the available evidence. The target identifies as far as possible the desired state to be achieved for the attribute.

The tables provided below bring together the findings of the best available scientific evidence relating to the site's qualifying features, which may be updated or supplemented in further publications from Natural England and other sources. The local evidence used in preparing this supplementary advice has been cited. The references to the national evidence used are available on request. Where evidence and references have not been indicated, Natural England has applied ecological knowledge and expert judgement. You may decide to use other additional sources of information.

In many cases, the attribute targets shown in the tables indicate whether the current objective is to 'maintain' or 'restore' the attribute. This is based on the best available information, including that gathered during monitoring of the feature's current condition. As new information on feature condition becomes available, this will be added so that the advice remains up to date.

The targets given for each attribute do not represent thresholds to assess the significance of any given impact in Habitats Regulations Assessments. You will need to assess this on a case-by-case basis using the most current information available.

Some, but not all, of these attributes can also be used for regular monitoring of the actual condition of the designated features. The attributes selected for monitoring the features, and the standards used to assess their condition, are listed in separate monitoring documents, which will be available from Natural England.

These tables do not give advice about SSSI features or other legally protected species which may also be present within the European Site.

If you have any comments or queries about this Supplementary Advice document please contact your local Natural England adviser or email HDIRConservationObjectivesNE@naturalengland.org.uk

About this site

European Site information

Name of European Site	Tankerton Slopes and Swalecliffe SAC Special Area of Conservation (SAC)
Location	Kent
Site Maps	The designated boundary of this site can be viewed here on the MAGIC website
Designation Date	11 February 2016
Qualifying Features	S4035. <i>Gortyna borellii lunata</i> ; Fisher's estuarine moth
Designation Area	13.01ha
Designation Changes	N/A
Feature Condition Status	Details of the feature condition assessments made at this site can be found using Natural England's Designated Sites System
Names of component Sites of Special Scientific Interest (SSSIs)	Tankerton Slopes SSSI, Thanet Coast SSSI
Relationship with other European or International Site designations	Swalecliffe is also included within the Thanet Coast and Sandwich Bay Special Protection Area . At Tankerton Slope SSSI just over 200m offshore is the Outer Thames Special Protection Area . Links to Conservation Objective for each site are included

Site background and geography

The cliff-top lawns of Tankerton Slopes roll gently towards the sea and provide excellent views of 'The Street' - a naturally formed spit of land that extends into the sea and can be walked on at low tide. The area is popular with dog walkers and cyclists. Cannons at the top of the slopes hint at the historical significance of the area as a coastal defence.

The site is within the Greater Thames Estuary National Character Area ([NCA Profile 81](#)) which is predominantly a remote and tranquil landscape of shallow creeks, drowned estuaries, low-lying islands, mudflats and broad tracts of tidal salt marsh and reclaimed grazing marsh that lies between the North Sea and the rising ground inland. It forms the eastern edge of the London Basin and encompasses the coastlines of South Essex and North Kent, along with a narrow strip of land following the path of the Thames into East London

About the qualifying features of the SAC

The following section gives you additional, site-specific information about this SAC's qualifying features. These are the natural habitats and/or species for which this SAC has been designated.

Qualifying habitats:

Not Applicable

Qualifying Species:

- **S4035 Fisher's estuarine moth *Gortyna borelii lunata***

Fisher's estuarine moth *Gortyna borelii lunata* is a species restricted in the UK to a small area of sea-walls and coastal grassland in north-east Essex and an area on the north Kent coast. It is reliant on areas of rough grassland where Hog's Fennel (*Peucedanum officinale*), its sole larval food-plant, grows. Long coarse grasses, such as Cock's-foot (*Dactylis glomerata*), Couch (*Elytrigia* spp.) and False Oat-grass (*Arrhenatherum elatius*), are required to fulfil the moth's egg laying requirements.

The optimum habitat for the moth is where there is an abundance of both Hog's Fennel and long coarse grasses. The density of Hog's Fennel across a site is important; it must not be too high, as this will prevent there being the required abundance of grasses for egg laying, or too low, as this will reduce the success of freshly hatched larvae migrating to a Hog's Fennel plant. The most favourable density is one Hog's Fennel plant per m². Hog's fennel grows within a range of soil conditions and although in the UK it is naturally found in coastal areas, it will grow well inland. Hog's fennel is not tolerant of high levels of soil salinity and always grows above the upper saltmarsh.

The moth has an annual life cycle: it is in the egg stage over the winter, from September/October through to April/early May; the larval stage occurs from April through to August; pupation lasts for about a month during August/September and the flight period starts in early September and runs through to about the third week in October.

The larvae are stem-borers and feed within the stems of Hog's Fennel from April through to June and then below ground within the plant's rootstock during July and August, when a characteristic 'frass' volcano can be found at the base of plants supporting larvae. Pupation occurs below ground within a bored-out chamber between the root-stock of Hog's Fennel and the surrounding soil.

Fisher's Estuarine Moth has a localised distribution in the UK and is found within just two areas: the north Essex coast and the north Kent coast. The main areas of habitat where the moth occurs are low-lying and vulnerable to coastal flooding and encroachment of saltmarsh. Tankerton slopes and Swalecliffe supports the majority of the north Kent population of this moth which is approximately 20% of the UK population.

The site's north facing slopes are composed of London Clay and support a tall herb community dominated by its food plant hog's fennel (*Peucedanum officinale*), together with areas of neutral grassland also required by the species for egg laying.

Fisher's estuarine moth is fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017, making it a 'European Protected Species'. A [Licence](#) may therefore be required for any activities likely to harm or disturb Fisher's estuarine moth.

Table 1: Supplementary Advice for Qualifying Features: S4035. *Gortyna borelii lunata*; Fisher's estuarine moth

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Population (of the feature)	Population abundance	<p>Maintain the abundance of the population at a level which is above the baseline population-size known or estimated at or soon after the time of SAC designation, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.</p> <p>The baseline population for the site is estimated at approximately 20% of the national population (between 50 and 250 individuals)</p>	<p>This will ensure there is a viable population of the feature which is being maintained at or increased to a level that contributes as appropriate to its Favourable Conservation Status across its natural range in the UK. Due to the dynamic nature of population change, the target-value given for the population size or presence of this feature is considered to be the minimum standard for conservation/restoration measures to achieve. This minimum-value may be revised where there is evidence to show that a population's size or presence has significantly changed as a result of natural factors or management measures and has been stable at or above a new level over a considerable period (generally at least 10 years). The values given here may also be updated in future to reflect any strategic objectives which may be set at a national level for this feature.</p> <p>Given the likely fluctuations in numbers over time, any impact-assessments should focus on the current size of the site's population, as derived from the latest known or estimated level established using the best available data. This advice accords with the obligation to avoid deterioration of the site or significant disturbance of the species for which the site is designated, and seeks to avoid plans or projects that may affect the site giving rise to the risk of deterioration.</p> <p>Similarly, where there is evidence to show that a feature has historically been more abundant than the stated minimum target and its current level, the ongoing capacity of the site to accommodate the feature at such higher levels in future should also be taken into account in any assessment.</p> <p>Unless otherwise stated, the population size or presence will be that measured using standard methods, such as peak mean counts or breeding surveys. This value is also provided recognising there will be inherent variability as a result of natural fluctuations and margins of error during data collection.</p> <p>Whilst we will endeavour to keep these values as up to date as possible, local Natural England staff can advise that the figures stated are the best available.</p>	<p>RINGWOOD (2014)</p> <p>NATURAL ENGLAND (2016)</p> <p>JNCC (2007)</p> <p>JNCC (2013)</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>The moth's larval feeding signs are distinctive and highly visible between mid-July and mid-August. The moth is not readily attracted to light traps and therefore the adult moth should be counted by searching areas of Hog's Fennel with torchlight, after dark.</p> <p>The most appropriate method to use to monitor fluctuations in population levels is to record the incidence of Hog's Fennel plants with larval feeding signs between mid-July and mid-August.</p>	
Supporting habitat: extent and distribution	Distribution of supporting habitat	Maintain the distribution and continuity of the feature and its supporting habitat, including where applicable its component vegetation types and associated transitional vegetation types, across the site	<p>A contraction in the range, or geographic spread, of the feature (and its component vegetation) across the site will reduce its overall area, the local diversity and variations in its structure and composition and may undermine its resilience to adapt to future environmental changes. Contraction may also reduce and break up the continuity of a habitat within a site and how well the species feature is able to occupy and use habitat within the site. Such fragmentation may have a greater amount of open edge habitat which will differ in the amount of light, temperature, wind, and even noise that it receives compared to its interior. These conditions may not be suitable for this feature and this may affect its viability.</p> <p>The slopes at Tankerton were established in the 1920s and 40s, drainage improvements in the 1990s were avoided where hog's fennel populations were greatest.</p>	<p>Canterbury City Council (2014) Queen Elizabeth II Diamond Jubilee Field Tankerton's Coastal Park Management Plan 2014 to 2024</p> <p>Available at: https://www2.canterbury.gov.uk/media/859670/Tankerton-Slopes-Management-Plan.pdf</p> <p>RINGWOOD (2004)</p>
Supporting habitat: extent and distribution	Extent of supporting habitat	Maintain the total extent of the habitat which support the feature approx. 13ha with public access throughout.	<p>In order to contribute towards the objective of achieving an overall favourable conservation status of the feature at a UK level, it is important to maintain or if appropriate restore the extent of supporting habitats and their range within this SAC.</p> <p>The information available on the extent and distribution of supporting habitat used by the feature may be approximate depending on the nature, age and accuracy of data collection, and may be subject to periodic review in light of improvements in data.</p>	<p>NATURAL ENGLAND (2016)</p> <p>JNCC (2007)</p> <p>JNCC (2013)</p>
Supporting habitat: structure/function	Provision of rough grassland	Maintain sufficient areas of, and space for, rough grassland with an abundance of Hog's-fennel above upper areas of saltmarsh	Fisher's Estuarine Moth requires rough grassland with an abundance of its larval foodplant Hog's Fennel and coarse grasses. Hog's Fennel (<i>Peucedanum officinale</i>) is a Nationally rare coastal-grassland umbellifer ('Umbrella shaped') plant growing to a height of around 2 metres.	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>It is not very saline-tolerant and although it is generally a coastal plant in the UK, it is always found in the landward zone above the upper saltmarsh. Managed realignment of the coastal zone and the changing maintenance of sea walls is also likely to result in encroachment of saltmarsh into the grassland habitat.</p> <p>Sufficient space should be provided to replicate grassland habitat with hog's fennel within nearby areas of land which are not at risk from sea level rise and coastal realignments.</p>	
Supporting habitat: structure/function	Soils, substrate and nutrient cycling	Maintain the properties of the underlying soil types, including structure, bulk density, total carbon, pH, soil nutrient status and fungal: bacterial ratio, within typical values for the supporting habitat	<p>Soil supports basic ecosystem function and is a vital part of the natural environment. Its properties strongly influence the colonisation, growth and distribution of those plant species which together form vegetation types, and therefore provides a habitat used by a wide range of organisms. Soil biodiversity has a vital role to recycle organic matter.</p> <p>Changes to natural soil properties may therefore affect the ecological structure, function and processes associated with the supporting habitat of this Annex II feature.</p>	RINGWOOD (2004)
Supporting habitat: structure/function	Vegetation structure - rough grassland containing hog's fennel and coarse grasses	Maintain an abundant population of mature Hog's Fennel plants, over three years old, at an optimum density of about 1 suitable plant per m ² , in a sward with coarse grasses, such as Cock's-foot, Couch and False-oat grass, at >20% cover.	Hog's Fennel is not very saline tolerant and will not survive more than very occasional inundation by the sea. Coarse grasses are also needed to provide the necessary egg-laying conditions.	RINGWOOD (2004)
Supporting processes (on which the feature and/or its supporting habitat relies)	Adaptation and resilience	Maintain the feature's ability, and that of its supporting habitat, to adapt or evolve to wider environmental change, either within or external to the site	<p>This recognises the increasing likelihood of supporting habitat features to absorb or adapt to wider environmental changes. Resilience may be described as the ability of an ecological system to cope with, and adapt to environmental stress and change whilst retaining the same basic structure and ways of functioning.</p> <p>Such environmental changes may include changes in sea levels, precipitation and temperature for example, which are likely to affect the extent, distribution, composition and functioning of a feature within a site. The vulnerability and response of features to such changes will vary.</p>	RINGWOOD (2004) NATURAL ENGLAND (2015)

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>Using best available information, any necessary or likely adaptation or adjustment by the feature and its management in response to actual or expected climatic change should be allowed for, as far as practicable, in order to ensure the feature's long-term viability.</p> <p>The overall vulnerability of this SAC to climate change has been assessed by Natural England (2015) as being high, taking into account the sensitivity, fragmentation, topography and management of its [habitats/supporting habitats]. This means that this site is considered to be the most vulnerable sites overall and are likely to require the most adaptation action, most urgently. A site based assessment should be carried out as a priority. This means that action to address specific issues is likely, such as reducing habitat fragmentation, creating more habitat to buffer the site or expand the habitat into more varied landscapes and addressing particular management and condition issues.</p> <p>Where areas of habitat are vulnerable to flooding and saltmarsh encroachment action should be taken to establish suitable habitat on higher ground, either by promoting natural colonisation through scrub clearance and provision of suitable grassland areas or by creating habitat through creating grassland and planting or seeding hog's fennel.</p>	
Supporting processes (on which the feature and/or its supporting habitat relies)	Air quality	Maintain concentrations and deposition of air pollutants at or below the site-relevant Critical Load or Level values given for the feature's supporting habitat on the Air Pollution Information System (www.apis.ac.uk).	<p>"The supporting habitat of this feature is considered sensitive to changes in air quality. Exceedance of these critical values for air pollutants may modify the chemical status of the habitat's substrate, accelerating or damaging plant growth, altering its vegetation structure and composition (including food-plants) and reducing supporting habitat quality and population viability of this feature.</p> <p>Critical Loads and Levels are recognised thresholds below which such harmful effects on sensitive UK habitats will not occur to a significant level, according to current levels of scientific understanding. There are critical levels for ammonia (NH₃), oxides of nitrogen (NO_x) and sulphur dioxide (SO₂), and critical loads for nutrient nitrogen deposition and acid deposition. There are currently no critical loads or levels for other pollutants such as Halogens, Heavy Metals, POPs, VOCs or Dusts. These should be considered as appropriate on a case-by-case basis.</p>	More information about site-relevant Critical Loads and Levels for this SAC is available by using the 'search by site' tool on the Air Pollution Information System (www.apis.ac.uk).

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			Ground level ozone is regionally important as a toxic air pollutant but flux-based critical levels for the protection of semi-natural habitats are still under development. It is recognised that achieving this target may be subject to the development, availability and effectiveness of abatement technology and measures to tackle diffuse air pollution, within realistic timescales.	
Supporting processes (on which the feature and/or its supporting habitat relies)	Conservation measures	Maintain the management measures (either within and/or outside the site boundary as appropriate) which are necessary to maintain the structure, functions and supporting processes associated with the feature and/or its supporting habitats. Maintain hog's fennel at 1001 - 3000 individual plants.	Active and ongoing conservation management is needed to protect, maintain or restore this feature at this site. See the Natura 2000 Site Improvement Plan, site management strategies or plans, the Views about Management Statement for the underpinning SSSI and/or management agreements. These small sites need checking and occasional scrub control and ensuring hogs fennel (<i>Peucedanum officinale</i>) is the dominant umbellifer and sometimes hand pulling other species such as Alexanders where they have become more dominant and the sward more rank. The Kent Moth Group and Butterfly Conservation are leading a project (Magnificent Moths) in 2018 which includes Fishers Estuarine Moth	RINGWOOD (2004) Natural England Site Management Statement 2010 (Available on request from Natural England)
Supporting processes (on which the feature and/or its supporting habitat relies)	Encroachment of scrub	Maintain a low cover of encroaching scrub within grassland habitat for Hog's Fennel	Scrub encroaching is resulting in a loss of suitable grassland habitat for the moth. There are efforts to control and reduce scrub at the worst affected sites.	RINGWOOD (2004)
Supporting processes (on which the feature and/or its supporting habitat relies)	Water quantity/ quality	Where the feature or its supporting habitat is dependent on surface water and/or groundwater, Maintain water quality and quantity to a standard which provides the necessary conditions to support the feature.	For many SAC features which are dependent on wetland habitats supported by surface and/or ground water, maintaining the quality and quantity of water supply will be critical, especially at certain times of year. Poor water quality and inadequate quantities of water can adversely affect the structure and function of this habitat type. Typically, meeting the surface water and groundwater environmental standards set out by the Water Framework Directive (WFD 2000/60/EC) will also be sufficient to support the achievement of SAC Conservation Objectives but in some cases more stringent standards may be needed to reflect the ecological needs of the species feature. Further site-specific investigations may be required to establish	NATURAL ENGLAND (2016) RINGWOOD (2004)

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>appropriate water quality standards for the SAC.</p> <p>As Fisher's estuarine moth spends its pupal and some of its larval life cycle stage below ground it may be affected by ground water levels.</p>	
Version Control Advice last updated: N/A				
Variations from national feature-framework of integrity-guidance: N/A				

References

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RINGWOOD Z .K, 2004. The Ecology and Conservation of *Gortyna borelii lunata* (Lepidoptera: Noctuidae) in Britain. *PhD thesis, University of Essex*. Available [here](#)