



**Crouch and Roach Estuaries  
Site of Special Scientific Interest  
Essex**

**Supporting Information**

***A supplement to the notification document***

Issued by Natural England's Essex Local Delivery Team on **2 November 2017**

## Contact points and further information

This supplement is issued on request by Natural England's Essex Local Delivery Team and is intended to be read in conjunction with the notification document for owners, occupiers and other notified parties. The address for correspondence is:

Natural England  
Essex Local Delivery Team  
Area Team 8 - Bedfordshire, Cambridgeshire, Essex, Hertfordshire and Northamptonshire  
Mail Hub  
County Hall  
Spetchley Road  
Worcester  
WR5 2NP

Telephone number: 07775 510193

E-mail: **Crouch.and.Roach.Estuaries@naturalengland.org.uk**

Your contact point for enquiries relating to this notification is **Charlie Williams**.

# Contents

## Summary

1. Information used to support the extension of Crouch and Roach Estuaries SSSI
2. Explanation of how the notification of additional land at Crouch and Roach Estuaries meets the SSSI selection guidelines
3. Assessment of the current condition of Crouch and Roach Estuaries SSSI
4. Selection of operations requiring Natural England's consent
5. Site unit map
6. Photographs and figures

## Summary

Crouch and Roach Estuaries was last notified as a Site of Special Scientific Interest (SSSI) on 11 April 1996. The SSSI has been extended to include two areas of additional land at Allfleet's Marsh on the northern shore of Wallasea Island and at Brandy Hole in the upper Crouch. In both locations, intertidal and saltmarsh habitats have developed following managed realignments of sea defences.

The SSSI is of special interest for its:

- Lowland ditch systems
- Saltmarsh communities
- Aggregations of the following species of waterbird during the non-breeding season:
  - Dark-bellied brent goose *Branta bernicla bernicla*
  - Shelduck *Tadorna tadorna*
  - Shoveler *Anas clypeata*
  - Lapwing *Vanellus vanellus*
  - Golden plover *Pluvialis apricaria*
  - Dunlin *Calidris alpina*
  - Black-tailed godwit *Limosa limosa*
  - Redshank *Tringa totanus*
- Invertebrate assemblage
- Vascular plant assemblage

Allfleet's Marsh (Wallasea Island) and Brandy Hole both support intertidal habitats and developing saltmarsh communities, as well as adjacent lowland ditch systems, which are similar to the habitats within the previously notified SSSI. They contribute to supporting elements of the full range of special interest features listed above. In particular, both additional areas of land include habitats which contribute to supporting the important aggregations of non-breeding waterbirds for which the site is of special interest.

## 1. Information used to support the extension of Crouch and Roach Estuaries SSSI

Feature	Data Source	Author	Date	Content
General	Hullbridge Tidal Defence Scheme Ecological Mitigation Report May 2002. (Unpublished report for Environment Agency Anglian region)	Halcrow Group Ltd	2002	Realignment scheme mitigation at Brandy Hole
	Allfleet's Marsh (formerly Wallasea Wetland) Monitoring Programme (April 2006 to August 2011): Non-Technical Summary and Appendices 1 to 7. (Unpublished report prepared for Defra)	Jacobs UK	2012	Monitoring data for extension areas at Allfleet's Marsh
	Guidelines for the Selection of Biological SSSIs. Part 1: Rationale, Operational Approach and Criteria for Site Selection. Joint Nature Conservation Committee, Peterborough	Bainbridge, I., Brown, A., Burnett, N., Corbett, P., Cork, C., Ferris, R., Howe, M., Maddock, A. & Pritchard, S. (eds)	2013	National selection guidelines for biological SSSIs
Birds	Guidelines for the selection of biological SSSIs. Part 2: Detailed Guidelines for Habitats and Species Groups. Chapter 17: Birds. Joint Nature Conservation Committee, Peterborough	Drewitt, A.L., Whitehead, S. & Cohen, S.	2015	Guidelines for selection of biological SSSIs for bird features
	Wetland Bird Survey (WeBS) data 2009/10 – 2013/14 for Crouch and Roach Estuaries. Report from WeBS database.	British Trust for Ornithology	2015	Data on bird usage of the SSSI site and the SSSI extensions
	Waterbirds in the UK 2013/14: The Wetland Bird Survey. BTO/RSPB/JNCC. Thetford	Holt, C.A., Austin, G.E., Calbrade, N.A., Mellan, H.J., Hearn, R.D., Stroud, D.A., Wotton, S.R. & Musgrove, A.J.	2015	Annual report from wetland bird survey
	Specialist support for the notification of additional land in the Crouch and Roach Estuaries SSSI	Drewitt, A.	2015	Support for the notification from Natural England's senior ornithologist

## 2. Explanation of how the notification of additional land at Crouch and Roach Estuaries meets the SSSI selection guidelines

This section explains how the information listed in section 1 has informed our decision to notify the additional land, according to the *Guidelines for the selection of biological SSSIs Part 1: Rationale, Operational Approach and Criteria for Site Selection* (JNCC 2013); and *Part 2: Detailed Guidelines*

for Habitats and Species Groups. Chapter 17: Birds (Drewitt et al. 2015), hereafter referred to as 'the Guidelines'.

## 2.1 Aggregations of non-breeding birds

The Guidelines (Part 2, Chapter 17, section 3.3) state that:

*'Localities which regularly support 1% or more of the total British non-breeding population of any native species in any season and non-breeding waterbird assemblages of over 20,000 individuals will qualify for SSSI selection.'*

The SSSI (including the additional land) continues to be of special interest for its important numbers of waterbirds in the non-breeding season; specifically dark-bellied brent goose *Branta bernicla bernicla*, shelduck *Tadorna tadorna*, shoveler *Anas clypeata*, lapwing *Vanellus vanellus*, golden plover *Pluvialis apricaria*, dunlin *Calidris alpina*, black-tailed godwit *Limosa limosa* and redshank *Tringa totanus*.

The Guidelines (Part1, section 8.9) state that:

*'Intertidal areas...usually present relatively few problems in boundary definition...Ornithological requirements usually reinforce the need to select the whole of major systems.'*

The managed realignment sites (where the sea defences have been set back to allow tidal inundation and the development of intertidal and coastal vegetation communities) at Allfleet's Marsh (Wallasea Island) and Brandy Hole (upper Crouch) both support intertidal habitats and developing saltmarsh communities, as well as adjacent lowland ditch systems, which are similar to the habitats within the previously notified SSSI (see photographs 2-7 in section 6). Both sites are integral parts of the Crouch and Roach Estuaries system (see aerial view in photograph 1, section6), both in terms of the structure and function of coastal processes and in providing habitats for key species.

Table 1 shows the use of the additional land by each of the non-breeding waterbird species for which the site is of special interest. Allfleet's Marsh, Wallasea Island is an individual count sector covered by the Wetland Bird Survey (WeBS). Brandy Hole is not a WeBS count sector in its own right but falls within the 'Upper Crouch Estuary' count sector and provides important areas of the intertidal and saltmarsh habitats that are used by the key waterbirds.

**Table 1 Crouch and Roach Estuaries SSSI waterbird counts 2009/10 – 2013/14**

Species	Crouch and Roach Estuaries SSSI, including extensions	Allfleet's Marsh, Wallasea Island		Upper Crouch Estuary, including Brandy Hole	
	Mean peak	Mean peak	% of SSSI total	Mean peak	% of SSSI total
Black-tailed godwit	1,096	302	28%	303	28%
Dark-bellied brent goose	3,850	933	24%	1,317	34%
Dunlin	3,714	1,666	45%	1,294	35%
Golden plover	3,877	1,271	33%	382	10%
Lapwing	6,521	1,198	18%	1,315	20%
Redshank	1,808	493	27%	467	26%
Shelduck	898	415	46%	122	14%
Shoveler	431	19	4%	30	7%

These data show that Allfleet's Marsh, Wallasea and the Upper Crouch Estuary sector, including the Brandy Hole extension, each support very significant proportions of the SSSI's nationally important aggregations of waterbirds. The numbers of dark-bellied brent geese using each area are of national importance in their own right.

### 3. Assessment of the current condition of Crouch and Roach Estuaries SSSI

The previously notified SSSI is divided into 58 site units, of which 16 are assessed as being in a 'favourable' condition, 41 are in 'unfavourable – recovering' condition and the remaining unit (55) is in 'unfavourable – no change' condition. The additional land is within site units 59 (Brandy Hole) and 60 (Allfleet's Marsh, Wallasea), the current condition of which is shown in table 2.

**Table 2 Assessment of the current condition of the additional land**

Site unit*	Interest features	Reported condition**	Date of last assessment
59	Non-breeding birds	Favourable	17/12/2015
60	Non-breeding birds, invertebrates	Favourable	17/12/2015

\* **Site units** are divisions used by Natural England for administrative purposes only.

**\*\* Reported condition**

SSSIs are notified because of special biological or geological features. When these features are being managed so that their special nature conservation interest is being maintained they are reported to be in a favourable condition. This is a United Kingdom standard and the terminology and definitions are more fully described in *A Statement on Common Standards Monitoring*, produced by the Joint Nature Conservation Committee (JNCC) in 1998.

#### 4. Selection of ‘Operations Requiring Natural England’s Consent’

Natural England selects operations from a master list when determining the list of operations requiring consent for individual SSSIs. The selection is based on the likelihood that the operations may cause damage to the special features that are the reasons for notification of the SSSI. As well as selecting operations from the master list, the precise wording of each operation may be tailored to suit the particular circumstances at the site.

It is not possible to predict every possible eventuality that may arise on a site but the aim is to identify all operations where it is reasonably predictable that, if carried out at certain times or in a particular manner somewhere within the SSSI, they are likely to damage the special interest features. The table below records at least one reason justifying the inclusion of each operation in the list for the additional land in the Crouch and Roach Estuaries SSSI. It is not intended to be exhaustive and in most cases there will be other ways in which the specified operation is likely to cause damage

<b>Standard reference number</b>	<b>Type of operation</b>	<b>At least one reason for listing</b>
1.	Cultivation, including ploughing, rotovating, harrowing, and re-seeding.	Important habitats could be destroyed.
2.	Grazing and changes in the grazing regime (including type of stock or intensity or seasonal pattern of grazing).	Important habitats sensitive to over-grazing.
3.	Stock feeding and changes in stock feeding practice.	Could lead to localised nutrient enrichment or poaching which would damage important habitats.
4.	Mowing or other methods of cutting vegetation and changes in the mowing or cutting regime (including hay making to silage).	Inappropriate mowing can damage or destroy the structural diversity of important habitats.
5.	Application of manure, fertilisers and lime.	Important habitats sensitive to nutrient enrichment.
6.	Application of pesticides, including herbicides (weed killers).	Important habitats and associated flora/fauna all sensitive to these.
7.	Dumping, spreading or discharge of any materials.	Risk of obscuring/smothering important habitats.
8.	Burning and changes in the pattern or frequency of burning.	Burning could damage or destroy features of interest.
9.	The release into the site of any wild, feral or domestic animal*, plant or seed.	Can lead to damage to important habitats and disruption of key species.
10.	The killing or removal of any wild animal*, including pest control.	Could lead to changes in community composition or direct loss of key species.
11.	The destruction, displacement, removal or cutting of any plant or plant remains (including e.g. tree, shrub, herb, hedge, dead or decaying wood, moss, lichen, fungus, leaf-mould turf etc.)	Risk of direct or incidental damage to important habitats.
12.	Tree and/or woodland management+ and changes in tree and/or woodland management+.	Risk of direct and incidental damage to habitats and features of interest.
13a.	Drainage (including moor-gripping and the use of mole, tile, tunnel or artificial drains).	Could directly damage or destroy wetland features.
13b.	Modification of the structure of watercourses (e.g. rivers, streams, springs, ditches, dykes, drains), including their banks and beds, as by re-alignment, re-grading and dredging.	Maintenance of water supply is crucial to the conservation of ditch systems and wetland habitats.

<b>Standard reference number</b>	<b>Type of operation</b>	<b>At least one reason for listing</b>
13c.	Management of aquatic and bank vegetation for drainage purposes.	Risk of direct and incidental damage to interest features and adjacent habitats.
14.	The changing of water levels and tables and water utilisation (including irrigation, storage and abstraction from existing water bodies and through boreholes).	Maintenance of water supply is crucial to the conservation of ditch systems and wetland habitats.
15.	Infilling of ditches, dykes, drains, ponds, marshes or pits.	Could directly damage features or lead to changes in hydrology.
16a.	Freshwater fishery production and/or management, and changes in freshwater fishery production and/or management (including sporting fishing and angling).	Risk of incidental damage or disturbance to key habitats and species, as well as changes in wetland community composition.
16b.	Coastal fishing or fisheries management and seafood or marine life collection and changes in coastal fishing practice or fisheries management and seafood or marine life collection (including the use of traps or fish cages).	Risk of incidental damage or disturbance to important habitats and species.
17.	Reclamation of land from sea, estuary or marsh.	Loss of important habitats and disruption of coastal processes.
18.	Bait digging in intertidal areas.	Disturbance of water birds.
19.	Erection of sea defences or coast protection works, including cliff or landslip drainage or stabilisation measures.	Direct loss of important habitats and disruption of estuarial processes.
20.	Extraction of minerals, including peat, shingle, sand and gravel, topsoil, subsoil, shells and spoil.	Could directly damage features or lead to changes in hydrology.
21.	Construction, removal or destruction of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks, or the laying, maintenance or removal of pipelines and cables, above or below ground.	Direct loss of or incidental damage to important habitats and associated flora/fauna.
22.	Storage of materials.	Risk of obscuring/smothering important habitats and associated flora/fauna.
23.	Erection of permanent or temporary structures, or the undertaking of engineering works, including drilling.	Direct loss of or incidental damage to important habitats and associated flora/fauna.
26.	Use of vehicles or craft likely to damage or disturb features of interest.	Damage to soils and vegetation and disturbance of key species.
27.	Recreational or other activities likely to damage features of interest.	Risk of damage to important habitats and disturbance of associated species.
28.	Game and waterfowl management and hunting practices and changes in game and waterfowl management and hunting practice.	Inappropriate location and types could damage important habitats, lead to unforeseen changes in community composition and disturb species.

\* 'animal' includes any mammal, reptile, amphibian, bird, fish or invertebrate.

+ including afforestation, planting, clear and selective felling, thinning, coppicing, modification of the stand or underwood, changes in species composition



## **5. Site unit map**

The map on the following page shows the boundaries of the site units, which are divisions used by Natural England for administrative purposes only. The additional land is within units 59 (Brandy Hole) and 60 (Allfleet's Marsh, Wallasea Island).





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**6. Photographs**

**Photograph 1:**

**Aerial view of Crouch and Roach SSSI outlined in red**

**Scale (at A4): 1:125,000**

Map produced by Denise Rose,  
Terrestrial & Biodiversity Team  
Date: 14/01/2016.



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**Photo 2:** Central section of Allfleet's Marsh, Wallasea, looking north from new seawall at grid reference TQ96339446 across saltmarsh and mudflat to old, breached seawall (June 2015).



**Photo 3:** Eastern section of Allfleet's Marsh, Wallasea, looking north-east from new seawall at grid reference TQ96899448, across saltmarsh and mudflat to the old, breached seawall (June 2015).



**Photo 4:** View west from grid reference TQ96429444 along the brackish borrow dyke behind the new seawall at Allfleet's Marsh, Wallasea, with emergent saltmarsh species (June 2015).



**Photo 5:** North part of Brandy Hole, looking south from old seawall at grid reference TQ83029558 across mid/upper saltmarsh to coarse grassland/scrub on rising ground beyond (June 2015).



**Photo 6:** South part of Brandy Hole, viewed south-east from grid reference TQ83079533 across sea-couch zone to mid/upper saltmarsh, with old, breached seawall beyond (June 2015).



**Photo 7:** Pond on higher ground at Brandy Hole (grid reference TQ83089544) with sea and grey club-rushes, common reed, reed sweet-grass and other aquatic plants (June 2015).

