Dearne Valley Wetlands SSSI

South Yorkshire

Supporting Information

Issued by Natural England's Yorkshire and northern Lincolnshire Area Team on **13 May 2021**

Contact points and further information

This supplement is issued on request by Natural England's Yorkshire and northern Lincolnshire Area Team and is intended to be read in conjunction with the notification document for owners, occupiers and other notified parties.

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Summary

Dearne Valley Wetlands SSSI is notified under section 28 of the Wildlife and Countryside Act 1981.

Once at the heart of the South Yorkshire coalfield, the Dearne Valley, near Barnsley, comprises former mining settlements set in a mosaic of farmland, woodland, wetland and floodplain habitats. Large areas of open water and associated habitats along the River Dearne have been created as a result of post-industrial restoration and these now support substantial bird interest. This SSSI notification recognises this key environmental asset within this socially and economically deprived area, for the benefit of local people and wildlife.

Dearne Valley Wetlands SSSI is of special interest for its:

- non-breeding gadwall *Mareca strepera* and shoveler *Spatula clypeata*.
- breeding gadwall *Mareca strepera*, shoveler *Spatula clypeata*, garganey *Spatula querquedula*, pochard *Aythya ferina*, black-headed gull *Chroicocephalus ridibundus* and bittern *Botaurus stellaris*.
- assemblages of breeding birds of: Lowland damp grasslands; Lowland scrub; and a mixed assemblage of Lowland open waters and their margins and Lowland fen.
- breeding willow tit *Poecile montanus klienschmidti*.

1. Information used to support the selection of Dearne Valley Wetlands SSSI

Feature	Data source	Author	Date	Content
Breeding and non-breeding birds	Guidelines for the Selection of Biological SSSIs. Part 1: Rationale, Operational Approach and Criteria for Site Selection. JNCC, Peterborough. Published online: https://jncc.gov.uk/our-work/guidelines-for-selection-of-sssis/	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.
	Breeding Bird Surveys. (Available on request.)	RSPB	2014 - 2018	Annual breeding bird surveys of RSPB land within Dearne Valley Wetlands.
	Breeding Bird Surveys. (Available on request.)	Garganey Trust	2014 - 2018	Annual breeding bird surveys of Garganey Trust land within Dearne Valley Wetlands
	Carlton Marsh Local Nature Reserve Natural History Reports	Gorman, C. & Smith, D.M. Published by Barnsley Metropolitan Borough Council.	2014 - 2018	Annual Natural History Reports with records of breeding and wintering birds at Carlton Marsh within Dearne Valley Wetlands
	Biological Records Centre	Barnsley Biological Records Centre	2014 - 2018	Breeding and wintering bird records within the Dearne Valley Wetlands.
	Wetland Bird Survey	British Trust for Ornithology (BTO)	2013/14 - 2017/18	Annual Wetland Birds survey results
	Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 108: 708–746. http://britishbirds.co.uk/wp-content/uploads/2014/07/BoCC4.pdf	Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R.D., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D.A. & Gregory, R.D.	2015	Fourth review of the status of birds in the UK etc. showing trends in population, range, rarity, localised distribution.

Feature	Data source	Author	Date	Content
	Population estimates of birds in Great Britain and the United Kingdom. *British Birds* **113**: 69-104. https://www.bto.org/sites/default/files/publications/apep4-population-estimates-birds-great-britain-uk-2020.pdf	Woodward, I., Aebischer, N., Burnell, D., Eaton, M., Frost, T., Hall, C., Stroud, D. & Noble, D.	2020	Fourth 'Avian Population Estimates Panel' assessment (APEP 4) of breeding and wintering bird populations in UK and GB.
	Guidelines for the Selection of Biological SSSIs. Part 2: Detailed Guidelines for Habitats and Species Groups. Chapter 17 Birds. https://data.jncc.gov.uk/data/16bd76ad-bb74-4724-9e06-5df02b459524/SSSI-Guidelines-17-Birds-2020revised-A.pdf	Drewitt, A. L., Whitehead, S. & Cohen, S.	2020	National selection guidelines for bird features of biological SSSIs.
	The State of the UK's Birds 2020 https://www.bto.org/our-science/publications/state-uks-birds/state-uks-birds-2020	Burns F., Eaton M. A., Balmer D. E., Banks A., Caldow R., Donelan J. L., Douse A., Duigan C., Foster S., Frost T., Grice P. V., Hall C., Hanmer H. J., Harris S. J., Johnstone I., Lindley P., McCulloch N., Noble D. G., Risely K., Robinson R. A.	2020	Annual overview of the status of breeding and non-breeding bird species in the UK and its Overseas Territories.
	Home range and habitat suitability of willow tits *Poecile montanus* in the Dearne Valley. RSPB, Sandy.	Bellamy P., Kirby W., Hartwell V., Wetherhill A.	2020	Project to identify the habitat requirements of willow tit within the Dearne Valley.
	Annual breeding bird surveys undertaken at Old Moor reserve. (Available on request.)	RSPB	2017-2021	Annual breeding bird surveys at Old Moor.
	Annual Reserves Monitoring (Available on request.)	RSPB	2021	ARM monitoring database.
	Rare Breeding Birds in the UK (Available on request.)	Rare Breeding Birds Panel	2021	Breeding bird data
	Specialist support for notification of Dearne Valley Wetlands as a SSSI.	Drewitt A.	2021	Support from Natural England senior specialist in ornithology.

2. Explanation of how Dearne Valley Wetlands meets the SSSI selection guidelines

This section explains how the information listed in Section 1 has informed the decision to notify the SSSI, according to the *Guidelines for the selection of Biological SSSIs. Part 1: Rationale, Operational Approach and Criteria for Site Selection* (Bainbridge *et al.,* 2013), and *Part 2: Detailed Guidelines for Habitats and Species Groups. Chapter 17: Birds* (Drewitt *et al.,* 2020) hereafter referred to as 'the Guidelines'.

2.1 Non-breeding birds

The Guidelines (Chapter 17, section 3.3, p5) state that:

> *'Localities which regularly support 1% or more of the total British non-breeding population of any native species in any season… will qualify for SSSI selection'.*

Table 1 presents a summary of information gathered under the BTO Wetland Bird Survey (WeBS) from 2013/14 to 2017/18. This annual monitoring of non-breeding waterbirds shows that the SSSI regularly supports nationally important numbers of both non-breeding gadwall and shoveler.

During the five-year period 2013/14 to 2017/18 the SSSI supported a five-year mean of 582 gadwall, representing 1.9% of the GB population of 31,000 individuals, and 247 shoveler, representing 1.3% of the GB population of 19,000 individuals (Woodward et al. 2020).

Table 1: Five-year peak mean counts of non-breeding gadwall and shoveler recorded in Dearne Valley Wetlands SSSI 2013/14-2017/18

Species	Count (5-year peak mean)	GB population[1]	% of GB population
Gadwall - *Mareca strepera*	582	31,000	1.9%
Shoveler - *Spatula clypeata*	247	19,000	1.3%

This demonstrates that the SSSI regularly supports numbers of non-breeding gadwall and shoveler that exceed the site selection threshold of 1% of the total British non-breeding population, thus meeting the requirements of the Guidelines.

2.2 Aggregations of breeding birds

The Guidelines (Chapter 17, section 3.2, p4) state that:

> '*Localities which regularly support 1% or more of the total British breeding population of any native species…will qualify for SSSI selection'.*

Count data from the five-year period 2014-2018 have been used for the majority of species because these are the years for which comprehensive site-level data are available. Additional stand-alone data are available for breeding bittern (2017-2021) at Old Moor RSPB reserve and these are presented to provide the best available data for that species. The majority of the breeding bird data have been provided by the RSPB as part of their Annual Reserves Monitoring (ARM) System.

Table 2 presents a summary of the annual monitoring of breeding waterbirds gathered by the RSPB, the Garganey Trust, Barnsley Metropolitan Borough Council, and data from the Barnsley

[1] As published in APEP 4 – Population estimates of birds in Great Britain and the United Kingdom 2020.

Biological Records Centre, between 2014 and 2018. This shows that the SSSI regularly supports nationally important numbers of five breeding species.

During the five-year period 2014 to 2018 the SSSI supported a five-year mean of 77 pairs of gadwall, representing 3.5% of the GB population of 1,250-3,150 pairs; 14 pairs of shoveler representing 1.3% of the GB population of 1,100 pairs; 15 pairs of pochard, representing 2.2% of the GB population of 695 pairs; 1-2 pairs of garganey, representing 1-2% of the GB population of 103 pairs; and 2,645 pairs of black-headed gull, representing 2% of the GB population of 130,000 pairs (Woodward *et al.,* 2020).

Table 2: Counts of nationally important numbers of breeding gadwall, shoveler, pochard, garganey and black-headed gull recorded in Dearne Valley Wetlands SSSI 2014-2018.

Species	Count (breeding pairs)	GB Population[2]	% of GB population
Gadwall - *Mareca strepera*	77	1,250-3,150	3.5%
Shoveler - *Spatula clypeata*	14	1,100	1.3%
Pochard - *Aythya ferina*	15	695	2.2%
Garganey - *Spatula querquedula*	1-2	103	1-2%
Black-headed gull - *Chroicocephalus ridibundus*	2,645	130,000	2%

This demonstrates that the SSSI regularly supports numbers of breeding gadwall, shoveler, pochard, garganey, and black-headed gull that meet or exceed the site selection threshold of 1% of the total British breeding population, thus meeting the requirements of the Guidelines.

During the five-year period 2017-2021 the SSSI supported a five-year mean of 2 booming male bitterns (see Table 3), representing 1% of the GB population of 191 males (Woodward 2020). The numbers of bitterns in the SSSI have increased in response to the creation and improvement of nesting habitats and a consequent high level of breeding productivity. Although preliminary, data from March 2021 are included as they are subject to the same survey methodology and verification as earlier data and are therefore considered reliable.

Table 3 Counts of booming male bitterns recorded in the Dearne Valley Wetlands SSSI 2017-2021

Species	2017	2018	2019	2020	2021	Mean
Bittern - *Botaurus stellaris*	1	1	2	3	3	2

This demonstrates that the SSSI regularly supports numbers of breeding bittern that meet or exceed the site selection threshold of 1% of the total British breeding population, thus meeting the requirements of the Guidelines.

[2] As published in APEP 4 – Population estimates of birds in Great Britain and the United Kingdom 2020.

2.3 Rare species and features

The Guidelines (Chapter 17, section 3.6, p5) state that:

> *"Consideration should also be given to the selection of regularly used sites with unique or unusual features and rare and declining species… Locations with high numbers and/or densities of rapidly declining and localised bird species, which are included on (i) the country-level lists of species of principal importance/highest priority for the conservation of biological diversity (as defined by the lists established under Sections 41/42 of the Natural Environment and Rural Communities Act 2006 (England/ Wales)… or (ii) Red-listed in the UK Birds of Conservation Concern (Eaton et al 2009) and which are poorly covered by SSSIs, should also be considered for selection."*

In the five-year period from 2014 to 2018 the mean figures for willow tit populations (Rare Breeding Birds Panel, 2021) show that the five largest populations were in: Yorkshire (120 breeding pairs), Greater Manchester (83 pairs), Durham (73 pairs), Derbyshire (40 pairs), and Staffordshire (37 pairs). Between 2014 and 2018 Dearne Valley Wetlands supported an estimated 18 to 20 breeding pairs of willow tit. The SSSI is therefore an important location for the species in South Yorkshire and nationally. Notification will help to secure essential habitat management and effective monitoring for the species which would not necessarily be provided otherwise.

The willow tit is listed as a 'species of principal importance for the conservation of biodiversity in England' under Section 41 of the Natural Environment and Rural Communities Act (2006) and is classed as Red-listed (i.e. a species of the highest conservation concern) in the 'UK Birds of Conservation Concern' (Eaton *et al*., 2015). Between 1970 and 2018 the GB population declined by 94%, its current estimated population being 2,750 pairs (Burns *et al*., 2020).

The only other SSSI with breeding willow tit as a separate feature is Mid-Cornwall Moors SSSI where surveys have located around five pairs.

Dearne Valley Wetlands SSSI is therefore selected because:

a) the site supports a high number of willow tit.
b) willow tit is a rapidly declining species of principal importance for the conservation of biological diversity; and
c) willow tit is a Red-listed species that is poorly covered by SSSIs.

2.4 Breeding bird assemblages

The Guidelines (Chapter 17, section 3.8, p5) state that:

> *'Localities which support an especially good range of bird species characteristic of a particular habitat as defined by an index value, will qualify for SSSI selection'*.

Annex 1 of the same chapter (Part 2, Chapter 17, p10) states that:

> *'…if two habitats are included in one well-defined site, the indices for species which are on both habitat lists and have been recorded for the site should be double-counted; other species score in the usual way; for the site to qualify on this basis, its total score should exceed the qualifying threshold value for the two habitats combined'.*

Thus, to qualify for selection each assemblage must reach a specified site threshold value. Species scores and threshold index values are provided in Annex 1 to Chapter 17 of the Guidelines.

To satisfy the SSSI selection guidelines it is necessary to establish at least probable breeding for each assemblage species contributing to the site index total. The breeding status of all relevant species for each discrete location within the SSSI has been established and numbers of pairs or territories are recorded. Data were largely collected during the period 2014-2018 and the majority of species were recorded as breeding in each year. Additionally, more recent data have been

employed for bearded tit (see Table 4) in order to justify inclusion of this species in two breeding bird assemblages. The majority of the breeding bird data have been provided by the RSPB as part of their Annual Reserves Monitoring (ARM) System.

Four breeding bird assemblages are present in the SSSI:

- Lowland damp grassland.
- Lowland open water and their margins.
- Lowland fen.
- Lowland scrub.

Although both the 'Lowland open water and their margins' assemblage and 'Lowland fen' assemblage qualify as individual features they have been combined to form a 'Mixed' assemblage. This reflects the importance of both habitat types to wetland breeding birds, with many species dependent on an intricate mosaic of both open water and adjacent areas of reed bed as well as isolated areas of fen. The 'Lowland damp grassland' and 'Lowland scrub' assemblages remain separate features as they are generally represented by discrete blocks of habitat, separate from or adjacent to the other assemblage habitats.

Following an established protocol, the site index threshold values for the Lowland open water and Lowland fen assemblages have been summed to create a combined index value, and probable or confirmed breeding species have been counted twice when present in both assemblages. The Lowland damp grassland, Lowland scrub and Mixed assemblages all exceed the relevant site index thresholds for SSSI notification (see below).

Table 4 Breeding bird assemblages of the Dearne Valley Wetlands SSSI showing individual species scores and overall SSSI scores for confirmed or probable breeding species during 2014-2018 and breeding annually (unless otherwise specified).

Species	Lowland damp grassland	Mixed		Lowland scrub	Comment
		Lowland open water and their margins	Lowland Fen		
Avocet, *Recurvirostra avosetta*		3			Up to 15 pairs; confirmed breeding
Bearded tit, *Panurus biarmicus*		4	4		1-4 pairs 2017-2020 at Old Moor; confirmed breeding
Bittern, *Botaurus stellaris*		4	4		Confirmed breeding with 1-3 booming males annually at Old Moor (see Table 3).
Bullfinch, *Pyrrhula pyrrhula*				1	Up to 30 pairs; confirmed breeding
Cetti's warbler, *Cettia cetti*		3	3		Up to 5 pairs 2016-2018; confirmed breeding
Common tern, *Sterna hirundo*		2.5			2 pairs; confirmed breeding at Old Moor
Cuckoo, *Cuculus canorus*	2.5	2.5	2.5	2.5	Up to 4 territories 2014, 2015 and 2018; probable breeding
Gadwall, *Mareca strepera*	3	3			See table 2; confirmed breeding

Garden warbler, *Sylvia borin*				1	Up to 10 pairs; multiple years at several locations; probable breeding
Garganey, *Spatula querquedula*	4.5	4.5			See table 2; probable breeding
Grasshopper warbler, *Locustella naevia*	3	3	3	3	Up to 9 pairs/territories; multiple years at many locations; probable breeding
Great crested grebe, *Podiceps cristatus*		3			Up to 9 pairs; confirmed breeding
Grey wagtail, *Motacilla cinerea*		2			1 pair; multiple years at Carlton Marsh; abandoned nest in 2018; probable breeding
Kingfisher, *Alcedo atthis*		3			Up to 7 pairs; multiple years at several locations; probable breeding
Lapwing, *Vanellus vanellus*	2				Up to 90 pairs; confirmed breeding
Lesser whitethroat, *Sylvia curruca*				2	Up to 17 pairs/territories; multiple years at many locations; probable breeding
Linnet, *Carduelis cannabina*				1	Up to 25 pairs; multiple years at many locations; probable breeding
Little grebe, *Tachybaptus ruficollis*		3			Up to 38 pairs; multiple years at many locations; confirmed breeding
Little ringed plover, *Charadrius dubius*		3			Up to 4 pairs; multiple years at several locations; probable breeding
Long-eared owl, *Asio otus*				3	2-3 territories at three locations; probable breeding
Long-tailed tit, *Aegithalos caudatus*				1	c.10 pairs; confirmed breeding
Mute Swan, *Cygnus olor*	3	3			2 pairs; confirmed breeding
Pochard, *Aythya ferina*	4	4			See table 2; confirmed breeding
Redshank, *Tringa tetanus*	2	2			Up to 25 pairs; confirmed breeding
Reed bunting, *Emberiza schoeniculus*	1	1	1		Up to 136 pairs; multiple years at several locations; probable breeding
Reed warbler, *Acrocephalus scirpaceus*		1	1		Up to 169 pairs; multiple years at several locations; probable breeding
Sedge warbler, *Acrocephalus schoenobaenus*	1	1	1		Up to 72 pairs; multiple years at several locations; probable breeding

Shelduck, *Tadorna tadorna*	3	3			1 pair; confirmed breeding
Shoveler, *Spatula clypeata*	3	3			See table 2; confirmed breeding
Snipe, *Gallinago gallinago*	2	2			Up to 13 pairs/territories; multiple years at several locations; probable breeding
Tufted duck, *Aythya fuligula*		2			Up to 71 pairs; confirmed breeding
Water rail, *Rallus aquaticus*		3	3		Up to 40 pairs/territories; multiple years at several locations; probable breeding
Willow tit, *Poecile montanus klienschmidti*		3		3	18-20 pairs; multiple years at several locations; probable breeding
Yellow wagtail, *Motacilla flava* subsp. *flavissima*	2	2			Up to 5 pairs; at several locations; probable breeding
Yellowhammer, *Emberiza citrinella*				1	Up to 20 pairs; multiple years at several locations; probable breeding
Threshold index value	**25**	**63 (47+16)**		**14.5**	
Site score	**36**	**96 (73.5 + 22.5)**		**18.5**	

The above demonstrates that the assemblages of breeding birds of Lowland damp grassland, Lowland scrub, and the Mixed assemblage of Lowland open waters and their margins and Lowland fen, all exceed the relevant site index threshold values for SSSI notification.

2.5 Site boundary determination

The Guidelines (Part 2, Chapter 3, section 5.1, p.10) state:

> *"SSSI boundaries should be drawn to encompass the special features of the site and all land necessary to ensure the protection and sustainability of those features…Consideration should be given to the inclusion of whole management units, entire ecological units and land required for supporting processes, such as hydrology."*

The boundary of Dearne Valley Wetlands SSSI has been drawn to include land supporting the features of special interest and those areas required to ensure the long-term sustainability of these features. This includes a network of locations containing large areas of open water and associated habitats such as marginal vegetation, reedbed, fen, wet grassland, scrub and wet woodland which are important feeding and breeding sites for the bird features.

The boundary has been drawn to fixed features that are easily identifiable on the ground such as ditches, fences, river edges and hedgerows. In some locations no Ordnance Survey boundary feature is present and where this is the case the boundary has been drawn between clear habitat divides. If there are no easily identifiable features of habitat divides, then straight lines between two points have been drawn. Grid-reference points have been provided where necessary to help with the interpretation of some boundaries.

Most of the larger components of the site support the SSSI's breeding and non-breeding waterbird features. The remaining sites (often smaller and more widely separated) support habitats important for breeding willow tit. The selection criteria are described in more detail below.

2.5.1 Breeding and non-breeding waterbirds

These breeding and non-breeding features rely on a range of suitable habitats for all or part of their life cycles.

Bird and habitat survey data has been used to select sites based on:

- the presence of habitat such as open water, marginal habitats, fens, extensively grazed wet grassland, scrub and wet woodland;
- habitat that has contributed to the support of breeding or non-breeding features over the period 2014-2018, or more recently where data is available; and
- habitat that supports connectivity between component sites to allow features to exploit feeding opportunities across the whole SSSI.

2.5.2 Willow tit

Site selection for breeding willow tit has been informed by extensive surveys undertaken since 2015, including the radio tracking of individuals to determine their habitat choice (Bellamy 2020). Habitat structure, wetness and tree species composition are important factors for site selection with respect to willow tit, the species having a preference for wet or semi-wet woodland habitats that contain dead and rotting wood for nest sites. Surveys have shown that within the Dearne Valley willow tit home ranges vary between 1.6 and 7ha with individual birds traveling up to 4km over three days.

Based on survey and radio-tracking data, areas of land selected for inclusion within the SSSI to support willow tit include areas of suitable habitat that:

- have supported breeding territories in two or more years;
- are over the minimum home range size of 1.6 ha; and
- have supported breeding territories and that act as stepping stones to ensure the connectivity of suitable habitats (allowing movement between areas of habitat and, potentially, throughout the wider site as a whole).

The above demonstrates the requirement for a network of sites to support the SSSI bird features and justifies the inclusion of separate areas within the boundary.

3. Assessment of the current condition of Dearne Valley Wetlands SSSI

Site units*	Interest features	Reported condition**	Assessment Date
2, 4, 15, 17, 19	Non-breeding gadwall	Favourable	March 2020
2, 4, 15, 17, 19	Non-breeding shoveler	Favourable	March 2020
2, 4, 6, 7, 10, 11, 15, 17, 19	Breeding gadwall	Favourable	March 2020
4, 6, 7, 11, 15, 17, 19	Breeding shoveler	Favourable	March 2020
6, 10, 19	Breeding garganey	Favourable	March 2020
11, 15, 17	Breeding pochard	Favourable	March 2020
11, 15, 17	Breeding black-headed gull	Favourable	March 2020
17	Aggregations of breeding birds - bittern	Favourable	March 2020
1, 2, 3, 5, 8, 9, 13, 14, 16, 17, 18, 20, 21, 22	Breeding willow tit	Favourable	March 2020
1, 2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 15, 17, 18, 19, 20, 22	Breeding bird assemblage of lowland open waters and their margins and lowland fen	Favourable	March 2020
2, 4, 6, 7, 10, 11, 12, 15, 17, 19	Breeding bird assemblage of lowland damp grassland	Favourable	March 2020
1, 2, 3, 5, 8, 9, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22	Breeding bird assemblage of lowland scrub	Favourable	March 2020

*** 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 said to be in favourable condition. This is a United Kingdom standard and the terminology and definitions are more fully described in 'A Statement on Common Standards for Monitoring Protected Sites, produced by the Joint Nature Conservation Committee in 2018.

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 foreseeable 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 Dearne Valley Wetlands 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.

Standard reference number	Type of operation	At least one reason for listing
1	Cultivation, including ploughing, rotovating, harrowing and re-seeding.	Could lead to damage to supporting habitats of special interest features and increase nutrient levels in water bodies.
2	Grazing and alterations to the grazing regime (including type of stock, intensity or seasonal pattern of grazing).	Could lead to damage to supporting habitats and increase nutrient levels in water bodies.
3	Stock feeding and alterations to stock feeding practice.	Could lead to localised nutrient enrichment or poaching and damage to supporting habitats.
4	Mowing or cutting vegetation and alterations to the mowing or cutting regime (such as from haymaking to silage).	Could lead to damage to supporting habitats which are important for breeding birds and waterfowl.
5	Application of manure, slurry, silage liquor, fertilisers and lime.	Could lead to an increase in nutrient levels in water bodies and damage to supporting habitats.
6	Application of pesticides, including herbicides (weed killers) whether terrestrial or aquatic, and veterinary products.	Could lead to damage to supporting habitats and contamination of water bodies, risking disruption of food chains for birds.
7	Dumping, spreading or discharging of any materials.	Supporting habitats important for breeding birds or feeding waterfowl could be damaged.
8	Burning and alterations to the pattern or frequency of burning.	Supporting habitats important for breeding birds or feeding waterfowl could be damaged.
9	Release into the site of any wild, feral, captive-bred or domestic animal, plant, seed or micro-organism (including genetically modified organisms).	Could lead to unforeseen interactions with indigenous species and changes in community composition.
10	Killing, injuring, taking or removal of any wild animal (including dead animals or parts thereof), or their eggs and nests, including pest control and disturbing them in their places of shelter.	Death or disturbance of key bird species and incidental damage to supporting habitats.

Standard reference number	Type of operation	At least one reason for listing
11	Destruction, displacement, removal or cutting of any plant or plant remains, including tree, shrub, herb, hedge, dead or decaying wood, moss, lichen, fungus, leaf-mould or turf.	Direct and incidental damage to supporting habitats.
12	Tree and/or woodland management and alterations to tree and/or woodland management (including planting, felling, pruning and tree surgery, thinning, coppicing, changes in species composition, removal of fallen timber).	Direct and incidental damage to supporting habitats.
13a	Draining (including the use of mole, tile, tunnel or other artificial drains).	Risk of incidental damage to marginal vegetation and direct damage to wetland habitats.
13b	Modification to the structure of water courses (rivers, streams, springs, ditches, dykes and drains) including their banks and beds, as by re-alignment, regrading, damming or dredging.	Risk of incidental damage to and direct loss of marginal vegetation and wetland habitats.
13c	Management of aquatic and bank vegetation for drainage purposes.	Risk of incidental damage to and direct loss of marginal vegetation.
14	Alterations to water levels and tables and water utilisation (including irrigation, storage and abstraction from existing water bodies and through boreholes). Also the modification of current drainage operations (such as through the installation of new pumps).	Aquatic habitats sensitive to change in hydrology. Direct damage to marginal vegetation in the immediate vicinity.
15	Infilling or digging of ditches, dykes, drains, ponds, pools, marshes or pits.	Direct damage to wetland habitats. Risk of incidental damage to marginal vegetation.
16a	Freshwater fishery production and/or management, including sporting fishing and angling, and alterations to freshwater fishery production and/or management.	Increased fish stocking or changing fishery type from e.g. coarse to specimen carp can have a marked adverse effect on aquatic vegetation and water quality.
20	Extraction of minerals including, hard rock, sand and gravel, topsoil, subsoil, and spoil.	Extraction from inappropriate locations within the SSSI could cause direct damage to habitats. Risk of incidental damage to supporting habitats.
21	Destruction, construction, removal, rerouting, or regrading of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks, including soil and soft rock exposures or the laying, maintenance or removal of pipelines and cables, above or below ground.	Direct loss of or incidental damage to habitat. Increase in disturbance levels for birds.
22	Storage of materials.	Risk of obscuring/smothering supporting habitats. Risk of pollution and leakage into waterbodies.

Standard reference number	Type of operation	At least one reason for listing
23	Erection of permanent or temporary structures or the undertaking of engineering works, including drilling.	Direct loss of supporting habitat for special interest features.
26	Use of vehicles or craft.	Risk of disturbance to birds and damage to supporting habitats.
27	Recreational or other activities likely to damage or disturb the features of special interest.	Disturbance of birds and incidental damage to supporting habitats.
28a	Game and waterfowl management and hunting practices and alterations to game and waterfowl management and hunting practice.	Disturbance and killing of birds.
28b	Use of lead shot	Several breeding and non-breeding birds (including wildfowl) are vulnerable to lead poisoning through accidental ingestion with grit or secondary ingestion by predatory and scavenging species.

5. Site unit maps

The maps on the following pages show the boundary of the site units, which are divisions used by Natural England for administrative purposes only.

6. Photographs

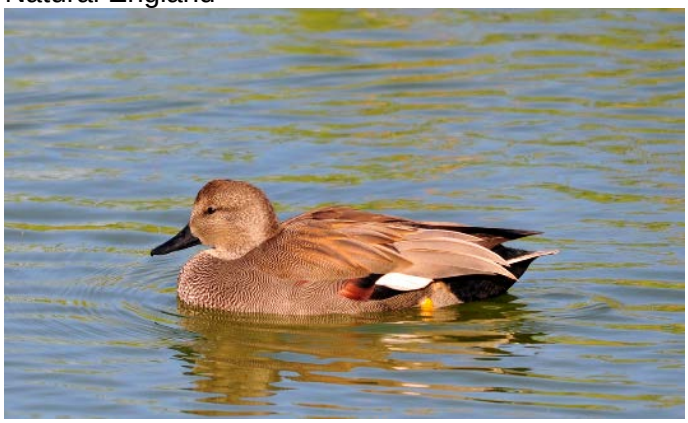
Photograph 1:

Dearne Valley Wetlands SSSI boundary shown in red

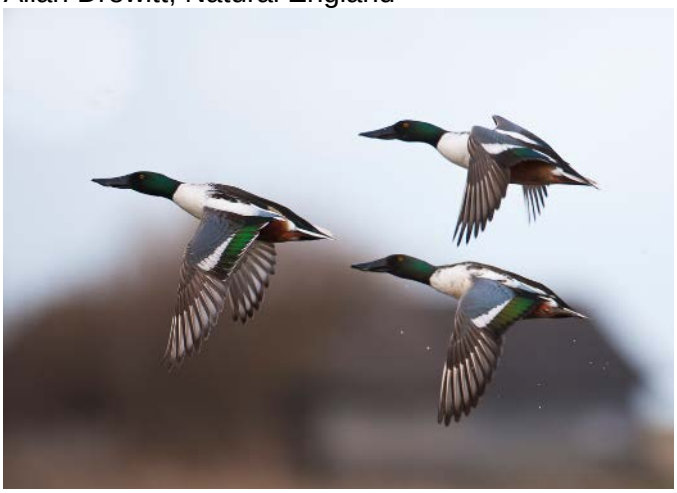
Scale (at A3): 1:45,405

Map produced by Denise Rose, Strategy & Government Advice
Date_flown = "2018-07-01 00:00:00"

Photograph 2: Gadwall (Aggregations of breeding and non-breeding birds). Courtesy of Neil Pike, Natural England



Photograph 3: Shoveler (Aggregations of breeding and non-breeding birds). Courtesy of Allan Drewitt, Natural England



Photograph 4: Garganey (Aggregations of breeding birds). Courtesy of Geoff Carr

Photograph 5: Pochard (Aggregations of breeding birds). Courtesy of Allan Drewitt, Natural England

Photograph 6: Black-headed Gull (Aggregations of breeding birds). Courtesy of Allan Drewitt, Natural England

Photograph 7: Bittern (Breeding birds assemblage). Courtesy of RSPB

Photograph 8: Breeding Willow Tit (Rare bird species). Courtesy of Geoff Carr

Photograph 9: Carlton Marsh (unit 2) - Supporting habitat for Breeding bird assemblage of mixed habitat: lowland open waters and their margins and lowland fen

Photograph 10: Gypsy Marsh (unit 12) - Supporting habitat for Breeding bird assemblage of lowland damp grasslands.

Photograph 11: Warbler Way (unit 16) - Supporting habitat for Breeding bird assemblage of lowland scrub

Photograph 12: Wombwell Ings (unit 10) – open water and associated habitats. Courtesy of Sarah Woolven

Photograph 13: Little Houghton (unit 7) – supporting fen habitat. Courtesy of Sarah Woolven

Photograph 14: Parkhill (unit 9) – wetland and surrounding scrub/woodland supporting habitat for willow tit. Courtesy of Emma Leighton

Photograph 15: Bolton Ings, Old Moor