



## Thorpe Marshes Wildlife Report 2016

This is the fifth annual wildlife report for Norfolk Wildlife Trust's Thorpe St Andrew Marshes nature reserve – NWT Thorpe Marshes for short in this report and elsewhere. It summarises some of the observations of wildlife during 2016, including records from the monthly wildlife walks, observations made by Chris Durdin or provided by other naturalists (see acknowledgements).

The report is not a full wildlife survey. Plants are excluded, partly for reasons of space, and partly as they vary less from year to year. The groups covered most thoroughly are birds and Odonata, and the butterflies are probably fairly complete. Mammals, reptiles and amphibians are casual records and under-recorded, though the mammals list this year is boosted by a visit by Norwich Bat Group. Other invertebrate records are ad hoc, and for some there are more complete lists in previous years. Aquatic invertebrates are not included: they were surveyed in 2012 by Norfolk Wildlife Services Ltd, commissioned by NWT.

It's possible that other visitors to Thorpe Marshes have seen additional species, or what are noted as 'new' here have been seen by others before. We'll be glad to have additional records, to [chris@honeyguide.co.uk](mailto:chris@honeyguide.co.uk). We hope this report may encourage more recording, especially of under-recorded groups.

**Chris Durdin, January 2017**



Skullcap; ducks on St Andrews Broad, 18<sup>th</sup> November 2016; Broad-bodied Chaser, 16<sup>th</sup> June (DL).

### Acknowledgements

Records from Kirsty Bailey, Mike Burrows, Mark Chipperfield, Ricky Cleverley, Chris Durdin, James Emerson, Ian Holmes, Derek Longe, Jon Mee, Richard Moores, Susan Weeks and Yare Valley Wildlife (YVW) website. Photos by Chris Durdin unless otherwise attributed.

### Initials used in this report:

NWT: Norfolk Wildlife Trust. CP: Country Park (Whitlingham). STW: Sewage Treatment Works (Whitlingham).

### Websites for NWT Thorpe Marshes

NWT: [www.norfolkwildlifetrust.org.uk/wildlife-in-norfolk/nature-reserves/reserves/thorpe-marshes](http://www.norfolkwildlifetrust.org.uk/wildlife-in-norfolk/nature-reserves/reserves/thorpe-marshes)  
[www.honeyguide.co.uk/thorpemarshes.htm](http://www.honeyguide.co.uk/thorpemarshes.htm) from where there are links to photos on Facebook, and previous Thorpe Marshes wildlife reports.

### References

Steve Cham, Brian Nelson, Adrian Parr, Steve Prentice, Dave Smallshire and Pam Taylor (2014). *Atlas of Dragonflies in Britain and Ireland*.  
Durdin, Chris (January 2013-2016). *Thorpe Marshes Wildlife Reports 2012-2015*.  
Emerson, James (January 2014-2016). *Whitlingham Bird Reports 2013-2015*.

### Key habitats and access

**Key habitats** at NWT Thorpe Marshes are the **gravel pit**, known as St Andrew's Broad, **grazed marshes** (including the 'flood') grading into grazed fen, **ungrazed marsh** of ranker vegetation and scrub around the broad, and **ditches**. These are described in more detail in previous reports.

**Railway bridge and access:** the railway bridge at the end of Whitlingham Lane was closed on 5<sup>th</sup> December 2015 and re-opened during March 2016. As a consequence, access to the marshes on foot was only possible from Bungalow Lane at the eastern end of the reserve. This reduced casual use of the marshes, such as by dog walkers, and the lack of the disturbance seemed to boost the sightings of more species more sensitive to disturbance, such as barn owl and Chinese water deer. The previous autumn's work to improve the main path across the marshes was a great success; the main path is still in good condition at the year's end and did not go under water at all during the year.

### Wildlife's response to management

There was major management work in late 2015. NWT has a 10 year Higher Level Stewardship agreement which started on 1<sup>st</sup> March 2013, providing funding to support grazing and wetland management. In addition, the Trust secured major funding for a conservation project from Lafarge-Tarmac and Norse Landfill Communities Funds. This included cutting all the grazing marshes except the rankest one around the flood; ditching, including new culverts connecting ditches; scrub removal; the restoration or excavation on three ponds (pond-dipping facilities were added in 2016); deepening and extending the flood; restoration of shingle areas on St Andrews Broad and other enhancements to the broad's edges; path-raising, mostly on the main circuit around the broad.

There was a visible and positive response to these measures. Newly opened area of ditch became 'hot-spots' for watching dragonflies and damselflies. These included regular sightings of Broad-bodied Chaser, not usually regularly seen on the reserve, and the first recent Small Red-eyed Damselfly, these two findings taking this year's total number of Odonata species at Thorpe Marshes to 20. Willow Emerald Damselflies had an excellent year and favoured newly opened ditches.

The three ponds, behind the education area gate, could only be assessed from the paths: access in 2017 would allow better monitoring. From one visit and at a distance they were plainly well used by dragonflies, including Norfolk hawkers, and damselflies. Heron, little egret and kingfisher all fed on the ponds and a family of mute swans was often there.



Widened ditch on the dog-leg corner of the path, 13<sup>th</sup> Sept; the extended flood, 21<sup>st</sup> Sept; mute swan family group with 'Polish' cygnet, 6<sup>th</sup> June (DL).

The flood held water into the summer, helped by a wet spring and summer, but it was the newly excavated area that was the last to dry out in high summer, and it re-flooded after rains in September (*see photo, above*). A brood of tufted ducks were seen here; so too were young gadwalls and, most excitingly, young water rails, a species that winters but was not previously breeding on the reserve, so far as we know.

Three early marsh orchids on the marsh next to the railway line may have been a response to opening up after cutting. The marshes otherwise seemed little different, structurally or botanically. That may be partly as grazing was less than usual this year, with only five dexter cattle in June, increasing to 11 in August, and these were taken away in August after a calf was thought to have been killed by dogs. Koniks (ponies) were brought in to the gravel pit's edge for a short time in early autumn but were not on the marshes.

The re-profiled edges to the gravel pit, St Andrews Broad, certainly boosted numbers of loafing gulls and lapwings before vegetation re-grew. Longer term impacts are more difficult to assess; winter duck numbers may be more affected by weather and disturbance patterns. The closure and fencing off of the shingle spit has encouraged birds to use that end of the gravel pit much more.

### Guided walks and publicity

There were monthly NWT guided walks led by Chris Durdin, apart from April when it was led by David North, NWT Head of People and Wildlife. These were promoted mainly through NWT events leaflets, the two

websites and newspaper 'what's ons'. There were also four additional walks, for Norwich RSPB Local Group, the Society for the History of Natural History, CIEEM and a health service wellbeing group.

The 16 walks attracted 191 people through the year (145 in 2015, 177 in 2014, 104 in 2013, 90 in 2012) giving a running total of 706 people on walks over five years.

Walks in January and February, when the railway bridge was shut for repairs, started in Bungalow Lane at the eastern end of the reserve.

Media work about the reserve's wildlife included the regular article in the Broads Society's *Harnser*, appearing in January, April, July and October. There were four pieces about Thorpe Marshes on the NWT's Blog, once of which was by the Ovington Ramblers (plus others by Chris Durdin on bee orchids in Norwich and on cranes and Hickling Broad).



Guided walk scenes, January and December; the December group is looking at stonechats (DL).

### Review of the year

There were no prolonged cold spells in **January** but wildfowl numbers were still high on St Andrews Broad, probably boosted by the lack of disturbance as the railway bridge was shut for engineering works. The ducks included more than 200 tufted ducks on 25<sup>th</sup> January and a ferruginous duck x pochard hybrid. A lucky birdwatcher found a firecrest on 3<sup>rd</sup> **February**, a month in which the mix of bright and grey days and no sustained cold weather continued, which led to a decline in duck numbers. A barn owl was often seen on late afternoon visits, sometimes flushing snipe or jack snipe, and those visits also revealed the regular presence of 1-2 woodcocks.

The most surprising sighting in **March** was a male common scoter, on 27<sup>th</sup> March, coinciding with an inland movement of this sea duck. There were lots of singing chiffchaffs by the month's end, but most migrants arrived in **April**, including three or four grasshopper warblers, despite the mostly cool weather. Little ringed plovers displayed on managed shingle areas, though incursions by people and dogs into areas that should be left undisturbed for wildlife were a worry.

As ever, the marshes were alive with bird song in **May**, with the exception of cuckoos, heard relatively little this year. There were sightings of hobbies, a fairly regular marsh harrier and young gadwalls. Three early marsh orchids were a botanical bonus in the often wet month of **June**, probably a response to the cutting of the marsh last year. Another response to management was the Broad-bodied Chaser seen mid-month, the first of fairly regular sightings of this species this summer, always on open ditches dug out in late 2015. This year's peak count of 40 Norfolk Hawkers was on 28<sup>th</sup>.

**July** was much drier, and still a grasshopper warbler sang. A brood of tufted ducks appeared on the enlarged flood and, late in the month, adult and young water rails on the edge of the now receding open water in the same place. **August** started well with a bat walk run by Norwich Bat Group that confirmed five species, including Nathusius's pipistrelle, and the 20<sup>th</sup> Odonata species for the reserve, a single Small Red-eyed Damselfly, on a ditch. By the end of the month, Willow Emerald Damselflies had already reached double figures.

**September** was exceptionally warm and the Willow Emeralds showed well all month, including on the ditch by the railway bridge. Derek Longe counted a minimum of 31 individuals and egg-laying scars were found now and later in several places. Two notable birds were found in **October**: a yellow-browed warbler with a tit flock and bearded tits heard on the broad's edge. Both were elusive, but not so the two stonechats that appeared towards the end of the month and were seen regularly for the rest of the year. **November** was a relatively cold month with some sharp frosts during which, on 18<sup>th</sup> November, 220 tufted ducks were a surprisingly early influx. There was little new of note in a mild **December**; the river over-topped the banks a little around Christmas but the marshes didn't go under water, as for the whole of 2016, which is unusual.

## Birds

New to the reserve list are white-fronted goose, barnacle goose, common scoter, two hybrid ducks, great white egret, white stork (presumed escape), night heron, spotted redshank, stone-curlew, yellow-legged gull, Sandwich tern, long-eared owl, rock pipit, tree pipit, yellow-browed warbler, bearded tit, rook, Lapland bunting. [Records in square brackets are off but near to the reserve.]

Mute swan <i>Cygnus olor</i>	Resident. One nest, on the opposite side of the ditch by the riverside footpath, failed. A second pair nested by the broad; there were six young, reducing to three, one of which was a pale 'Polish' type (photo, page 2).
White-fronted goose <i>Anser albifrons</i>	7 flying over westwards on 12 <sup>th</sup> Dec (MC).
Pink-footed goose <i>Anser brachyrhynchus</i>	210 over, flying NW on 20 <sup>th</sup> Oct; 60, 23 <sup>rd</sup> Nov. Groups of pinkfeet move over this area irregularly in winter, so it's chance if they are also seen over the reserve.
Greylag goose <i>Anser anser</i>	At Thorpe almost constantly in small numbers (<10), especially on the broad, occasionally on the flood, occasionally more e.g. 30 on 15 <sup>th</sup> June, 20 on 30 <sup>th</sup> June. Bigger flocks fly over, e.g. c.100 over west on 15 <sup>th</sup> and c.350 over west on 21 <sup>st</sup> Sept, similar groups in Oct. A pair with 2 goslings on the broad during May.
Canada goose <i>Branta canadensis</i>	Birds at Thorpe off and on throughout the year, usually <10 but 16 on 30 <sup>th</sup> May. Slightly bigger groups fly over, e.g. 36 over on 15 <sup>th</sup> June, but up to 20 more usual. No goslings seen.
Barnacle goose <i>Branta leucopsis</i>	1 on 20 <sup>th</sup> May (D Lyness, per YVW). Presumably of feral origin.
Egyptian goose <i>Alopochen aegyptiaca</i>	Brood of 5 on 24 <sup>th</sup> & 26 <sup>th</sup> May, later reduced to one young. 2-8 regularly present on the broad.
Shelduck <i>Tadorna tadorna</i>	Occasional, formerly bred (while gravel was being dug). Singles on four dates in May and 10th June.
Wigeon <i>Anas penelope</i>	Occasional winter visitor on the broad, surprisingly scarce considering numbers elsewhere in the Yare Valley. 2 on the broad, 22 <sup>nd</sup> Oct; 2, 1 <sup>st</sup> Nov; 1, 16 <sup>th</sup> Dec; 2, 14 <sup>th</sup> & 20 <sup>th</sup> Dec.
Gadwall <i>Anas strepera</i>	Winter visitor, formerly bred and returned to breed this year, two broods. Display noted on the broad and 2 pairs on the flood on 10th April. Female gadwall with 4 juveniles on the broad, 17 <sup>th</sup> May; also 2 'very young' on 13 <sup>th</sup> June; 3 large young on flood, 18 <sup>th</sup> July, later seen on broad. Wintering numbers build up during the autumn: usually 20-60 present, 114 on 8 <sup>th</sup> Jan; 87, 24 <sup>th</sup> Dec.
Teal <i>Anas crecca</i>	Autumn and winter visitor, especially in cold weather, but few big counts this mild year. Often in the vegetation on the edge of St Andrew's Broad or on the flood, and likely to be overlooked. 10-30 typically present in the autumn/winter, high counts 73 on 18 <sup>th</sup> Jan; 127, 2 <sup>nd</sup> Nov; 107, 14 <sup>th</sup> Dec. Pairs lingered into April when display was noted.
Mallard <i>Anas platyrhynchos</i>	Typically spring and summer visitor, to the dykes and broad, with breeding pairs present. A female with brood in April and four broods noted in May. Used to be absent from the broad during the winter, but some (<25) quite often present this year, and 37 on broad/flood 15 <sup>th</sup> Jan. 90 in dusk flight, 2 <sup>nd</sup> Nov.
Pintail <i>Anas acuta</i>	Female on 13 <sup>th</sup> Jan, also seen at Whitlingham CP; female, 30 <sup>th</sup> July.
[Pintail x mallard hybrid]	[A drake first seen at Whitlingham CP was at River Green in February, then off and on through the year. It was seen in the company of mallards on the Yare west of broad on 15 <sup>th</sup> Sept.]
Shoveler <i>Anas clypeata</i>	Winter visitor, with occasional birds in spring. 1-4 on or over St Andrew's Broad on various dates from October to March; 7, 20 <sup>th</sup> Feb and 8, 4 <sup>th</sup> Mar. 10 over on 28 <sup>th</sup> Dec. A pair on the flood on 10 <sup>th</sup> June.
Pochard <i>Aythya farina</i>	Winter visitor, with occasional birds in spring. 10-50 in Jan-Feb, 55 on 30 <sup>th</sup> Jan, <10 in March. Spring records: a male on 3 <sup>rd</sup> April, 8 on 2 <sup>nd</sup> May and a pair on 6 <sup>th</sup> June. All but absent in the second winter period: 2 on 18 <sup>th</sup> Nov and 14 <sup>th</sup> Dec.
<i>Aythya</i> hybrid, pochard x ferruginous duck	On the broad 25 <sup>th</sup> Jan to 3rd February (MC), and again on 19 <sup>th</sup> Nov (YVW).
Tufted duck <i>Aythya fuligula</i>	Winter visitor, especially Dec-Apr, and bred this year. High counts may coincide with disturbance at Whitlingham CP. >100 counted on 10 dates Jan-3 <sup>rd</sup> April: also 218 on 25 <sup>th</sup> Jan and 220 on 17 <sup>th</sup> & 18 <sup>th</sup> Nov. Tufted duck female with c.7 young on flood on 30 <sup>th</sup> June; 1 duck with 9 young c.4 weeks old at broad on 30 <sup>th</sup> July and several dates in August.
Goldeneye <i>Bucephala clangula</i>	Winter visitor, a thin showing this year. Single females on several dates in Jan and Feb; a first winter male on 10 <sup>th</sup> Jan, a female on 29 <sup>th</sup> Oct, 7 (3 drakes) 25 <sup>th</sup> Nov; 2, 26 <sup>th</sup> Nov & 4 <sup>th</sup> Dec.
Common scoter <i>Melanitta nigra</i>	A male on the broad on 27 <sup>th</sup> March coincided with an inland influx of this sea duck. An earlier record on the Broad on 13 <sup>th</sup> Oct 2009 was pre-NWT reserve.

Pheasant <i>Phasianus colchicus</i>	Seen or (mostly) heard throughout the year, up to 4 males (though usually 1-2). No young seen.
Little grebe <i>Tachybaptus ruficollis</i>	Occasionally on the river and 1-3 on the broad Jan-March, singing on occasions, and on 13 <sup>th</sup> Aug. Often absent in the autumn, seen on 3 dates in Nov/Dec.
Great crested grebe <i>Podiceps cristatus</i>	Resident, 1-2 regularly on St Andrew's Broad year round (4, 22 <sup>nd</sup> May) and on the river in spring/summer. Breeding success unknown, suggesting unsuccessful.
[Red-necked grebe <i>Podiceps grisegena</i> ]	[1 on River Yare west of broad on 21 <sup>st</sup> September.]



Re-profiled broad edge, with gadwalls and a *sinensis* subspecies of cormorant, 19<sup>th</sup> February.

Cormorant <i>Phalacrocorax carbo</i>	Present year-round in low numbers. It's usual to see 1-3 birds on the broad and/or flying over, but 10 on 25 <sup>th</sup> Jan. Recent observations at Whitlingham CP are mostly <i>P c sinensis</i> , confirmed at Thorpe on 19 <sup>th</sup> Feb (photo, page 4).
Bittern <i>Botaurus stellaris</i>	29 <sup>th</sup> Oct: "1 in low flight SE area of broad – dropped in at dyke south of flood at 18:25"; 1 heard flight calling above broad 17:07 on 8 <sup>th</sup> Nov, 1 over Bungalow Lane 16:25 on 12 <sup>th</sup> Dec (all MC).
Night heron <i>Nycticorax nycticorax</i>	8 <sup>th</sup> Jan: 1 heard flight calling over, in from NE then circled over the E area of the Great Broad (Whitlingham CP) at 17:04 (MC).
Little egret <i>Egretta garzetta</i>	Increasingly regular. 1-2 birds on many dates Jan-Sept. 3 flying over on 23 <sup>rd</sup> Feb (MC). Seen several times feeding by new ponds.
Great white egret <i>Casmerodius albus</i>	"1 observed from the east end of Griffin Fen high over Station Marsh south kicked southeast over Whitlingham STW and lost to view at 20:49 on 26 <sup>th</sup> May" (MC).
Grey heron <i>Ardea cinerea</i>	1-2, occasionally 3, seen year-round. Nested in Yare ferry area. Seen several times feeding by new ponds.
White stork <i>Ciconia ciconia</i>	1 "drifting west over Thorpe Broad" on 27 <sup>th</sup> April (RC). Thought to be a bird from Thrigby.
Red kite <i>Milvus milvus</i>	21 <sup>st</sup> June, 1 over (MC).
Marsh harrier <i>Circus aeruginosus</i>	The same well-marked male seen on several occasions in spring and summer. Female seen several times Oct-Dec.
Sparrowhawk <i>Accipiter nisus</i>	Resident in the area. 1, occasionally 2, seen throughout the year.
Buzzard <i>Buteo buteo</i>	1-3 seen on various dates in spring, summer, mostly over the woods across the river. 7 on 22 <sup>nd</sup> Mar; 8, 5 <sup>th</sup> Apl. Several autumn sightings, fewer than spring. A very pale individual was very like a pale-phase booted eagle.
Kestrel <i>Falco tinnunculus</i>	Resident, 1-2 fairly often seen hovering over the grazing marshes.
Hobby <i>Falco subbuteo</i>	Several sightings, 1 or occasionally 2, late April to September. Twice seen carrying food in June then again in September, suggesting nesting nearby.
Peregrine <i>Falco peregrinus</i>	One bathing in the broad, 18 <sup>th</sup> May. Other sightings in August, November and December.
Water rail <i>Rallus aquaticus</i>	Winter visitor and known to have bred this year. Most records are birds heard rather than seen. 7 or 8 heard on four occasions at dusk in Jan & Feb (MC), then up to 19 in October/November. A surprise sighting on the extended flood on 24 <sup>th</sup> July was soon followed by the sighting of young (MB), and a juvenile was seen with two adults on 11 <sup>th</sup> Sept (MC).
Moorhen <i>Gallinula chloropus</i>	Resident, presumably breeds, though often quite secretive. Usually single figures but 14 on 18 <sup>th</sup> and 24 <sup>th</sup> Feb.
Coot <i>Fulica atra</i>	Winter visitor on St Andrew's Broad in small numbers – max of 15 on several dates in Feb. Adults with chicks seen on several dates in May and June, both on the broad and the new ponds.

Crane <i>Grus grus</i>	22 <sup>nd</sup> Oct, 4 flying high over south to the east of marshes, late afternoon.
Oystercatcher <i>Haematopus ostralegus</i>	Visits Thorpe 10 <sup>th</sup> Feb to August, up to 5 present in March and April, displayed but did not breed.
Avocet <i>Recurvirostra avosetta</i>	1 heard over west at 21:11 on 19 <sup>th</sup> Apl (MC).
Stone-curlew <i>Burhinus oedicanus</i>	1 dropped in from east over flood, heard to call as it descended towards west shore of broad at 20:58 on 14 <sup>th</sup> Apl (MC).
Little ringed plover <i>Charadrius dubius</i>	Attempted to breed. 1-4 on many dates in April and May. One pair seen mating and to settle on a nest scrape, but no young seen; presumably clutches lost to predators. The other birds may be the pair that nested on the lagoon by the Postwick interchange.
Ringed plover <i>Charadrius hiaticula</i>	One heard flying over on 3 <sup>rd</sup> May (MC).
Golden plover <i>Pluvialis apricaria</i>	c.100 flying over, 17 <sup>th</sup> Jan. Singles over on 2 <sup>nd</sup> & 22 <sup>nd</sup> Oct (MC).
Lapwing <i>Vanellus vanellus</i>	Non-breeding birds through much of the year; formerly bred. Winter numbers variable, but usually less than 10, with flocks on occasions e.g. 121, 21 <sup>st</sup> Jan; 50, 12 <sup>th</sup> Feb. Some display in spring, but no evidence of breeding. Some late birds on the extended flood – 3 on 22 <sup>nd</sup> May; 1, 30 <sup>th</sup> May. In autumn, a few birds on the west gravel bank of the broad. Occasionally flocks moving through.
Woodcock <i>Scolopax rusticola</i>	Several records of 1-4 birds, mostly at or approaching dusk in autumn and winter. 5 on 21 <sup>st</sup> Jan; 6 on 28 <sup>th</sup> Dec.
Snipe <i>Gallinago gallinago</i>	Winter visitor, numbers tending to increase in hard weather; formerly bred. MC's regular counts of birds flying away at dusk from their preferred boggy area included four counts of 40+ in Jan and Feb: 42, 4 <sup>th</sup> Jan; 44, 18 <sup>th</sup> Jan; 47, 3 <sup>rd</sup> Feb; 43, 12 <sup>th</sup> Feb. 1 heard drumming, early morning on 5 <sup>th</sup> May. 1 early migrant on muddy flood, 24 <sup>th</sup> July. Regular in smaller numbers in autumn e.g. 8 on guided walk, 11 <sup>th</sup> Nov; highest autumn count 51, 29 <sup>th</sup> Nov. Many are minimum counts in the half-light. No big counts after raptor disturbance this year.
Jack snipe <i>Lymnocyptes minimus</i>	Regularly present in winter in generally inaccessible areas and, like snipe, also counted flying away at dusk by MC. All records 1-2 birds, including 1 flushed by a barn owl on 21 <sup>st</sup> Jan & 5 <sup>th</sup> Feb, by a Chinese water deer on 13 <sup>th</sup> Feb and a dog on 10 <sup>th</sup> Mar.
Dunlin <i>Calidris alpina</i>	One heard, 17 <sup>th</sup> Apl (MC).
Curlew sandpiper <i>Calidris ferruginea</i>	Vagrant. 1 over southeast on 13 <sup>th</sup> Sept (MC).
Wood sandpiper <i>Tringa glareola</i>	1 heard over southeast on 22 <sup>nd</sup> Aug (MC).
Green sandpiper <i>Tringa ochropus</i>	Passage migrant and occasional winter visitor. 1, occasionally 2, on various dates Jan-Apr and one-offs on 6 <sup>th</sup> May and 15 <sup>th</sup> June, and again Aug-Oct. 3 on 13 <sup>th</sup> & 20 <sup>th</sup> Apl, 5 <sup>th</sup> & 13 <sup>th</sup> Aug. Mostly on the broad, also the ponds and flood.
Common sandpiper <i>Actitis hypoleucos</i>	Passage migrant, with spring records between 17 <sup>th</sup> April and 22 <sup>nd</sup> May, including 12 on 12 <sup>th</sup> May. Singles on 28 <sup>th</sup> , 30 <sup>th</sup> & 31 <sup>st</sup> Aug, 11 <sup>th</sup> Sept and 3 on 13 <sup>th</sup> Sept.
Redshank <i>Tringa totanus</i>	Uncommon migrant. Singles on 12 <sup>th</sup> Mar, 17 <sup>th</sup> Apl; 2 at least heard at night, 13 <sup>th</sup> July.
Spotted redshank <i>Tringa erythropus</i>	New species for the reserve. 1 heard over broad flying west, 9 <sup>th</sup> May (MC).
Greenshank <i>Tringa nebularia</i>	Uncommon migrant. 1, 2 <sup>nd</sup> & 8 <sup>th</sup> May; 3, 5 <sup>th</sup> May, of which two were by the broad and 1 flying over (MC).
Black-tailed godwit <i>Limosa limosa</i>	Uncommon migrant. 4 over east on 19 <sup>th</sup> Sept (MC).
Curlew <i>Numenius arquata</i>	Uncommon migrant. 1, 10 <sup>th</sup> June (MC).
Whimbrel <i>Numenius phaeopus</i>	Uncommon migrant. Singles reported on 8 <sup>th</sup> , 12 <sup>th</sup> & 21 <sup>st</sup> Apl, 2 <sup>nd</sup> & 3 <sup>rd</sup> May, 5 <sup>th</sup> Aug.
Black-headed gull <i>Chroicocephalus ridibundus</i>	Winter visitor, with birds loafing around or washing on the broad, and high numbers attracted to the newly shaped broad edges in the early part of the year, though often not counted. Counts >200: c.250, 25 <sup>th</sup> Jan; 272, 17 <sup>th</sup> Mar, 470, 4 <sup>th</sup> Dec; 345, 16 <sup>th</sup> Dec. Large numbers fly over at dusk going to roost.
Common gull <i>Larus canus</i>	Winter visitor, in small numbers, usually single figures, mixed in with black-headed gulls. High count of 35 on 25 <sup>th</sup> Jan.
Mediterranean gull <i>Larus melanocephalus</i>	A first-winter/summer bird at broad on 31 <sup>st</sup> Mar and 17 <sup>th</sup> Apl (MC). Last winter's bird at River Green didn't reappear this year.

Lesser black-backed gull <i>Larus fuscus</i>	Usually in single figures with other gulls. 21, 5 <sup>th</sup> May. Large numbers fly over at dusk going to night roosts. Subspecies noted: 4 adults (1pr <i>graelisi</i> + 1pr <i>intermedius</i> ) at broad on 23 <sup>rd</sup> Mar (MC).
Herring gull <i>Larus argentatus</i>	Overall impression is of an increase using the broad, and the exposed broad edge in the early part of the year, with double figures regular. High counts of 57 on 29 <sup>th</sup> Feb and 26 <sup>th</sup> May; 120, 4 <sup>th</sup> Dec. Birds seen carrying nesting material no doubt nesting elsewhere locally.
Yellow-legged gull <i>Larus michahellis</i>	1 with other big gulls, 14 <sup>th</sup> Mar, and 1, 4 <sup>th</sup> Dec (MC).
Sandwich tern <i>Sterna sandvicensis</i>	1 on 28 <sup>th</sup> Aug (MC).
Common tern <i>Sterna hirundo</i>	1 or more on several dates from April to August; 8 on 29 <sup>th</sup> Apl.
Arctic tern <i>Sterna paradisaea</i>	4, 26 <sup>th</sup> April. In May: 2, 1 <sup>st</sup> ; 1, 10 <sup>th</sup> ; 9 at broad flew northeast on 24 <sup>th</sup> .
Black tern <i>Chlidonias niger</i>	1 at west shore of broad at 05:25 flew east on 1 <sup>st</sup> May (MC).
Feral pigeon <i>Columba livia</i>	Not usually on the reserve, though the feral pigeons/white doves on River Green can sometimes be seen flying over, especially from the railway bridge.
Stock dove <i>Columba oenas</i>	Resident, though more obvious in spring and summer, when 2-6 would be typical, sometimes singing. Highest counts of 11, 4 <sup>th</sup> April.
Woodpigeon <i>Columba palumbus</i>	Resident, often outnumbering stock doves. Bigger numbers flying over pre-roost. No doubt breeding in trees adjacent to the reserve.
Collared dove <i>Streptopelia decaocto</i>	Resident, in Whitlingham Lane and Bungalow Lane, rather than on the reserve. Sometimes flies over.
Cuckoo <i>Cuculus canorus</i>	Though heard on 20 <sup>th</sup> April and 6 dates in May, the impression is that it was still a poor year for cuckoos.
Barn owl <i>Tyto alba</i>	Regularly seen at dusk in winter, and flushing jack snipe, snipe and meadow pipit on occasions. Single on 6 <sup>th</sup> June.
Long-eared owl <i>Asio otus</i>	1 heard, 22 <sup>nd</sup> Feb; 1 seen hunting at dusk, 15 <sup>th</sup> Oct and 18 <sup>th</sup> Nov (MC).
Tawny owl <i>Strix aluco</i>	Heard on several occasions from woods around the reserve, to the north, south and east.
Swift <i>Apus apus</i>	Summer visitor, nesting locally, often over the reserve. 1 over the broad on 21 <sup>st</sup> April. May records include c.300 on 24 <sup>th</sup> Last record, 1 on 9 <sup>th</sup> Sept.
Kingfisher <i>Alcedo atthis</i>	Resident in the area and 1-2, occasionally 3, seen fairly often on the river, over the broad, feeding on the new ponds or dashing through elsewhere, all year.
Green woodpecker <i>Picus viridis</i>	Resident, in the trees adjacent to the reserve and across the river in Whitlingham Wood, most often heard.
Great spotted woodpecker <i>Dendrocopos major</i>	Resident, 1-2 often flying over the reserve and in the trees adjacent to the reserve, especially those adjacent to the railway bridge. 2 males seen displaying on guided walk, 19 <sup>th</sup> Feb.
Skylark <i>Alauda arvensis</i>	None singing this year. Singles or groups flying over on several dates, mostly in autumn.
Sand martin <i>Riparia riparia</i>	1 on 31 <sup>st</sup> Mar, groups in early spring included 60, 5 <sup>th</sup> Apl and 50, 2 <sup>nd</sup> May. Also 1, 7 <sup>th</sup> July & 3, 16 <sup>th</sup> July.
Swallow <i>Hirundo rustica</i>	A scattering of records from 2 on 31 <sup>st</sup> Mar. A few notable groups included 150, 17 <sup>th</sup> Apl and 80, 2 <sup>nd</sup> May. Last date: 1, 20 <sup>th</sup> Oct.
House martin <i>Delichon urbicum</i>	First on 4 <sup>th</sup> April, last on 19 <sup>th</sup> September. 60 over the broad on 21 <sup>st</sup> Apl, 200, 24 <sup>th</sup> May. 1 dodged a sparrowhawk on 28 <sup>th</sup> Aug.
Water pipit <i>Anthus spinoletta</i>	Singles on 12 <sup>th</sup> Feb, 14 <sup>th</sup> Mar. Also 1-3 in late Oct-Dec at dusk with meadow pipit roosting flock (MC).
Rock pipit <i>Anthus petrosus</i>	1 at spit of broad flew west at 09:50 on 15 <sup>th</sup> Oct (MC). (Previously recorded when gravel pit was being dug.)
Meadow pipit <i>Anthus pratensis</i>	Winter visitor, formerly bred. Low numbers are regular during the day but a significant autumn/winter roost in the central part of the marsh, always double figures, 112 on 29 <sup>th</sup> Nov, 118 at least on 7 <sup>th</sup> Dec and 141 at least on 22 <sup>nd</sup> Dec.
Tree pipit <i>Anthus trivialis</i>	1 over west south of broad on 3 <sup>rd</sup> April (MC).
Pied wagtail <i>Motacilla alba</i>	Records by the broad mostly in Mar/Apl; also regularly flying over late in the day in autumn/winter, presumably moving towards pre-roosts or roosts.
Yellow wagtail <i>Motacilla flava</i>	Single birds on 1 <sup>st</sup> & 6 <sup>th</sup> May.
Grey wagtail <i>Motacilla cinerea</i>	1-3 on the River Yare at low tide or edge of broad or flying over on several autumn/winter dates. Also up to 5 coming to roost in reed rond, 23 <sup>rd</sup> Feb & 3 Mar and again in autumn (MC). Summer records may be from pair at Whitlingham STW.

Waxwing <i>Bombycila garrulus</i>	1-7 over on 7 dates in late October, November and 1 <sup>st</sup> Dec (MC).
Dunnock <i>Prunella modularis</i>	Ever-present and often singing in both spring and autumn from scrub alongside the River Yare.
Wren <i>Troglodytes troglodytes</i>	Resident and common year-round. Notable counts: 38 (30 in song) on 22 <sup>nd</sup> Mar, 34 in song on 20 <sup>th</sup> Apl, 38 in song on 8 <sup>th</sup> May.
Robin <i>Erithacus rubecula</i>	Ever-present and often singing in spring, autumn and winter, especially from scrub alongside the River Yare.
Common redstart <i>Phoenicurus phoenicurus</i>	1 male at scrub northwest of broad on 13 <sup>th</sup> Apl (MC).
Stonechat <i>Saxicola torquatus</i>	2 (occasionally 1) seen regularly from 22 <sup>nd</sup> October to the year end, mostly around the big bramble patch.



Male common scoter with black-headed gull, 27<sup>th</sup> March; sedge warbler (DL); stonechat (RC), present in late autumn.

Song thrush <i>Turdus philomelos</i>	Often seen on the reserve this year, in and around the riverside scrub, and in song. 36 over southwest on 6 <sup>th</sup> Oct.
Redwing <i>Turdus iliacus</i>	Small numbers in winter and groups moving through in autumn.
Mistle thrush <i>Turdus viscivorus</i>	Several sight records of 1-2 overflying the reserve, but not heard in song this year, unlike last year.
Fieldfare <i>Turdus pilaris</i>	Winter and autumn observations of up to 12 birds, with no big flocks this year.
Blackbird <i>Turdus merula</i>	Resident, often in song, and presumably breeding. High count in winter of 18, 15 <sup>th</sup> Feb & 34, 8 <sup>th</sup> Nov. Some autumn migrants e.g. 24 over south on 5 <sup>th</sup> Oct.
Ring ouzel <i>Turdus torquatus</i>	1, 2 <sup>nd</sup> Oct (MC). No spring records.
Garden warbler <i>Sylvia borin</i>	One, occasionally 2, males singing in scrub by the riverbank SW of the broad in May.
Blackcap <i>Sylvia atricapilla</i>	Summer visitor, also winter visitor, especially in nearby gardens. Female, 1st & 16 <sup>th</sup> Feb. 12 in song on 1st May. Autumn: 2 on 2 <sup>nd</sup> & 1 on 24 <sup>th</sup> Oct.
Whitethroat <i>Sylvia communis</i>	Noisy and fairly numerous from 17 <sup>th</sup> April and into early May, especially in the unmanaged marsh between the river and the broad. Max of 12 in song, 11 <sup>th</sup> May. Also in the bramble field by Whitlingham Lane.
Lesser whitethroat <i>Sylvia curruca</i>	Heard in song 16, 17 <sup>th</sup> Apl, 8 dates in May and 13 <sup>th</sup> June, mostly by the railway bridge and at the N end of Bungalow Lane. Singles, 5 <sup>th</sup> & 23 <sup>rd</sup> Aug.
Sedge warbler <i>Acrocephalus schoenobaenus</i>	Summer visitor, the first on 3 <sup>rd</sup> April. Up to 39 in song (2nd May, MC).
Grasshopper warbler <i>Locustella naevia</i>	A much better year. CD & RC heard 3 singing on 18 <sup>th</sup> Apl (1 was just off reserve to west) and MC recorded 4 in song on 18 <sup>th</sup> /19 <sup>th</sup> /20 <sup>th</sup> Apl and 5 on 6 <sup>th</sup> May. Also sang in central area of reserve in late June/July, suggesting a second brood.
Cetti's warbler <i>Cettia cetti</i>	Resident, and singing through most of the autumn and winter especially, but not only, on bright days. Up to 10 in song, 3 <sup>rd</sup> & 5 <sup>th</sup> April, suggesting they have benefited from recent mild winters.
Reed warbler <i>Acrocephalus scirpaceus</i>	Summer visitor, the first on 16th April. Up to 24 in song (24 <sup>th</sup> May, MC). Newly fledged broods seen during July.
Marsh warbler <i>Acrocephalus palustris</i>	On 13 <sup>th</sup> and 14 <sup>th</sup> June, a poorly seen warbler that was imitating other species, song thrush especially, was in scrub on Whitlingham Lane and on the reserve side of the bridge. Experienced observers thought the bird was consistent with marsh warbler, and this ID has been accepted by the county rarities committee.
Willow warbler <i>Phylloscopus trochilus</i>	Summer visitor/passage migrant, first reported on 3 <sup>rd</sup> April. A high count of 11 in song on 17 <sup>th</sup> April and five dates in May suggests a good year.

Chiffchaff <i>Phylloscopus collybita</i>	Migrant and a few overwinter. 2 on 4 <sup>th</sup> 8 <sup>th</sup> , 15 <sup>th</sup> , 21 <sup>st</sup> & 28 <sup>th</sup> Jan; singles on other dates; 3, 16 <sup>th</sup> & 18 <sup>th</sup> Feb. 10 in song, several dates in April, plus others adjacent to the reserve; 11 on 11 <sup>th</sup> May, with song continuing until July. Several in August, including 21 (6 in song) at least on 23rd and present Oct-Dec.
Siberian chiffchaff <i>Phylloscopus collybita tristis</i>	Siberian chiffchaff: just off reserve, 1 at scrub E side of Bungalow Lane (Griffin Fen NW) at 16:45 on 10 <sup>th</sup> Mar. In autumn, 1 "classic' <i>tristis</i> type seen and heard calling frequently about scrub just southeast of rail crossing at Bungalow Lane at 17:35 on 25 <sup>th</sup> October", then 4 dates in Nov and 2 dates in Dec (MC).
Yellow-browed warbler <i>Phylloscopus inornatus</i>	With tit flock (mostly long-tailed tits) 20 <sup>th</sup> & 25 <sup>th</sup> October (MC).
Goldcrest <i>Regulus regulus</i>	Resident/winter visitor. 1-8 in first winter period, and breeds just off the reserve. Second winter period: 12 at least on 24 <sup>th</sup> Oct; 22, 4 <sup>th</sup> Nov.
Firecrest <i>Regulus ignicapilla</i>	Photographed by Richard Moores on 3 <sup>rd</sup> Feb. Also 1 with goldcrests at scrub on Bungalow Lane on 28 <sup>th</sup> Oct (MC).
Great tit <i>Parus major</i>	Resident, often in mixed tit flocks out of the breeding season.
Coal tit <i>Pariparus ater</i>	16 <sup>th</sup> Feb, 2 with tit flock moving E through vegetation S of broad. 1 with tit flock 28 <sup>th</sup> Aug and again 2 dates in Sept. Easier to find just off the reserve.
Blue tit <i>Cyanistes caeruleus</i>	Resident, often in mixed tit flocks out of the breeding season.
Marsh tit <i>Poecile palustris</i>	Several times heard across the river and seen or heard on Bungalow Lane. In scrub on reserve on 31 <sup>st</sup> Mar, 5th Apl, 28 <sup>th</sup> Aug, 13 <sup>th</sup> & 19 <sup>th</sup> Sept.
Long-tailed tit <i>Aegithalos caudatus</i>	Resident. Groups are seen year-round, often in mixed flocks with blue tits and great tits. The riverside trees are a favoured location, but also in the shallows by the permissive path. Maximum counts: 28, 12 <sup>th</sup> Feb; c.30 20 <sup>th</sup> Oct.
Bearded tit <i>Panurus biarmicus</i>	A brief stay in October. 1 at least heard from vegetation between flood and northeast broad on 15 <sup>th</sup> ; 2 at least heard from dyke vegetation at southeast corner of flood compartment on 17 <sup>th</sup> ; 2 at least (1 female/juvenile seen briefly in short flight) at reed fringe SW broad on 20 <sup>th</sup> ; 2 at least heard from reed fringe south broad on 24 <sup>th</sup> .
[Nuthatch <i>Sitta europaea</i> ]	Heard on several occasions from Whitlingham Wood, across the river.
Treecreeper <i>Certhia familiaris</i>	Recorded on 5 dates in Jan and early Feb. Also in Bungalow Lane and poplar plantation.
Magpie <i>Pica pica</i>	Resident, often 1-10 on marshes. Roost in scrub NE of Bungalow Lane rail crossing, where 51, 25 <sup>th</sup> Feb.
Jay <i>Garrulus glandarius</i>	Resident in adjacent wooded areas, but regularly over or on the marshes especially during the autumn.
Jackdaw <i>Corvus monedula</i>	Resident. Often flocks moving over the reserve, especially pre-roost.
Rook <i>Corvus frugilegus</i>	Despite being common nearby, very infrequent. 2 over on 15 <sup>th</sup> Jan, singles over on 13 <sup>th</sup> & 20 <sup>th</sup> Apl.
Carrion crow <i>Corvus corone</i>	Resident, also groups fly over pre-roost heading SE.
Starling <i>Sturnus vulgaris</i>	Infrequent. Some groups moving before dusk, especially in autumn.
Chaffinch <i>Fringilla coelebs</i>	Often in wooded areas adjacent to the reserve, and singing, or flying over, including some small flocks in autumn e.g. 28 over SW on 15 <sup>th</sup> Oct.
Brambling <i>Fringilla montifringilla</i>	1 flew over on 13th Jan. Record on 12 days in October & November, including 68 at least at scrub NW of broad nearing dusk on 13 <sup>th</sup> Nov (MC).
Linnet <i>Carduelis cannabina</i>	In spring, regularly on – and singing – in bramble patch in the middle of the marsh. 1-2 often flying over, >10 on a few occasions, including 17 at least (to roost?) NW of rail crossing/footbridge 4th Mar.
Goldfinch <i>Carduelis carduelis</i>	Regularly present, often in tree tops, usually <10, highest count of 51, 20 <sup>th</sup> Feb.
Lesser redpoll <i>Acanthis caberet</i> Mealy redpoll <i>C. flammea</i>	Calling birds flying and not seen closely in autumn & winter. Lesser redpoll <i>A caberet</i> on 3 dates in Nov inc 20 on 13 <sup>th</sup> Nov. Single mealy redpoll <i>A flammea</i> with these on 4 <sup>th</sup> & 25 <sup>th</sup> Nov (MC).
Siskin <i>Spinus spinus</i>	1-3 flying over on several dates in Jan, Feb, Mar and Dec. No big winter flocks this year. 15, 2 in song, 29 <sup>th</sup> Feb. Groups of 5-14 over in March and April, 1 on 1 <sup>st</sup> May. This late winter/spring peak fits with the pattern in CD's garden on Thunder Lane, where regular on feeders in April, display flight on 15 <sup>th</sup> Apl and last record 5 <sup>th</sup> May. Autumn: 1, 21 <sup>st</sup> Sep, 1-8 on 5 dates in Oct; 2, 2 <sup>nd</sup> Nov.
Greenfinch <i>Chloris chloris</i>	Often 1-2, sometimes up to 10, flying over; also singing on occasions.
Bullfinch <i>Pyrrhula pyrrhula</i>	1-4 in winter months, often in/around Bungalow Lane, where recently fledged young seen in June. 8 (4prs) on 22 <sup>nd</sup> Mar.

Hawfinch <i>Coccothraustes coccothraustes</i>	Singles on 2 <sup>nd</sup> & 20 <sup>th</sup> October, 26 <sup>th</sup> November and 9 <sup>th</sup> December (MC).
Reed bunting <i>Emberiza schoeniclus</i>	Regular but low numbers (usually 1-4) in winter, until 29 <sup>th</sup> Feb when 13. Peak count of territorial males: 11, 5 <sup>th</sup> May.
Lapland bunting <i>Calcarius lapponicus</i>	1 over southwest with skylarks on 15 <sup>th</sup> October (MC).
Yellowhammer <i>Emberiza citrinella</i>	1 male with greenfinches at E end of Bungalow Lane on 10 <sup>th</sup> & 14 <sup>th</sup> Oct. (MC).
<b>BIRDS</b>	
<b>Appendix 1 – Escapes:</b> none this year.	
<b>Appendix 2 – List of birds recorded in 2012-2015, but not in 2016</b>	
Whooper swan, brent goose, red-crested pochard, ferruginous duck, goosander, smew, red-legged partridge, Slavonian grebe, hen harrier, merlin, grey plover, ruff, little gull, great black-backed gull, short-eared owl, whinchat, wheatear.	
<b>Appendix 3 – Additional birds recorded prior to 2012</b> (including flying over, no doubt incomplete).	
Scaup, mandarin duck, turtle dove, golden oriole.	

### Amphibians and reptiles (and fish)

**Common (smooth) newt** 5 noted on 5<sup>th</sup> April (JE, MC) and 3 on 13<sup>th</sup> Apl (MC).

**Grass snake** 1 basking at east end of Bungalow Lane, 30<sup>th</sup> July (MC).

**Common frog** 2 on 21<sup>st</sup> Sept (DL).

No records of lizards in 2016, and no fish were identified in 2016.

### Mammals

The usual casual records were boosted by an evening walk run by Norwich Bat Group on 3<sup>rd</sup> August. Water shrew is a new species for the reserve. No records confirmed in 2016 for bank vole, mice or fox. Two additional mammal species were seen close to the reserve: grey squirrel on trees between railway and boundary ditch, 22<sup>nd</sup> October and Bungalow Lane, 16<sup>th</sup> Feb; and rabbit, fairly often in Bungalow Lane properties.

<b>Weasel</b>	One ran across Bungalow Lane, 15 <sup>th</sup> Jan (CD).
<b>Otter</b>	1 on the broad on 30 <sup>th</sup> July (MC).
<b>Water vole</b>	4 <sup>th</sup> May (KB).
<b>Mole</b>	Molehills in rough grass, especially on the riverbank footpath.
<b>Water shrew</b>	A dead water shrew on the riverbank footpath on the guided walk on 24 <sup>th</sup> Oct.
<b>Common shrew</b>	Caught by a barn owl, 15 <sup>th</sup> Feb (MC).
<b>Daubenton's bat</b>	Seen well over the river on 3 <sup>rd</sup> August.
<b>Soprano pipistrelle</b>	Several sound records on 3 <sup>rd</sup> August.
<b>Common pipistrelle</b>	Sound record on 3 <sup>rd</sup> August.
<b>Nathusius's pipistrelle</b>	Sound record on 3 <sup>rd</sup> August.
<b>Noctule</b>	3 over river, 3 over W marsh, 18 <sup>th</sup> Apl (CD); several dusk records in July including 8 over Yare/SW broad area 19 <sup>th</sup> July (MC); distant views on 3 <sup>rd</sup> August.
<b>Muntjac</b>	Five records, mostly at around the edge or just off the reserve, some of which were at dusk.
<b>Chinese water deer</b>	Seen on so many occasions that dates are no longer noted, usually 1-2, though 3-4 on occasions. Most visible in the first two months of the year when access to the marshes was limited to the Bungalow Lane end, but it's likely they are present and out of sight most of the time. One young deer found near the flood in summer.



Dead water shrew, 24<sup>th</sup> October (SW), a new species for the reserve;  
Chinese water deer, 18<sup>th</sup> January (DL).

## Butterflies

**Orange-tip surveys:** transect-style counts of orange-tips were undertaken for a second year, with seven surveys from 20<sup>th</sup> April to 28<sup>th</sup> May. Highest count was 13 (all males) on 19<sup>th</sup> May, rather fewer than the peak count of 27 in 2015. It is too early to draw conclusions.

It was, like most places, a rather poor start to the year for butterflies, on account of the cool and wet spring, but improving later in the year. Brown argus is an additional species for the reserve; otherwise this list is the usual range of species, with no obvious omissions.

**Large skipper** – July

**Small skipper** – July

**Large white** – May-August

**Small white** – May, July-September

**Green-veined white** – May-September. Often the commonest white.

**Orange-tip** – April-May June. See survey notes above. Eggs found on lady's smock flowers again.

**Brimstone** – March-May, August

**Small tortoiseshell** – March-September. Not many caterpillars on nettles this year.

**Comma** – July-Sept

**Painted lady** – June-August

**Red admiral** – May-September

**Peacock** – April-September

**Meadow brown** – June-August

**Gatekeeper** – July-August

**Ringlet** – July

**Speckled wood** – May, July-September

**Holly blue** – May, June, August

**Brown argus** – 9<sup>th</sup> August (SW). A new species for the reserve.

**Small copper** – May, July, Sept

**Common blue** – August



Small tortoiseshell on watermint, 26<sup>th</sup> August; brown argus, 9<sup>th</sup> August (SW).

## Moths

No moth trapping has been done: these are daytime records mostly from Mark Chipperfield and Derek Longe. Dates are when species were first noted.

**Common Carpet** 26<sup>th</sup> May

**Green Carpet** 17<sup>th</sup> May

**Common Nettle-tap** 17<sup>th</sup> May

**Small China-mark** 17<sup>th</sup> May

**Cyclamen Tortrix** 19<sup>th</sup> May

**Cinnabar + larva** 28<sup>th</sup> May + 31<sup>st</sup> July

**Silver Y** 6<sup>th</sup> June

**Ghost Moth** 6<sup>th</sup> June, dusk

**Silver-ground Carpet** 15<sup>th</sup> June

**White-shouldered House moth** 17<sup>th</sup> June

**Hook-marked Straw** 21<sup>st</sup> June (JE)

**Clouded border** 20<sup>th</sup> June

**Bloodvein** 28<sup>th</sup> June

**Mullein moth larva** 7<sup>th</sup> July

**Bramble False-feather** 30<sup>th</sup> July

**Brown China-mark** 30<sup>th</sup> July

**Common Grass-veneer** 30<sup>th</sup> July

**Pearl Veneer** 30<sup>th</sup> July

**Vapourer** 30<sup>th</sup> July

**Water Veneer** 30<sup>th</sup> July

**Beautiful China Mark Moth** 31<sup>st</sup> July

**Common Marble** 28<sup>th</sup> August

**Mother of Pearl** 5<sup>th</sup> August

**Rush Veneer** 13<sup>th</sup> August

**Straw Dot** 5<sup>th</sup> August

**Vapourer** Bungalow Lane 10<sup>th</sup> August

**Yellow-legged Clearwing** 31<sup>st</sup> August

**Hummingbird Hawk-moth** 13<sup>th</sup> September on Buddleia

**Snout** 10<sup>th</sup> September

**Vapourer** 15<sup>th</sup> September

**Drinker** larva 11<sup>th</sup> November



Moths, left to right: Beautiful China-mark *Nymphula nitidulata*, 31<sup>st</sup> July (DL), the third China-mark species of micro-moth seen at Thorpe Marshes, with Brown and Small; Mullein moth caterpillar, 7<sup>th</sup> July; Drinker moth caterpillar, 11<sup>th</sup> November (DL).

## Damselflies and Dragonflies

**Norfolk Hawker surveys:** as for orange-tip butterflies, transect-style counts of Norfolk Hawkets were run for a second time this year with 10 surveys in June, July and on 1<sup>st</sup> August. Highest count was 40 by Derek Longe on 28<sup>th</sup> June. This is not a full count of the reserve as we follow a regular route on the paths: there are Norfolk hawkets on other ditches on the reserve and the new ponds.

We had had just occasional records of **Broad-bodied Chaser** in previous years, but this year they were regular in June and July on newly opened up ditches, these recalling the rather bare ponds they tend to like. Of the six records, 16<sup>th</sup> June to 30<sup>th</sup> July, five were a male on the reserve, plus a female on 30<sup>th</sup> July just east of Bungalow Lane on 30<sup>th</sup> July (MC). No obvious pairs or evidence of breeding.



Small Red-eyed Damselfly and Red-eyed Damselfly, same ditch, same date of 4<sup>th</sup> August.

A birdwatcher recalled **Small Red-eyed Damselflies** on a ditch 3-4 years ago, so it was delight to find a single individual of this species, near a (Large) Red-eyed Damselfly, on an open ditch by the permissive path on 4<sup>th</sup> August.

There is a gap in the information for the new ponds, to which there was no access through the education area gate. On the one visit made, on 24<sup>th</sup> June, when NWT staff were working on the pond-dipping platform, there were four dragonfly species: Norfolk Hawker, Emperor, c. 10 Black-tailed Skimmers and a Four-spotted chaser, and other dragonfly species could be seen on occasions from the path. Damselflies on that date, all the first pond, were: Common Blue Damselfly c.100, Red-eyed Damselfly c.10, Blue-tailed Damselfly 3+.

**Red-eyed Damselflies** on the pond probably account for them being seen quite regularly on the ditches by the permissive path, away from their stronghold on the lily pads on the River Yare, where there was a high count of 41 on 19<sup>th</sup> June.

The **Willow Emerald Damselfly** (Western Willow Spreadwing in Europe) had an excellent year. Derek Longe's peak count was 31 on 21<sup>st</sup> September, certainly an underestimate as they were also in areas not checked on that count. They could be seen on the newly-opened area of ditch by the railway bridge, though one of the best areas was the open ditch parallel to Bungalow Lane. Our experience in finding them has improved but this feels like a real increase, in line with their growth in numbers through the Broads and this year's spread in range west out of East Anglia. It is extraordinary that it is only their 10<sup>th</sup> year in the UK (Cham *et al*) and that their discovery at Thorpe was as recent as 2013. Many more sets of egg-laying scars were found: at Thorpe Marshes these have been found on willow, alder, ash and bramble. A male **Emerald Damselfly** was photographed clasping a female Willow Emerald.



Willow Emerald, male, on ivy 20<sup>th</sup> October 2016, and ovipositing scars on ash.  
Right: a male Emerald Damselfly clasping a female Willow Emerald, 26<sup>th</sup> August (DL).

The 'missing' Odonata species at Thorpe, compared with the RSPB's Mid Yare Reserves (excluding vagrants) are Variable Damselfly and Scarce Chaser. A mystery Coenagrion damselfly, photographed on 22<sup>nd</sup> May, had us wondering if we had found Variable Damselfly, as it seems to show the broken shoulder stripes –

'Dracula's fang with a drop of blood' – characteristic of that species. Other features pointed to an aberrant Azure Damselfly, and experts from the British Dragonfly Society agreed with that conclusion.



Mystery Coenagrion, 22<sup>nd</sup> May, probably an aberrant Azure Damselfly.

\* In the table below, the third column is proof of breeding: **Y = yes, P = probable, - = none**. This is little changed from previous years. The fourth column is this year's main flight period, with a few start or end dates.

**Confirmed breeding (Y, 13 species):** species where larvae or exuviae identified (Azure Damselfly, Brown Hawker, Norfolk Hawker, Hairy Dragonfly), egg-laying seen (Willow Emerald Damselfly, Large Red Damselfly, Migrant Hawker, Emperor, Common Darter), pairs seen in tandem (Common Blue Damselfly, Red-eyed Damselfly, Emperor Dragonfly, Ruddy Darter) or immature form seen (Blue-tailed Damselfly).

**Probably breeding (P, 5 species):** what look like freshly emerged insects, or males apparently holding territory (Emerald Damselfly, Banded Demoiselle, Southern Hawker, Four-spotted Chaser, Black-tailed Skimmer).

**No breeding evidence (-, 2 species):** Broad-bodied Chaser, Small Red-eyed Damselfly.

(This report follows the British Dragonfly Society's house style with capital letters for English species names.)

English name	Scientific name	*	Flight period, and other comments
Willow Emerald Damselfly	<i>Chalcolestes sponsa</i>	Y	31 <sup>st</sup> July – 20 <sup>th</sup> October. Peak count 31, 21 <sup>st</sup> Sept.
Emerald Damselfly	<i>Lestes sponsa</i>	P	31 <sup>st</sup> July, 26 <sup>th</sup> Aug.
Banded Demoiselle	<i>Calopteryx splendens</i>	P	May-August.
Common Blue Damselfly	<i>Enallagma cyathigerum</i>	Y	May-September, often abundant.
Azure Damselfly	<i>Coenagrion puella</i>	Y	May-August.
Red-eyed Damselfly	<i>Erythromma najas</i>	Y	May-August. 41 on 19 <sup>th</sup> June, river only.
Small Red-eyed Damselfly	<i>Erythromma viridulum</i>	-	1 on 4 <sup>th</sup> August.
Blue-tailed Damselfly	<i>Ischnura elegans</i>	Y	May-Aug. Female form <i>rufescens</i> , 29 <sup>th</sup> May & 30 <sup>th</sup> July.
Large Red Damselfly	<i>Pyrrhosoma nymphula</i>	Y	First of year on 20 <sup>th</sup> April, last on 18 <sup>th</sup> July.
Southern Hawker	<i>Aeshna cyanea</i>	P	July-September
Brown Hawker	<i>Aeshna grandis</i>	Y	July-September
Migrant Hawker	<i>Aeshna mixta</i>	Y	30 <sup>th</sup> July, August–October
Norfolk Hawker	<i>Aeshna isosceles</i>	Y	31 <sup>st</sup> May, June-July, 13 <sup>th</sup> August.
Emperor Dragonfly	<i>Anax imperator</i>	Y	June-August.
Hairy Dragonfly	<i>Brachytron pratense</i>	Y	May-June
Four-spotted Chaser	<i>Libellula quadrimaculata</i>	P	June-August
Broad-bodied Chaser	<i>Libellula depressa</i>	-	June-July
Black-tailed Skimmer	<i>Orthetrum cancellatum</i>	P	June-August
Ruddy Darter	<i>Sympetrum sanguineum</i>	Y	July-September
Common Darter	<i>Sympetrum striolatum</i>	Y	July-22 <sup>nd</sup> October

### Other invertebrates

Ad hoc records from 2016, and no doubt many noted in previous years were also present. Initials denote those who found and identified the species listed, where new or interesting. In some cases English names are descriptive rather than precise. Concentrated effort by specialists would add many more species.

<b>Spiders</b>	
Crab spider <i>Misumena vatia</i>	See 2014 (mostly) & 2015 reports for other spiders.
<b>Bees</b>	
Hairy-footed Flower-bee <i>Anthophora plumipes</i>	(JE)
Garden bumblebee <i>Bombus hortorum</i>	(JE, MC)
White-tailed bumblebee <i>Bombus lucorum</i>	
Red-tailed bumblebee <i>Bombus lapidarius</i>	

Tree bumblebee <i>Bombus hypnorum</i>	
Common carder bee <i>Bombus pascuorum</i>	
Marsham's nomad bee <i>Nomada marshamella</i>	(MC)
<b>Hornet, wasps and ichneumons</b>	
Hornet <i>Vespa crabro</i>	
Wasp <i>Argogorytes mystaceus</i>	(MC)
Ichneumon wasp <i>Pimpla rufipes</i>	(MC)
Ichneumon wasp Cf. <i>Amblyjoppa proteus</i>	(CD)
<b>Beetles</b>	
2-spot Ladybird <i>Adalia 2-punctata</i>	(JE)
Ten spot Ladybird <i>Adalia decempunctata</i>	<i>guttatopunctata</i> form (MC)
Water Ladybird <i>Anisosticta novemdecimpunctata</i>	(MC)
7-spot Ladybird <i>Coccinella septempunctata</i>	
Harlequin Ladybird <i>Harmonia axyridis</i>	
Flea beetles <i>Altica</i> sp	(DL)
Reed Beetle <i>Donacia simplex</i>	throughout the summer
Beetle <i>Plateumaris sericea</i>	brown colour form (MC)
Wasp Beetle <i>Clytus arietis</i>	06/06/15, on nettles (MC)
Cardinal Beetle <i>Pyrochroa serraticornis</i>	(MC, JE)
Malachite Beetle <i>Malachius bipustulatus</i>	(MC)
Nettle Weevil <i>Phyllobius</i> sp.	probably Green Nettle Weevil? MC
Black-and-yellow Longhorn Beetle <i>Rutpela maculata</i>	
Soldier Beetle <i>Cantharis rustica</i>	(JE)
Common Red Soldier Beetle <i>Rhagonycha fulva</i>	
Swollen-thighed Beetle <i>Oedemera nobilis</i>	22 males counted, 30 <sup>th</sup> June (CD)
A beetle <i>Silis ruficollis</i>	(JE)
<b>Bugs</b>	
Spear Thistle Lacebug <i>Tingis cardui</i>	(JE, 22 <sup>nd</sup> April)
Common Green Shield Bug <i>Palomena prasina</i>	
Dock Bug <i>Palomena prasina</i>	
Pied Shieldbug <i>Tritomegas bicolor</i>	
Cinnamon bug <i>Corizus hyoscyami</i>	
Alder Spittlebug <i>Aphrophora alni</i>	
Bug <i>Calocoris stysi</i>	
<b>Caddisflies</b>	
Caddisfly <i>Mystacides longicornis</i>	(MC)
Caddisfly <i>Mystacides nigra</i>	(MC)
Caddisfly <i>Phryganea grandis</i>	(MC)
Caddisfly <i>Sericostoma personatum</i>	(JE, 20 <sup>th</sup> May)
<b>Sawflies</b>	
Green Sawfly <i>Rhogogaster viridis</i>	(MC)
Reed Stem Borer Sawfly <i>Calumeuta filiformis</i>	(MC)
Sawfly <i>Halidamia affinis</i>	(MC)
<b>Lacewings</b>	
Green Lacewing <i>Chrysopa perla</i>	
<b>Alderflies</b>	
Alderfly <i>Sialis lutaria?</i>	
<b>Scorpion-flies</b>	
Scorpion-fly <i>Panorpa</i> sp	Photo on page 15
<b>Grasshoppers and crickets</b>	
Slender Groundhopper <i>Tetrix subulata</i> 9 <sup>th</sup> Sept	A further eight species noted in the 2015 report also seen this year.



Crab spider *Misumena vatia* on marsh ragwort, 7<sup>th</sup> July; angelica with Black-and-Yellow Longhorn Beetle *Rutpela maculata* (formerly *Strangalia maculata*), 4<sup>th</sup> August.

### Hoverflies (MC)

Hoverfly - *Bacchas elongata*  
Hoverfly - *Chellosia illustrata*  
Hoverfly - *Chrysogaster solstitialis*  
Hoverfly - *Dasysyrphus albostrigatus*  
Hoverfly - *Epistrophe grossulariae*  
Hoverfly - *Episyrphus balteatus* (Marmalade Hoverfly)  
Hoverfly - *Eristalis arbustorum* (Plain-faced Dronefly)  
Hoverfly - *Eristalis horticola* (Stripe-winged Dronefly)  
Hoverfly - *Eristalis intricarius* (Furry Dronefly)  
Hoverfly - *Eristalis pertinax* (Tapered Dronefly)  
Hoverfly - *Eristalis tenax* (Common Dronefly)  
Hoverfly - *Platycheirus granditarsus*  
Footballer Hoverfly *Helophilus pendulus*

Hoverfly - *Leucozona lucorum*  
Hoverfly - *Meliscaeva cinctella*  
Hoverfly - *Myathropa florea*  
Hoverfly - *Neoascia tenur*  
Hoverfly - *Platycheirus albimanus* (White-footed Hoverfly)  
Hoverfly - *Rhingia campestris*  
Hoverfly - *Sercomyia silentis* (Bog Hoverfly)  
Hoverfly - *Volucella bombylans*  
Hoverfly - *Volucella inflata*  
Hoverfly - *Volucella pellucens* (Pellucid Fly)  
Lesser Hornet Hoverfly *Volucella inanis*  
Hornet Mimic Hoverfly *Volucella zonaria*  
Hoverfly - *Xylota segnis*

### Flies (MC)

Fly - *Dryomyza anilis*  
Fly - *Tephritis neesii*  
Blue Bottle Fly *Calliphora vomitoria*  
Fly - *Hybos culiciformis*  
Fly - *Neomyia cornicina*  
Fly - *Paloptera quinque maculata*  
Fly - *Phaonia angelicae*

Fly - *Rhagio tringarius* (Marsh Snipefly)  
Fly - *Sciara hemerobioides*  
Notch-horned Cleg *Haematopota pluvialis*  
Twin-lobed Deerfly *Chrysops relictus*  
Owl Midge *Pericoma fuliginosa* (Moth Fly)  
Fly - *Thricops diaphanous*



Black-tailed Skimmer, 18<sup>th</sup> July; scorpion-fly *Panorpa sp.*, 11<sup>th</sup> October.

### Lichens and galls

No significant finds known in these groups. See 2015 report for species found in 2015.

### Fungi, new species recorded, see also 2015 report:

Small Stag's Horn *Calocera cornea*, there throughout the autumn and winter.

*Parasola leiocephala*, 19<sup>th</sup> Feb. James Emerson says that this is a notable ID because there are several similar species so unless checked microscopically these aren't assigned to species.



Small Stag's Horn *Calocera cornea*; *Parasola leiocephala* (JE).

For more information about NWT Thorpe Marshes, including details of guided walks, please visit the websites noted on page 1. As a local charity committed to saving Norfolk's wildlife, NWT relies on membership and other public support.