

ALNWICK WILDLIFE GROUP.

NORTHUMBERLAND ESTATES BIRD SURVEY.

REPORT FOR APRIL 2017 – FEBRUARY 2018.

Introduction.

Aims of the Survey. The basic aim is to attempt to measure the effects of Northumberland Estates management on the wild bird population in the area of the survey, also to record any other points of interest which the survey may reveal about the local wildlife.

Areas of the Survey. The survey is taking place on four areas, where Northumberland Estates are attempting to increase the population of Red Grouse to a point where some sustainable shooting is possible. The Kimmer Lough is leased for private shooting and is under different management.

These areas are :-

Post Office Pylon.

Black Lough.

Alnwick Moor.

Hulne Moor.

Kimmer Lough.

All these areas are on the Fell Sandstone ridge, which runs roughly in a semi-circle round the base of the Cheviots. All except the Kimmer Lough rise to about 250 metres and have a typical upland vegetation of heather on shallow peat but also a wide variety of other habitats. The average size of each area is approx 120 hectares. The Estates management is mainly heather burning to improve its feeding value for Red Grouse and suitability for breeding cover. More intensive control of some predators is carried out, improved water availability for dry periods and provision of limestone grit etc. Hulne and Alnwick Moors form the area of present highest Grouse population, followed by the Post Office Pylon, which is approx. one mile away, and the Black Lough at two miles. Here there are only one or two pairs of breeding Red Grouse but the number has been slowly increasing. Kimmer Lough is more distant and at a lower level. The shooting here is let and the management of the moor is less intensive. Few Red Grouse have been recorded.

Methodology of the Survey. The five sites are visited five times annually, three during the breeding season and twice in the winter. All birds are recorded but a small number have been selected as the “target species” which are those more commonly found in these areas and most likely to be affected by the Estate management. In an attempt to produce comparable results specific routes are used at each visit and approx. the same time spent there. Visits are made when weather is reasonable since recording is impossible in extreme weather.

Analysis of Data

The counts of the target species from each area are totalled and graphs produced from these results. To achieve the aims of the survey a comparison with population counts over a larger area must be made. An attempt is made to compare our figures with English national averages produced by BTO from their annual Breeding Bird Surveys. National figures can often be misleading when used as a direct comparison in any one local area and these facts have to be taken into consideration when reviewing the results. The “Bird Atlas” published by the British Trust for Ornithology, also gives very useful information when comparing local trends in population over the last ten year period since the previous Atlas was produced but are becoming less relevant as time passes. The more recently published “Northumbria Bird Atlas” from the Northumbria and Tyneside Bird Club, also

provides much useful and more local information. The numbers of some species can vary so much during the ten year periods between National surveys that the results can be very misleading. A more accurate picture can be obtained from annual surveys such as this, being made on a more regular basis.

There are many factors affecting bird populations, weather is easily shown to be the most important. Periods of severe winters conditions leading to starvation, especially in those species more dependent on insects for food. The effects of the winter periods on some species between 2009/11, when there were two month long periods with complete snow cover, as well as low temperatures, can be clearly seen on the graphs. Late and wet breeding seasons also have had a depressing effect on some species. It is interesting to see how populations may have changed with the conditions that have been experienced since then.

Breeding Period Results of Target Species.

Falling populations of many British birds in recent years have resulted in the grouping of species into three bands:- **Black.** For those not endangered.

Amber. Those for which there is some concern.

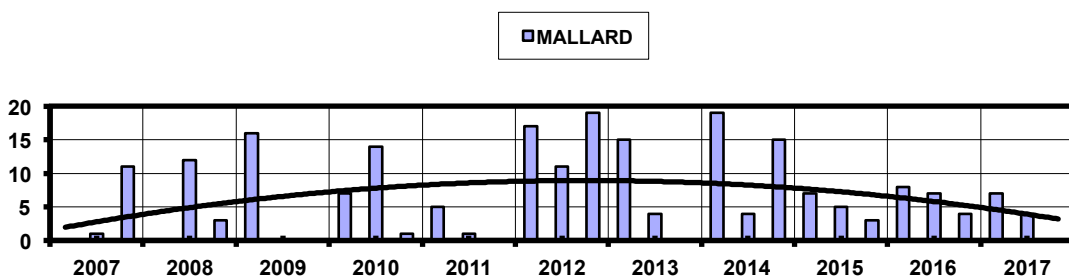
Red. For those at greatest risk.

BTO. National figures give:- **(A)** A long term trend as a % rise or fall over the period 1995 – 2015
(B) A Breeding Bird Survey trend as an average % rise or fall over the period 2015 -2016

These are the latest figures published by BTO.

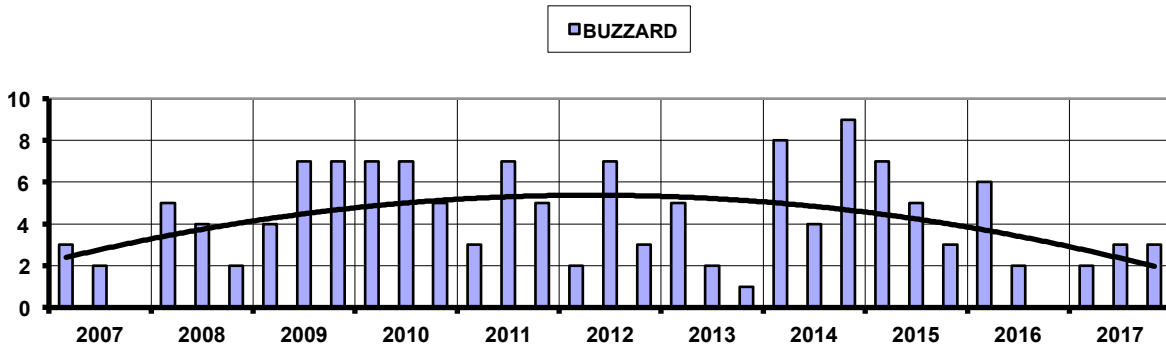
Information taken from the BTO National Bird Atlas is shown as **(BA)** and from the Northumbria Bird Atlas as **(NBA)**

These figures and the colour classification are given with the graph of each of the target species.



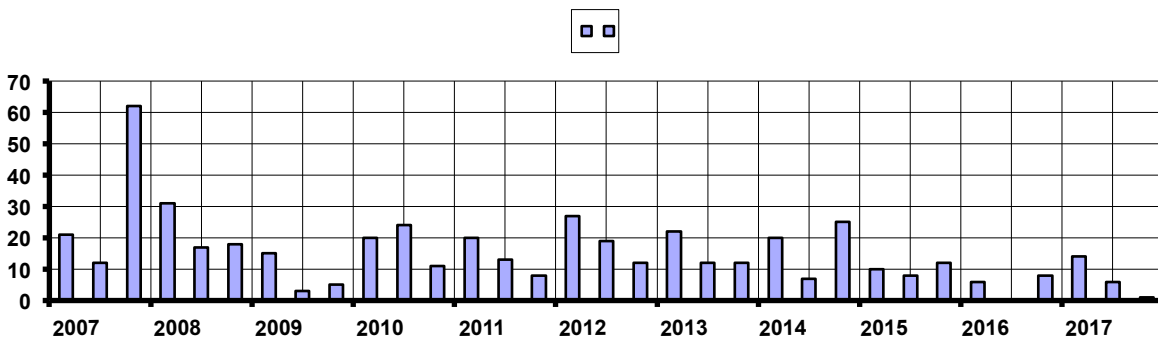
Mallards have been recorded in very irregular numbers, which may include young birds at some counts and therefore may not give a true picture of their breeding status but it would now seem that there has been a gradual decrease in counts, especially in the last two years of the survey. Both the (BA) and (NBA) indicate a very gradual increase in numbers over a long period, opposite to our survey results. The total count of birds may be affected by shooting.

Amber listed (A) +18% (B) +2%



The vast spread of Common Buzzard into the eastern counties in the last 25 years is reflected in the long term trend figures shown below. A reduction in local counts during 2011/13 was attributed to poor breeding results and a levelling off due to pressure on available breeding territories. Our records for 2016 show a reduction in numbers which may be due to the very late breeding season in the North East and follows the national figures which show a small drop in numbers.

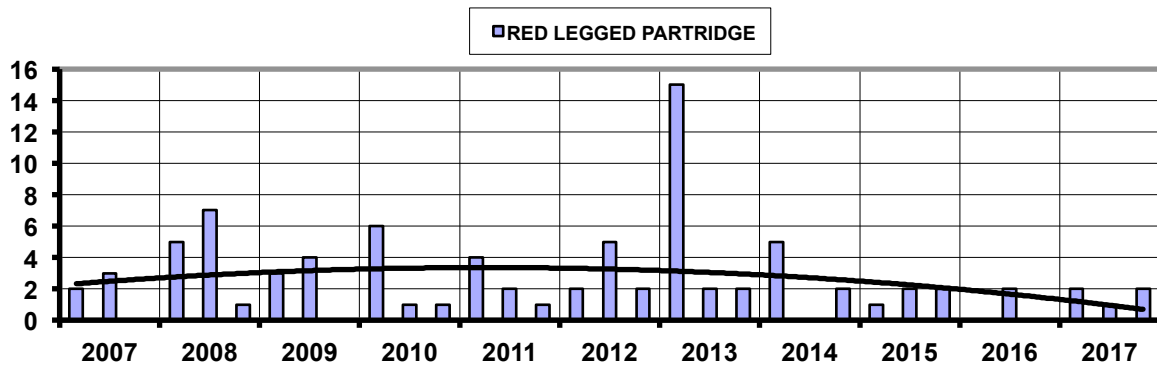
Black listed. (A) +84% (B) -1%



The population of Red Grouse appears to have reduced gradually over the last few years. The low level of shooting during that period will probably have been sufficient to control any increase in numbers. None were shot in the 2016 or 2017 seasons. These counts may be very misleading and numbers during the winter are much higher (see the winter chart) when birds are less secretive. One or two pairs have bred successfully in recent years at the Black Lough but it is thought that they may have moved to other areas of higher population once on the wing.

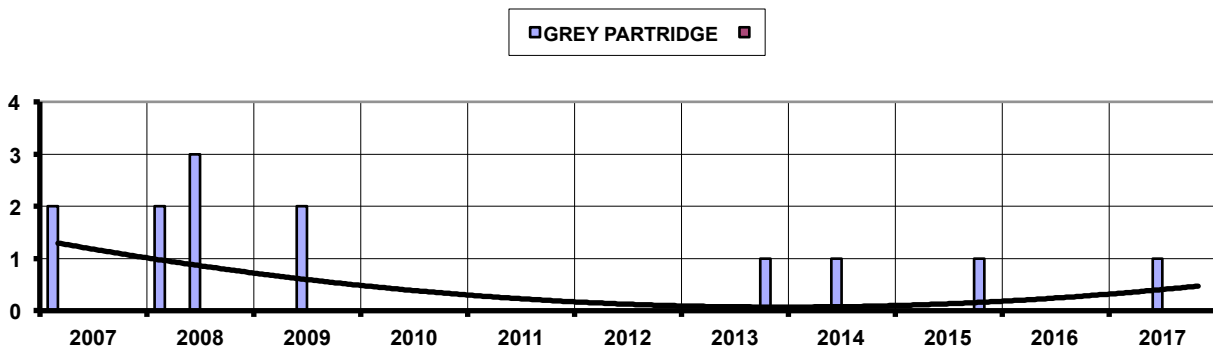
(NBA) shows major gains in the area of the Cheviots. (BA) indicates little change in the national population during the last twenty years.

Amber listed. (A) +13% (B) - 27%



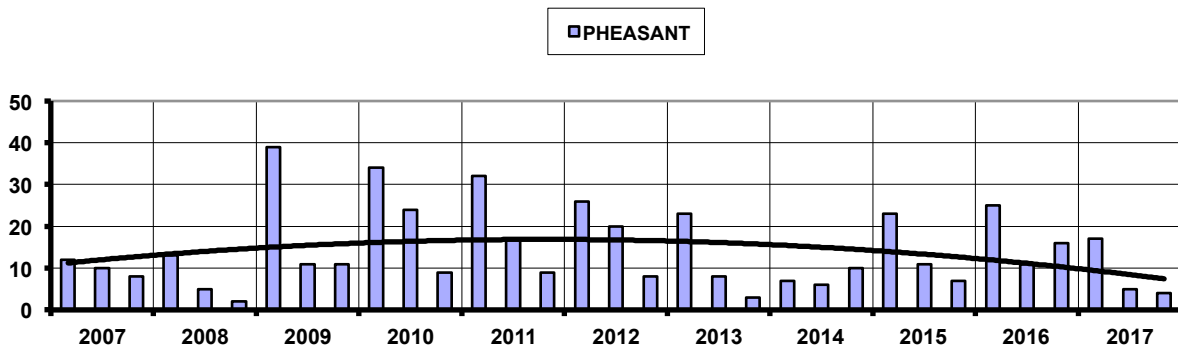
Red Legged Partridge in the survey areas are probably the remnants of birds released here in previous years or from releases on neighbouring estates. Hand reared birds released for shooting do not make good breeding stock in the wild. The increase in national figures (BA) is largely attributed to hand reared birds released for shooting. The survey area is not the natural habitat for Red Legged Partridge, although many are now released on heather moorland for shooting.

Black listed. (A) + 6% (B) -21%



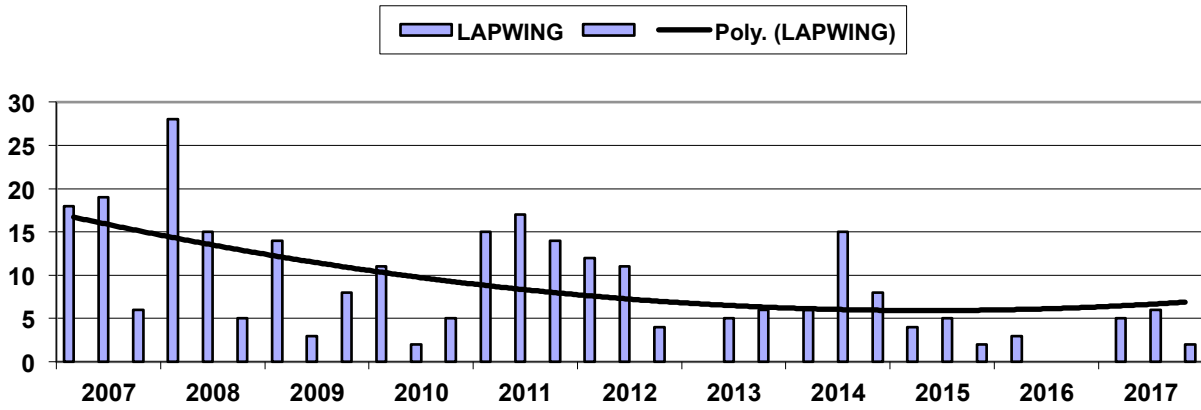
The areas covered by the survey are not natural habitat for Grey Partridge, it is therefore not surprising that the population has more or less disappeared.

Red listed. (A) - 60% (B) - 26%



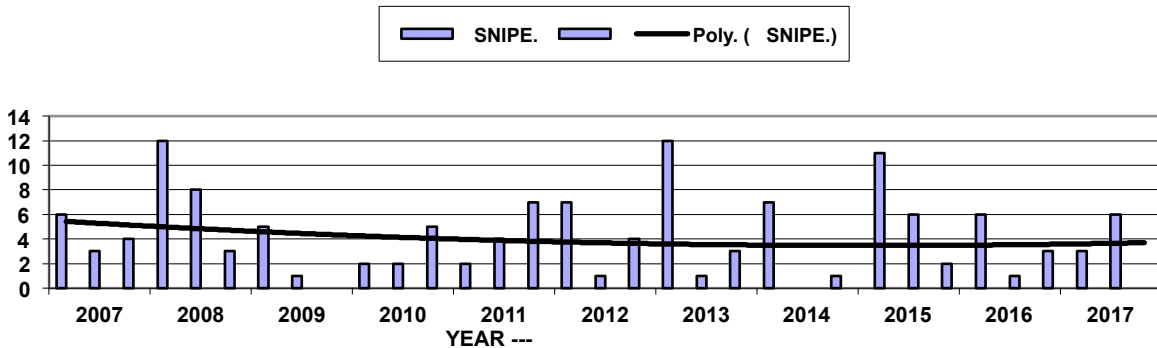
Counts of Pheasant will always vary where they have been released for shooting. There is one release pen affecting the survey which is on the border of Hulne Moor. At the Kimmer Lough some birds have been released and the area is shot over on a very regular basis throughout the season. (NBA) & (BA) both show little change in either local or national figures.

Black listed (A) +29% (B) - 9 %



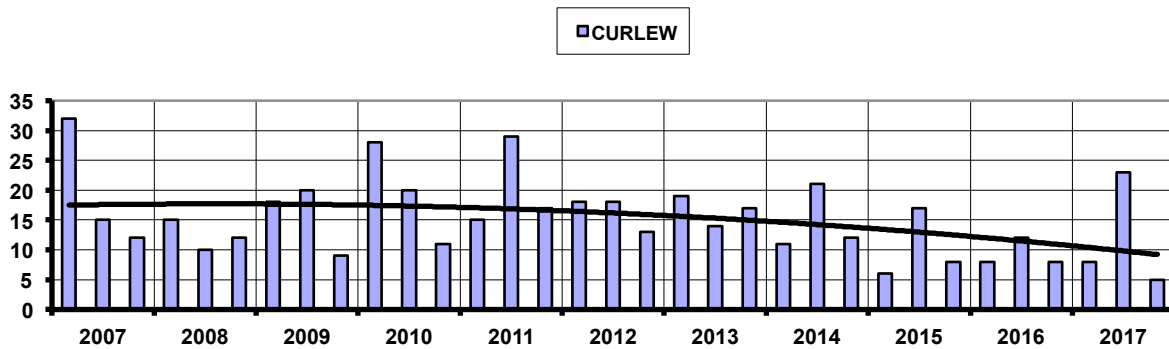
The apparent slow decline shown in this graph would seem to be following the general trend both nationally and locally. (BA) shows the highest losses are from the western side of the country. (NBA) indicates a rise in population in our area but this is more likely to be on marginal grassland more suited to their requirements or on over wintered stubbles. An excellent example of this is at Ratcheugh where some stubble fields have been left and Lapwing numbers have increased.

Red listed. (A) -43% (B) - 13%



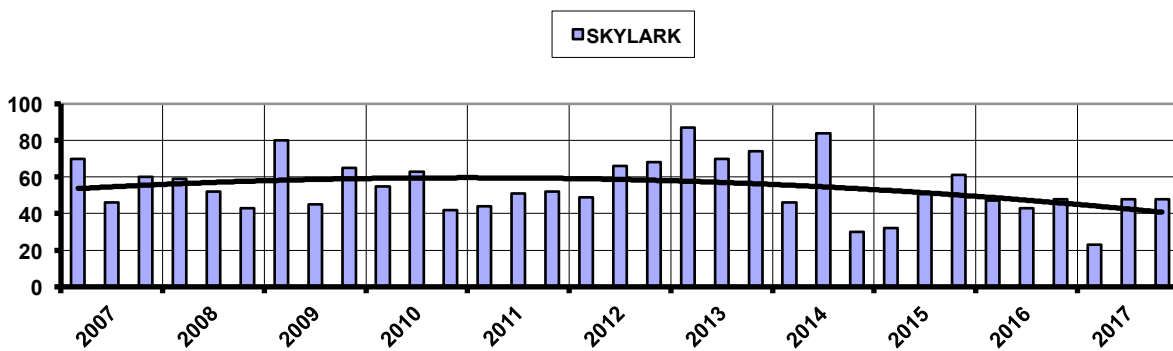
The higher counts in April of most years will be because birds were still on passage. Counts made later in the season would indicate a small but regular population of breeding birds. (BA) results indicate that there has been a reduction in their lowland breeding habitat. (NBA) results show a more stable population

Amber listed. (A) +19% (B) - 11%



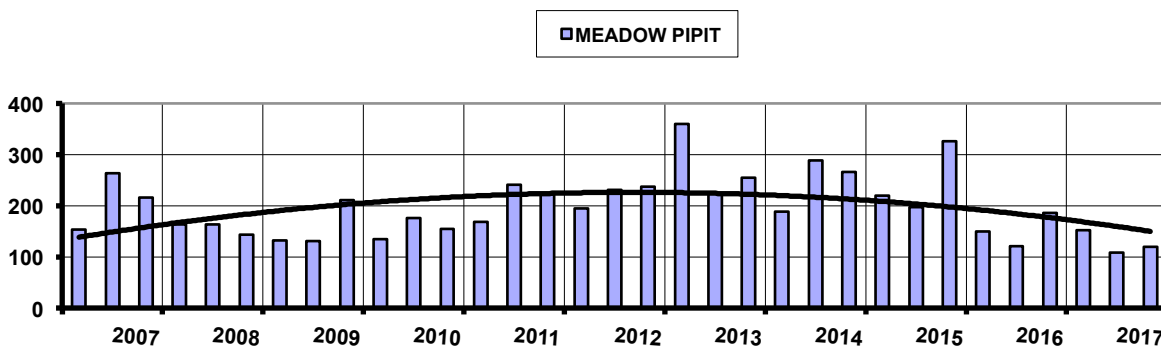
Curlew are showing a slow decline in the survey area which is disappointing since (NBA) records a stable population in the North East.

Red listed. (A) -48% (B) + 3%



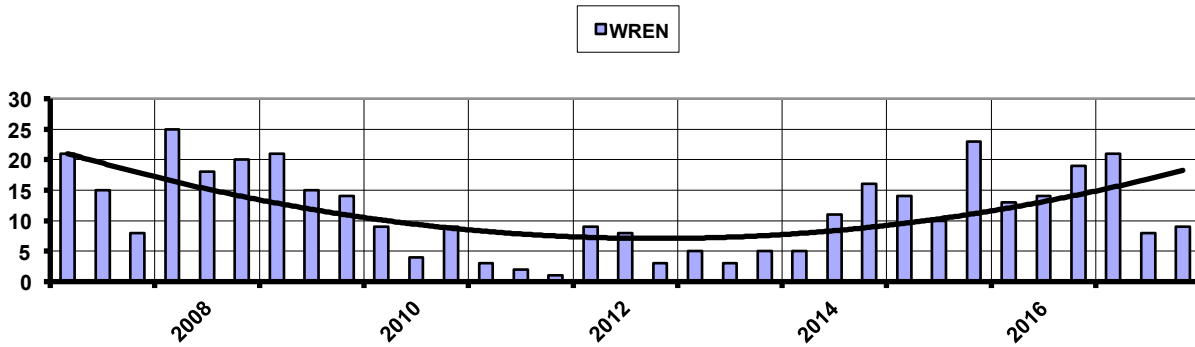
Skylarks in our area appear to have been holding their own, a better result than national averages. One of the commoner species in the survey area, they are therefore more likely to show the results of local management. The biggest losses have been in Ireland. (BA) Losses in England are mainly associated with more intensification in arable farming areas with the change from spring sown to winter sown crops. Population in the North East appears to be stable. (NBA)

Red listed. (A) -22% (B) + 2%



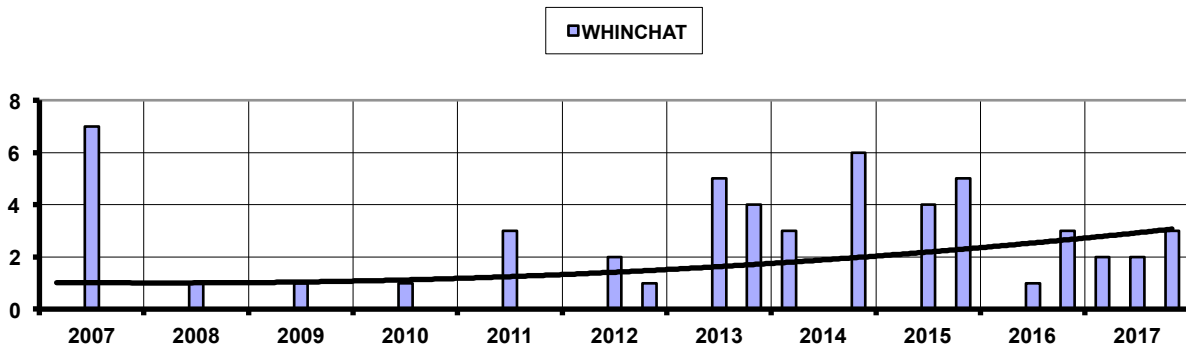
Meadow Pipits are the commonest species in the survey area and are therefore most likely to indicate any movement in population trends. In this area they would appear to have followed the national trend with a fall in the early years of the survey but a better than average rise until 2016 since when counts have been lower. In the British Isles there has been a loss of numbers mainly in Ireland and the west coast of the UK. (BA). In the North East numbers are more or less stable.(NBA)

Amber listed. (A) -7% (B) - 5%



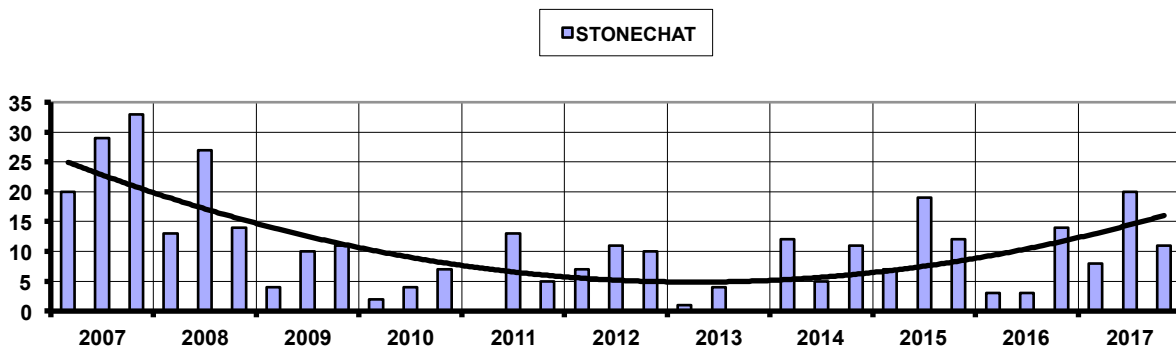
After the catastrophic fall in Wren numbers due to weather conditions in 2010 to 2012, it would appear that counts are now showing a dramatic improvement. This is typical of their ability to bounce back with large numbers of young produced when conditions allow. It is interesting to note that the build up of numbers has been fastest in the lowland areas of arable and woodland than in this survey in higher, more exposed moorland.

Black listed. (A) + 32% (B) + 9%



Whinchats have had several better years in this area, with sightings of successful family groups on several occasions. National losses have been general throughout the British Isles over a long period, losing breeding habitat in England more than in Scotland or Wales. (BA) This trend appears to have been reversed in the survey areas. As a migrant species Whinchats are not affected by our winter weather but will be subject to conditions in their winter quarters where drought has been a problem in the Sahel.

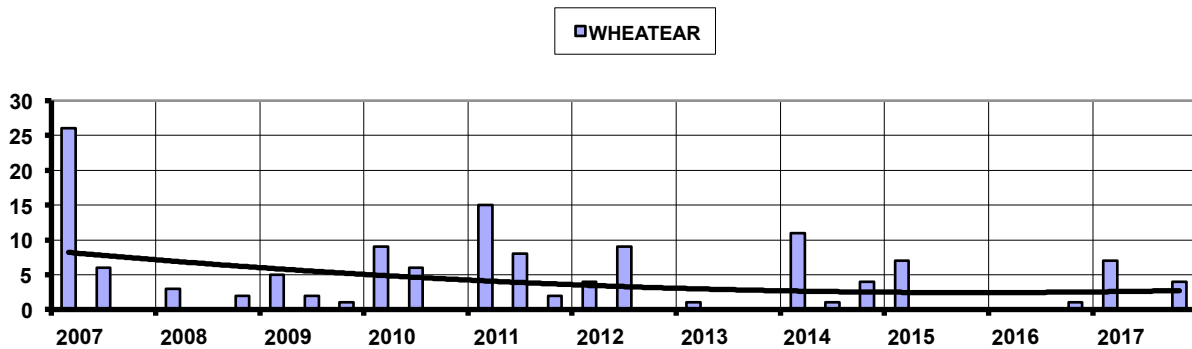
Red listed. (A) - 51% (B) + 9%



Stonechats in the survey area show signs of recovery in the last four years, after the bad winters of 2010/11 which the graph would indicate, has affected them severely. In the twenty years up to 2008

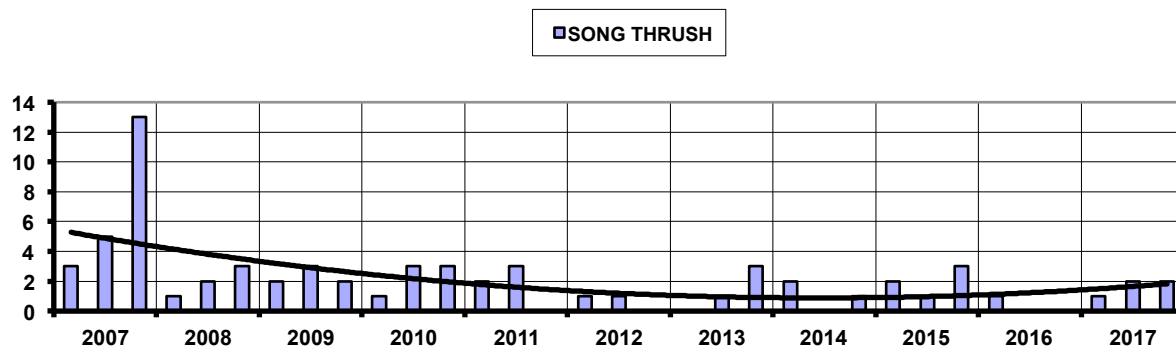
there had been a steady increase in numbers moving into the North East of England and eastern Scotland from the west. (BA)

Black listed. (A) + 53% (B) + 18%



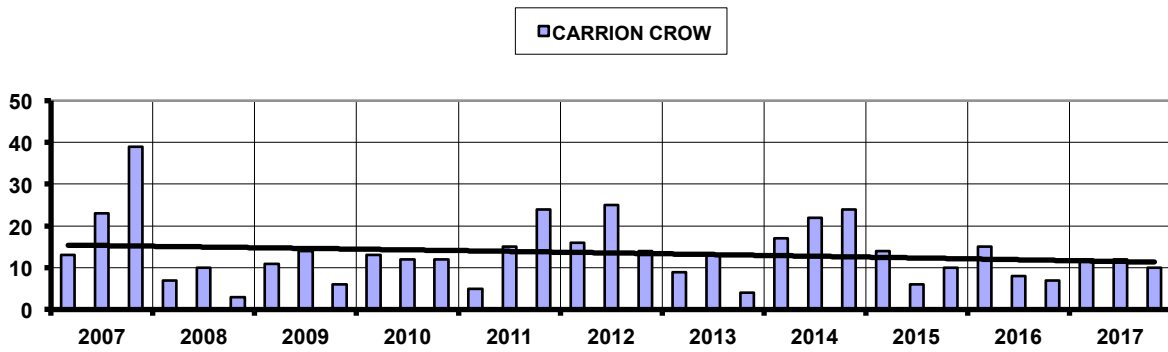
There would appear to be only a very small population of Wheatears breeding in the survey area, most records being of birds in passage, early in the season. It is estimated that there are only 700 pairs nesting in the county. (NBA) Nationally there has been a very gradual reduction in numbers over a long period. (BA) This is another migrant species.

Black listed. (A) - 16% (B) - 9%



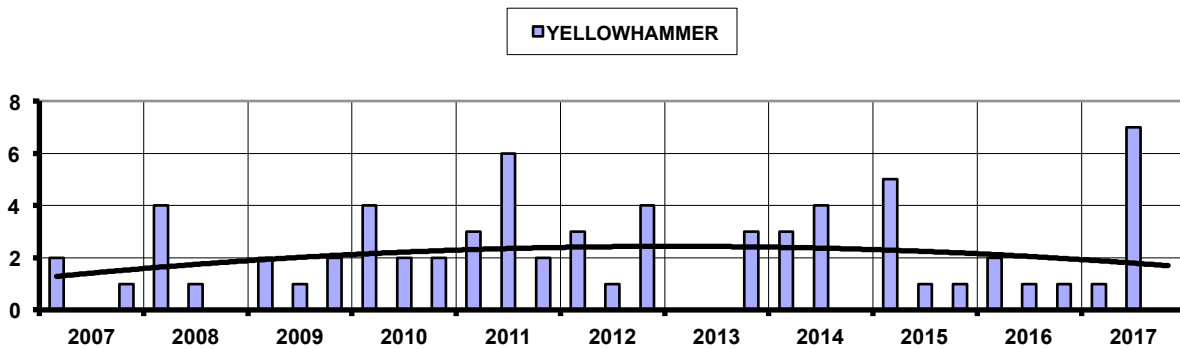
Song Thrush continue to be seen in very small numbers. Most records are made at the edges of the survey areas where forestry plantations form the boundary. More of these trees have now been removed, which will obviously have an effect on numbers recorded and make this graph inaccurate. Nationally there is a small increase in numbers, after a long period of decline. (BA) The use of molluscicides has been blamed in part for their decline.

Red listed. (A) +22% (B) + 5%



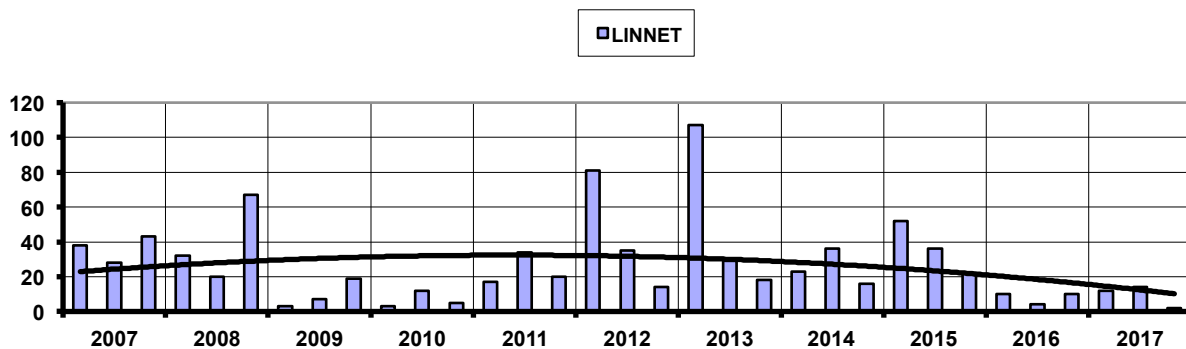
Despite gamekeeper control, numbers remain very constant as vacant territories are constantly recolonized from outside the area. The national and local population remains very constant(BA). It is interesting to note that during the two world war periods Carrion Crows increased dramatically since there was practically no gamekeeping but instead, increased their breeding range.

Black listed. (A) +18% (B) +1%



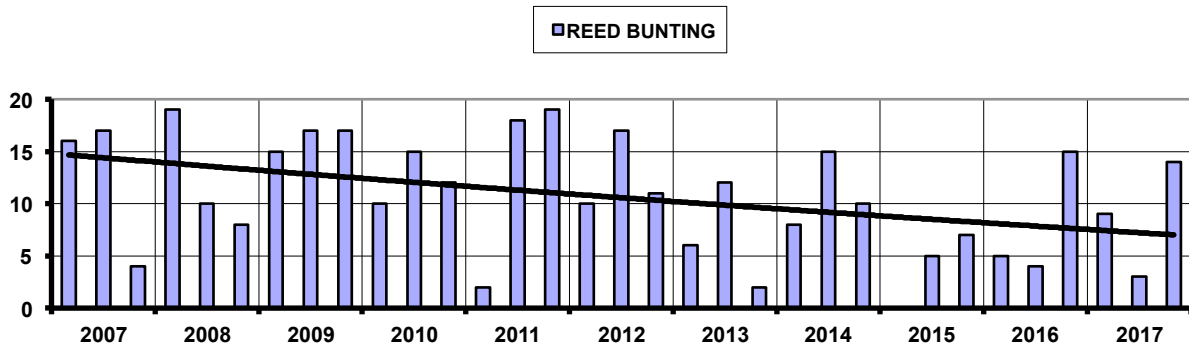
In the survey areas Yellowhammers are only recorded in small numbers during the breeding season as, except for a few areas of Gorse, there is little suitable habitat for them. Over the British Isles, continued losses seem to have happened on the edges of its recognized breeding areas and on high land mainly in the north west and in Ireland. (BA) Locally the population is fairly steady. (NBA) Historically their decline started in the 1950/60's, possibly due to the use of organochlorine as a seed dressing.

Red listed. (A) -16% (B) - 5%



The higher counts made in the early or late breeding period when Linnets are either still in flocks prior to breeding or are already beginning to gather together after fledging, should be discounted. The breeding population obviously suffered in the bad conditions of 2010, then increased in numbers until the last two years when they have again fallen. Nationally Linnets have suffered losses in their northern breeding areas (BA) but appear to have a stable population here in the North East.(NBA)

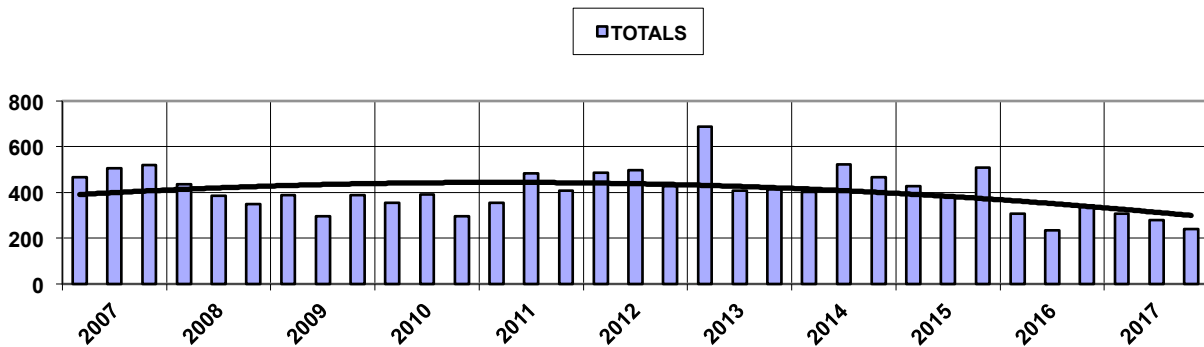
Red listed. (A) -21% (B) -8%



2015 was the lowest count of Reed Buntings in the survey so far, with 2016/17 being a little better. Only a relatively small part of the area is suitable breeding habitat. Nationally the population is stable. (BA) Locally there has been an increase at suitable habitats. (NBA)

Amber listed. (A) +31% (B) -12%

Total of all Breeding Period Counts. (Target Species.)



2016 and 2017 have shown to be the lowest total number of birds of the Target Species recorded in the survey to date.

Others of the Target Species in the Breeding Season,

The following list of birds, which were originally included with the target species, have not been recorded in sufficient numbers to enable any useful graphs to be produced for them. They have therefore been excluded from the list, although any sightings are still recorded. They are :-

Merlin,

Recorded occasionally in four areas, except Kimmerr Lough, and mainly seen in April but there has been no evidence of breeding.

Golden Plover.

Alnwick Moor seems to be the favourite area for these, with flocks numbering from 19 to 400 recorded in the April surveys on six occasions. They would be on their way to their breeding territories in the north.

Jack Snipe.

Very occasional records of single birds, mainly in the autumn passage.

Woodcock.

Often seen during the winter period but no records of any breeding.

Nightjar.

A record from Alnwick Moor of a pair during May 2009 and another from the adjoining area of Hulne Moor, which may have been a breeding pair.

Raven.

There have been a good number of records from most of the survey areas of Ravens. They are increasing their range to the east and are recorded in increasing numbers. A pair were recorded in late February in the Hulne Moor area, which may be a breeding pair, Ravens are very early breeders

Conclusions.

Despite the relatively small amount of data gathered by the survey, an attempt to compare these with National averages appears to be the only way to achieve the aims of the survey.

Taking into account the ten years of the survey, the following table is a comparison which should be viewed critically.

Species with higher counts of breeding population than National averages.

Skylark. (Red listed.)

Whinchat. (Based on very small counts. Amber listed.)

Wren. (Weather related. Black listed.)

Stonechat. (Black listed.)

Species with lower counts than the National average.

Mallard. (amber listed)
Red Legged Partridge (Black listed) listed)
Linnet (Red listed)

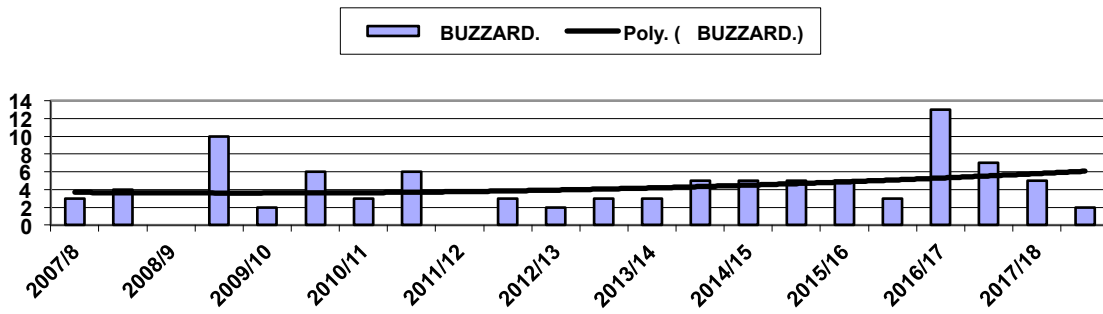
Species with little variation from the National averages.

Grey Partridge. (Red listed)
Red Grouse. (Black listed)
Pheasant. (Affected by birds released for shooting. Black listed)
Snipe. (Amber listed.)
Carrion Crow, (Black listed)
Yellowhammer (Based on small numbers. Red listed.)
Lapwing, (Red listed)
Song Thrush. (Red listed)
Reed Bunting. (Amber listed)
Buzzard (Black listed)
Curlew (Red listed)
Meadow Pipit (Amber listed)
Wheatear (Based on small numbers. Amber listed)

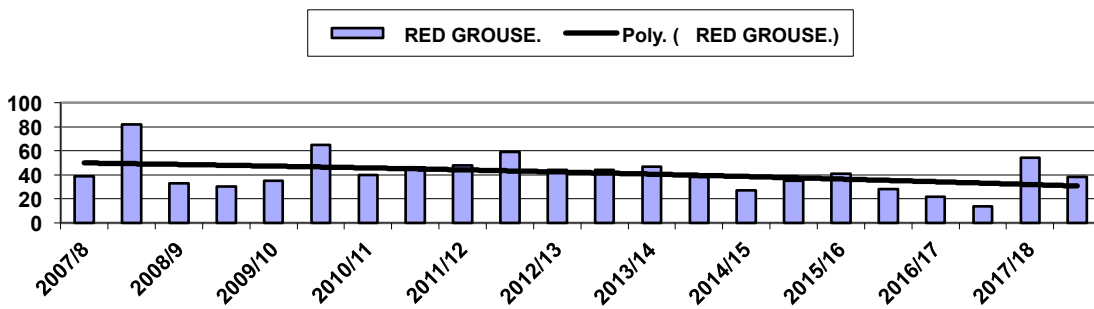
Winter Period Results.

Winter of 2017/18 started off well, with little or no frosty periods and provided birds with an easy living. Jan. and most of Feb. was colder with frosty nights and there were several light snow falls. Heavy snow in late Feb. and into March was the most difficult period of the winter creating a difficult spell for wildlife and an expensive time on feeding stations. The winter surveys were all completed before the start of this severe weather.

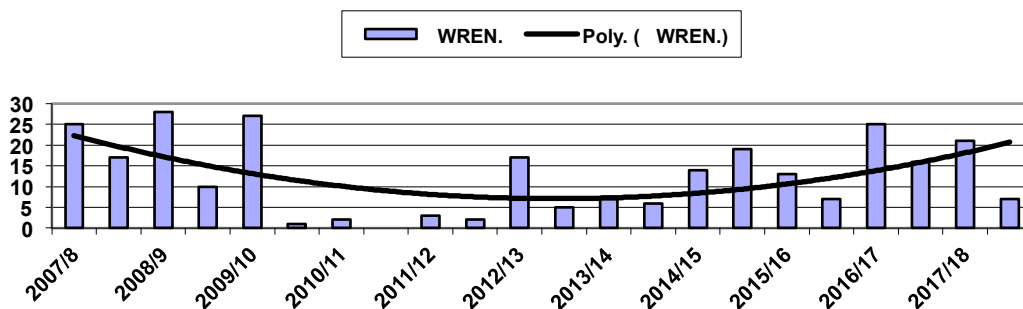
All species are recorded through the winter period, but sightings can be very irregular and numbers are usually quite low. Most species which breed on our moorlands are semi migratory, often not leaving the country but moving to coastal areas to places where food or shelter is more readily available. The areas of moorland covered by the survey are usually quiet in the winter and total counts can be very small. Nothing would therefore be achieved by creating graphs of most of the Target species but the following three species are of interest although there are no national figures produced which can be used as a comparison to our records.



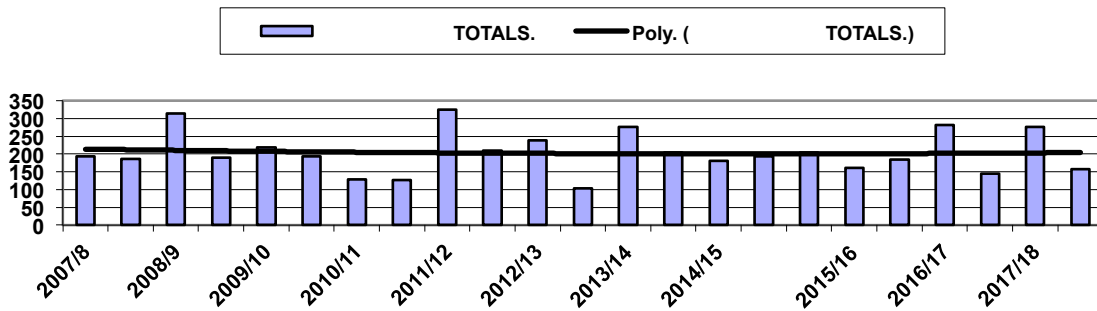
Higher counts of Buzzards during the winter of 2016/17 may have been purely by chance, this may easily happen when numbers recorded of a species are small.



The winter graph for Red Grouse shows a healthy increase this year. Hopefully this is as a result of the non shooting policy during last season and numbers will continue to increase over future seasons.



Counts of Wrens in both the summer period and the 2016/17 winter have now reached a similar level to that of pre 2010, and the mild winter should leave them in a position to at least maintain that level. Current local indications are that Wrens are once again the commonest British bird.



Average counts are very level. Interesting to note that the winter averages are almost exactly half of the breeding period totals.

Others of the Target Species in Winter.

Meadow Pipit.

Mainly move south and west, some into France, Spain, Portugal and Ireland. The few winter records in the survey may well be visitors from the continent.

Skylark.

Few remain here, most moving south east into coastal areas and some cross the channel to winter.

Lapwing,

Flock together and move to a coastal area or to inland lakes and rivers to feed. Occasionally seen in large numbers during surveys nearer the coast or at Branton Ponds for example.

Curlew.

Similar to Lapwing, feeding on the coast, and nearby areas of arable and grassland.

Whinchat and Wheatear.

Summer migrants, spending the winter in Africa.

Stonechat.

Some remain in the area, others move into southern UK or France and Spain.

Reed Bunting.

Flock together and usually join up with other finches, Chaffinch, Yellowhammer and Tree Sparrows to feed on stubbles and game plots in this area.

Roundup of the five areas.

Kimmer Lough. Breeding season 2017.

This was a poor spring in terms of the number of birds seen and the range of species recorded. The June count was particularly low; in fact the lowest total of any visit in the eleven years of the survey.

No new species seen this breeding season, although the Grey Partridge seen in May was the first seen here since 2009. It was disappointing that 2017 has continued the Wheatear pattern of the last five years – no sightings.

Clearly the timing of visits may have been significant – the May visit was early morning while the April and June visits were both in the afternoon. However these NEBS surveys have never specified time of day and in any given year there will have been variations in the timings of the different visits.

There is clearly a problem with the June visit. By mid June the bracken growth is very prohibitive and it would be better if the Kimmer week is as early in June as possible, to make movement through the site easier and birds easier to see. Perhaps the first week in June would be better in future years.

MAMMALS etc.

The May visit revealed a Roe Deer a Brown Hare and, far more unusually, a half grown Red Deer. No other mammals were noted.

In June, in the middle of a very warm spell, many Common Blue Damselflies were seen, plus three Large Red Damselflies. Two Clouded Buff Moths and a Small Heath Butterfly were also noted

In May the Petty Whin was looking healthy and there seemed to be even more small specimens than usual scattered among the heather. By May the Yellow Waterlily was in flower in the Lough.

Kimmer Lough. Winter Period.

The two winter counts produced unexceptional numbers of birds and, for that matter, unexceptional variety of species.

The fact that there is a managed shoot around the Lough area is shown by the fact that for the first time since the 2007/8 winter the Red Legged Partridge count in December 2016 was repeated in December 2017. Pheasant numbers in February 2018 seemed quite high for the end of the shooting season.

The very high numbers of Wigeon on the Lough in February 2017 were matched by good numbers in December 2017, although wildfowl on the lough are notoriously fickle and there were no Wigeon at all this February.

The “best” bird at the February count was a Barn Owl sitting on a fence by the lough. This is the first winter record of this species at this site. The fact that it was out hunting at 9.30 am in rain and sleet perhaps suggests that it has started to breed very early and is supporting a mate on a nest, although the nest itself may be outside the survey site which lacks any suitable derelict buildings.

There were no other records of interest on either of the winter survey visits. (RP)

Black Lough. Breeding season 2017.

Twenty nine species were recorded through the breeding season, of these probably 19 species bred at the lack Lough. Numbers of birds appeared to be down on previous years.

One pair of Greylag geese was recorded on the lough on the first visit (30/4). There were no subsequent records and no evidence of breeding. Good numbers of Red Grouse were recorded on the first visit (30/4) with three males and a female. Subsequent visits only produced two birds on the second visit (27/5). Pheasants were recorded in small numbers on all visits.

The only birds of prey recorded during the breeding season was a single Buzzard (22/6) and a Kestrel on the (27/5).

Lapwing was the only wader recorded with one in the Black Lough area on the (30/4). For the first time in the breeding season, Curlew were not recorded. This follows large scale declines in the last twenty years. No Snipe were also recorded which seems unusual as there is suitable habitat, Timing of the surveys may be to blame for the lack of records.

Only one Cuckoo was seen or heard on each visit. Black Lough has traditionally been a very good site for this species. Hopefully this just a blip or birds have spread out into the areas of felled forestry,

Skylark numbers peaked on the first visit with 18 birds seen. Low numbers were seen on subsequent visits. This was also the same for Meadow Pipits (51 birds seen). Timing of the second and third surveys during the day may not have seen a peak in singing birds. Low numbers on the third visit would suggest that the breeding season was poor or the birds moved off quickly.

Large numbers of Wrens (10) were recorded on the first visit. This would suggest that there was a good winter survival rate. Birds were spread throughout the site. Whinchat (1pair) and Stonechat (2-3 pairs) appear to be seen in lower numbers than previous years. It was strange that Stonechats were only seen in the first visit (30/4) despite three males holding territory in areas of heather.

Linnet numbers appear to be declining certainly compared to 2015. (GD).

Post Office Pylon.

Red Grouse were only seen in small numbers during the breeding season but in much healthier numbers in the winter period, being more secretive when nesting. In Feb. 2018 ten birds were seen, of which there were four distinct pairs, this would seem early for pairing.

Cuckoos have always been very regularly seen here and it is pleasing to report that unlike the Black Lough area, numbers have been higher than usual.

This is another area where Curlew breed regularly in small numbers but a count of twelve birds in May was higher than usual for the breeding period and bodes well.

One Wheatear was recorded on June 19th, which hopefully would indicate breeding,

Two Short Eared Owls were recorded on April 25th. which would be heading north to their breeding grounds, (JC)

Alnwick and Hulne Moors.

Adjoining areas which together with the Post Office Pylon area carry the main population of Red Grouse. Counts here follow the same pattern as in the other sites where breeding season numbers are much lower than winter counts, Over all the survey areas the total for each survey period in the breeding season is 16 to 17 birds, in the winter period it is 42 to 43. Hopefully this will include young of the year. There has been little or no shooting of Red Grouse last season to allow breeding numbers to increase and possibly spread out to the neighbouring areas of moorland.

Alnwick Moor, but not Hulne Moor, is an area where both Lapwing and Curlew breed in small numbers and they seem to maintaining their population but not increasing it.

Six Wheatear were recorded on Alnwick Moor in April but must have been on passage since there were no further records during the rest of the breeding period.

Freemans Gap pool is always of interest with a small and varied population of wildfowl. At various times during the breeding season, with Mallard, Tufted Duck, Graylag Goose, Moorhen, Coot and Little Grebe. Teal can often be found here in higher numbers in winter, up to 250, Unfortunately this is one of the areas on Hulne Moor where Rhododendron are spreading.

The wetland extending below the pool and on into the bottom end of Alnwick Moor is also of great interest. Perfect for Snipe and the surrounding area of Willows, Birch and Gorse is home to Willow warblers, Chiffchaff and Stonechat etc. Redpoll have been recorded here several times.

(JC. 18/3/2018)

Included with this report.

A complete list of bird species recorded during this survey.

An updated list of plant records for the five areas of the report. There have been very few additions to the list this year. Following the same route at each visit limits the number of habitats seen, as does the fact that there are no survey visits after June each year. A more concentrated effort at plant identification will be attempted over the next two years, so this list can be expected to grow.

Bird Species seen during NEBS surveys. Accurate to end of 2017

Little Grebe	Grey Heron	Mute Swan	Greylag Goose
Shelduck	Mallard	Wigeon	Teal
Tufted Duck	Goldeneye	Goosander	Red Kite
Hen Harrier	Common Buzzard	Sparrowhawk	Goshawk
Kestrel	Peregrine Falcon	Merlin	Red Grouse
Red-legged Partridge	Grey Partridge	Quail	Pheasant
Moorhen	Coot	Oystercatcher	Golden Plover
Lapwing	Common Sandpiper	Redshank	Curlew
Woodcock	Snipe	Jack Snipe	Black-headed Gull
Common Gull	Herring Gull	Lesser bl-back Gull	Greater bl-back Gull
Woodpigeon	Feral Pigeon	Stock Dove	Cuckoo
Short-eared Owl	Barn Owl	Nightjar	Swift
Green Woodpecker	Gt Sp Woodpecker	Skylark	Sand Martin
Swallow	House Martin	Meadow Pipit	Tree Pipit
Pied Wagtail	Grey Wagtail	Wren	Duncock
Robin	Redstart	Wheatear	Whinchat
Stonechat	Song Thrush	Redwing	Mistle Thrush
Fieldfare	Blackbird	Ring Ousel	Garden Warbler
Blackcap	Lesser Whitethroat	Whitethroat	Sedge Warbler
Grasshopper Warbler	Willow Warbler	Chiffchaff	Goldcrest
Spotted Flycatcher	Great Tit	Coal Tit	Blue Tit
Marsh Tit	Long-tailed Tit	Nuthatch	Treecreeper
Magpie	Jay	Jackdaw	Rook
Carrion Crow	Raven	Starling	Chaffinch
Linnet	Redpoll	Twite	Goldfinch
Greenfinch	Siskin	Bullfinch	Crossbill
Reed Bunting	Yellowhammer	Whooper Swan	

TOTAL = 107

NEBS Vegetation List	Accurate to Feb 2018					
Key: KL = Kimmer Lough; BC = Black Clough;						
AM = Alnwick Moor; HM = Hulne Moor;						
PP = Post Office Pylon						
Scientific Name	Common Name	KL	BC	AM	HM	PP
Trees & Shrubs						
<i>Alnus glutinosa</i>	Alder	√		√	√	
<i>Betula pubescens</i>	Birch, Downy	√				
<i>Ilex aquifolium</i>	Holly		√			
<i>Pinus sylvestris</i>	Pine, Scots				√	
<i>Rhododendron ponticum</i>	Rhododendron	√		√		
<i>Salix caprea</i>	Willow, Goat	√	√	√	√	√
<i>Sorbus aucuparia</i>	Rowan	√	√	√		
<i>Ulex europaeus</i>	Gorse	√	√	√	√	√
Dicotyledonous Herbs						
<i>Ajuga reptans</i>	Bugle	√			√	
<i>Anagallis tenella</i>	Pimpernel, Bog		√			
<i>Anemone nemorosa</i>	Wood Anemone	√	√			
<i>Angelica sylvestris</i>	Angelica, Wild					√
<i>Calluna vulgaris</i>	Heather	√	√	√	√	√
<i>Caltha palustris</i>	Marsh-marigold	√				
<i>Cardamine flexuosa</i>	Bitter-cress, Wavy		√			
<i>Cardamine pratensis</i>	Cuckooflower			√		
<i>Ceratocarpus claviculata</i>	Corydalis, Climbing					√
<i>Chamerion angustifolium</i>	Willowherb, Rosebay			√	√	
<i>Chrysosplenium oppositifolium</i>	Golden-saxifrage, Opp-leaved			√		
<i>Cruciata laevipes</i>	Crosswort			√	√	
<i>Digitalis purpurea</i>	Foxglove	√	√	√	√	√
<i>Drosera rotundifolia</i>	Sundew, Round-leaved			√		
<i>Empetrum nigrum</i>	Crowberry		√			√
<i>Epilobium brunnescens</i>	Willowherb, New Zealand		√			
<i>Epilobium montanum</i>	Willowherb, Broad-leaved			√		
<i>Erica cinerea</i>	Heather, Bell	√	√	√	√	√
<i>Erica tetralix</i>	Heath, Cross-leaved	√	√	√	√	√
<i>Erophila verna</i>	Whitlowgrass, Common			√		
<i>Filipendula ulmaria</i>	Meadowsweet	√	√	√	√	√
<i>Galium aparine</i>	Cleavers		√			
<i>Galium palustre</i>	Bedstraw, Marsh		√			
<i>Galium saxatile</i>	Bedstraw, Heath	√	√	√	√	√

<i>Genista anglica</i>	Petty-whin	√				
<i>Geum rivale</i>	Avens, Water			√		
<i>Hydrocotyle vulgaris</i>	Pennywort, Marsh		√			√
<i>Hypericum perforatum</i>	St John's-wort, Perforate		√			
<i>Hypericum pulchrum</i>	St John's-wort, Slender			√		
<i>Hypochaeris radicata</i>	Cat's-ear			√		
<i>Linum catharticum</i>	Flax, Fairy			√		
<i>Lonicera periclymenum</i>	Honeysuckle		√			
<i>Lysimachia nummularia</i>	Creeping-Jenny		√			
<i>Melampyrum pratense</i>	Cow-wheat, Common			√		
<i>Mentha aquatica</i>	Mint, Water		√	√		
<i>Menyanthes trifoliata</i>	Bogbean			√		
<i>Myosotis arvensis</i>	Forget-me-not, Field		√			
<i>Myrica gale</i>	Bog Myrtle	√				
<i>Nuphar lutea</i>	Water-lily, Yellow	√				
<i>Oxalis acetosella</i>	Wood-sorrel	√			√	
<i>Pedicularis palustris</i>	Lousewort, Marsh			√		
<i>Pedicularis sylvatica</i>	Lousewort		√	√		√
<i>Petasites hybridus</i>	Butterbur	√				
<i>Pinguicula vulgaris</i>	Butterwort, Common			√		
<i>Polygala serpyllifolia</i>	Milkwort, Heath		√	√		√
<i>Potentilla erecta</i>	Tormentil	√	√	√	√	√
<i>Potentilla sterilis</i>	Strawberry, Barren		√			√
<i>Primula vulgaris</i>	Primrose	√		√	√	
<i>Ranunculus flammula</i>	Spearwort, Lesser	√	√			√
<i>Rhinanthus minor</i>	Yellow-rattle			√		
<i>Rubus fruticosus</i>	Bramble, Blackberry	√	√	√	√	√
<i>Rumex acetosella</i>	Sorrel, Sheep's		√			
<i>Stellaria media</i>	Chickweed, Common			√		
<i>Succisa pratensis</i>	Scabious, Devil's-bit	√	√	√	√	
<i>Teucrium scorodonia</i>	Sage, Wood	√	√	√	√	√
<i>Trientalis europaea</i>	Wintergreen, Chickweed	√	√	√	√	√
<i>Trifolium dubium</i>	Trefoil, Lesser				√	√
<i>Tussilago farfara</i>	Colt's-foot			√		
<i>Urtica dioica</i>	Nettle, Common	√	√	√	√	√
<i>Vaccinium myrtillus</i>	Bilberry	√	√	√	√	√
<i>Vaccinium oxycoccos</i>	Cranberry	√	√			
<i>Vaccinium vitis-idaea</i>	Cowberry	√				
<i>Valeriana dioica</i>	Valerian, Marsh					√
<i>Valeriana officinalis</i>	Valerian, Common	√				
<i>Veronica beccabunga</i>	Brooklime		√			
<i>Vicia sativa</i>	Vetch, Common	√	√	√		
<i>Viola palustris</i>	Violet, Marsh			√		
<i>Viola riviniana</i>	Dog-violet, Common				√	

Monocotyledonous forbs						
<i>Dactylorhiza fuchsii</i>	Orchid, Common Spotted-	√	√			√
<i>Dactylorhiza maculata</i>	Orchid, Heath Spotted-	√	√			
<i>Hyacinthoides non-scripta</i>	Bluebell		√	√	√	
<i>Narthecium ossifragum</i>	Asphodel, Bog		√	√		√
<i>Potamogeton natans</i>	Pondweed, Broad-leaved	√	√			√
Grasses, Sedges & Rushes						
<i>Anthoxanthum odoratum</i>	Grass, Sweet-vernal	√				
<i>Carex binervis</i>	Sedge, Green-ribbed	√				
<i>Eriophorum angustifolium</i>	Cottongrass, Common	√	√	√	√	√
<i>Eriophorum vaginatum</i>	Cottongrass, Hare's-tail	√	√	√	√	√
<i>Luzula campestris</i>	Wood-rush, Field	√				
<i>Luzula, multiflora</i>	Wood-rush, Heath		√			
<i>Molinia caerulea</i>	Moor-grass, Purple				√	
<i>Nardus stricta</i>	Mat-grass				√	
<i>Trichophorum germanicum</i>	Deergrass	√	√	√	√	√
Ferns & Bryophytes						
<i>Asplenium ruta-muraria</i>	Wall-rue			√		
<i>Asplenium trichomanes</i>	Spleenwort, Maidenhair			√		
<i>Blechnum spicant</i>	Fern, Hard	√	√			√
<i>Oreopteris limbosperma</i>	Fern, Lemon-scented				√	
<i>Polytrichum commune</i>	Moss, Common Haircap	√				
<i>Pteridium aquilinum</i>	Bracken	√	√	√	√	√

Notes on Plants of Special Interest

Marsh Marigold – near Kimmer Lough

Climbing Corydalis – common in the survey sites, but much less common elsewhere

Round-leaved Sundew – insectivorous plant, always in wet peaty ground

New Zealand Willowherb – on mossy rocks close to a stream

Petty Whin – an uncommon species, whose germination is encouraged by burning

Bog Myrtle – at Kimmer Lough, one of the best sites in Northumberland

Yellow Water-Lily – at Kimmer Lough one of only four sites in Northumberland

Sheep's Sorrel – best on compacted peat and on burnt ground

Chickweed Wintergreen – common at these sites, but not so elsewhere