

Notes on the field identification of nominate Black-tailed Godwits in Norfolk



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Black-tailed Godwit watercolour by Richard Richardson

Preface

Whilst I was a member of the Norfolk Records Committee, a case was made for the inclusion of unringed Black-tailed Godwits (form *limosa*) on the list of species that required a description ahead of entering the annual record of the county's avifauna. Soon after my five year stint on the NRC concluded, *limosa* made its way on to that descriptions list and the identification challenge surrounding this compelling, and scarce, form became topical once again.

At the request of NRC secretary Mick Fiszler, I bundled together a wealth of my own material to pass on to the committee members; detailed notes, photos, descriptions, personal accounts and proposed submissions that I'd written and compiled across almost 20 years or more (worked on primarily for my own benefit, by way of trying to advance my own understanding of *limosa*) and passed it on to county recorder Neil Lawton to circulate to the current committee members. Neil then got back in touch to see if I'd put something together in terms of a broader overview on the identification of Black-tailed Godwits in Norfolk and what follows is the end result of those initial email conversations with Neil and Mick.

Introduction

Across the last three decades the interest in many different forms, of a variety of species, recorded in not only Norfolk but Britain and Ireland as a whole, has increased to dizzying new heights.

Some of the interest in accurate sub-specific identifications is borne from a conservation perspective but a sizeable second part of this year-on-year rise has undoubtedly been fuelled by the potential for science to unlock further DNA codes and announce that some of those forms (sometimes rare ones) are actually worthy of elevation to specific status. Everyone who enjoyed one recent Norfolk arrival, the Stejneger's Stonechat along Meadow Lane, Salhouse in October 2018, would have been delighted when "official" confirmation of the bird's genetic heritage was conclusively proven, courtesy of faecal sampling work undertaken by Professor Martin Collinson and his team at the University of Aberdeen.

That positive “test-tube” identification of the Stonechat only served to back up what almost every field birder recognised at the time, that the distinctive suite of characters shown by the bird matched all those exhibited (to one degree or another) by other known, accepted vagrants in western Europe. In-field identification knowledge was now accompanied by solid scientific data, with the subsequent DNA results coming as no real surprise.



Black-tailed Godwit, form *limosa*, Cambridgeshire Washes (Richard Chandler)

A number of other forms have been looked at, often in great detail, by local birders who are keen to fathom and quantify some of the tougher crypto-species that appear in Norfolk, some on an annual basis. One of those is the nominate form of Black-tailed Godwit, *Limosa limosa limosa* (frequently referred to, somewhat misleadingly, as Continental Black-tailed Godwit, the vast majority of Norfolk’s known records are of birds from within or, most likely, adjacent to the county’s western border).

Thanks to the invaluable efforts of numerous ringing teams over the last 20 years or so, a significant number of *limosa* (as the form will be referred to from now on) have been colour-ringed in and around the far west of Norfolk and in neighbouring Cambridgeshire. A broad cross-section of those birds have been recorded at several coastal sites in north and northwest Norfolk, with my local patch of Cley at the heart of the records. Those known *limosa* have been, just like the recent DNA’ed Norfolk Stejneger’s Stonechat, at the heart of confirming a number of in-field characteristics that have been used to separate most ages of *limosa* and the highly migratory Icelandic Black-tailed Godwit, form *islandica*, by keen field-birders for decades.

The last 10 years has seen an upturn of interest in respect of *limosa* (arguably a worthy contender for specific status) but that interest frequently grinds to a halt if no colour-rings are present. Hopefully what follows will assist birders who want to flex and test their ID skills with unringed birds, *limosa* having rapidly become the Baltic Gull equivalent of the wader world where, for many, if a contender doesn't carry a suitable colour-ring, it is largely ignored. With due diligence, patience and keen eyes being employed, *limosa* (and *fuscus*) can be identified safely in the field *without* the need to resort to the assistance of added plastic markers. They can be tough to identify, but they can be done.



Black-tailed Godwit flock, Simmonds' Scrape, Cley Marshes July 2019 (Mark Golley)

My 30 year love affair with *limosa* came to the fore when I began working on the Cley reserve in 1990. At that point, numbers of Black-tailed Godwits were relatively modest compared to some of the flocks we see here now and, within my role of Assistant Warden, there was always time to pay close attention to some of the species I particularly enjoyed, top of that list was (and still is) Black-tailed Godwit.

The racial separation of *limosa* and *islandica* wasn't a new thing 30 years ago, far from it. Several field guides touched upon the two forms but few actually went in to any depth, despite illustrations clearly showing numerous differences. I started taking a few notes on things I would see on some of the more strikingly different individuals and began to construct my own checklist of characters to look for when trying to correctly identify the two different forms (a short note based upon those appeared in a *Cley Bird Club* newsletter back in the day).



The view across the northwest corner of Billy's Wash, Cley Marshes July 2019. This is the area of the marsh where the last breeding attempt (by two pairs) of the nominate form took place at Cley in 1992. (Mark Golley)

My affection for *limosa* jumped further still when, in 1992, from the old Maynard's Hide (on the north side of the reserve) I found the first breeding pairs on the Cley reserve for, at the time, 22 years (Richard Richardson having documented several attempts made between 1964 to 1970).

Two pairs were present on what is now Billy's Wash, nesting relatively close to each other and they were a joy to watch over the course of the five weeks or so that they displayed, mated, laid and incubated their eggs. Sadly both nests were predated, around the predicted hatching date, so the assumption was that ground or aerial predators may have heard the baby godwits peeping pre-emergence and took advantage of an easy meal (there have been no subsequent breeding attempts here at Cley).

During those hours of watching the breeding pairs, the in-field criteria of the birds was studied hard and those features stand resolutely firm today, many of them are at the core of what follows.

Distribution and status

There are three recognised forms of Black-tailed Godwit, two of which breed in Europe; nominate *Limosa limosa limosa*, is a bird of temperate grasslands and marshes that winters primarily in freshwater habitats to the south of the Sahara while the Icelandic form, *Limosa limosa islandica* breeds within sub-Arctic moorland and tundra habitats and winters primarily throughout estuarine habitats from Britain to the coast of north Africa.

The nominate form's breeding stronghold remains The Netherlands with much of the remaining population spread across central and eastern parts of Europe. A relatively stable (if declining in places) breeding population remains in and around the Ouse and Nene Washes of Norfolk and Cambridgeshire while other historic breeding records of *L.l.limosa* have been noted from southwestern England to the southeast, Yorkshire and the south of Scotland.



Black-tailed Godwit, form *limosa*, Cambridgeshire Washes (Richard Chandler)

The current status of East Anglian breeding birds isn't necessarily the easiest to gauge; between 2014-2018, on the Cambridgeshire side of the Washes, numbers ranged from 46 breeding pairs in 2015 to 31 territories in 2018. Interestingly, no young fledged in the peak year on the Nene Washes, whilst the low-end year of 2018 saw 14 chicks fledge (apparently the most successful year recently). Information from the Ouse Washes was scant, but it was known that two pairs raised four young there in 2018. Over the border in Norfolk, data is also rather limited across the same period; there were three nesting pairs in consecutive years from 2015-2017 with nine young fledging in 2016. The data received for 2018 shows a rise in the number of pairs to six, but no young fledged.

Currently, the RSPB and WWT are involved in the Head Starter project that has numerous objectives: these include increasing *limosa* productivity on the Nene and Ouse Washes, habitat improvement, enhancing the knowledge re: local and more long-haul migratory movements with colour-rings and tracker systems, increasing local support for the conservation of the species, developing a recovery plan across the whole of the UK and also supplementing populations by a rear-and-release programme of baby godwits, many artificially incubated and reared in safety before release in to suitable local habitat.

For more information see <https://projectgodwit.org.uk/>

As well as the strong breeding population on Iceland, other breeding records of presumed *L.l.islandica* have been reported from northern Scotland, Orkney (where a tiny colony still nests on Mainland), Shetland and also Ireland.

At one point in the early 1990s just three pairs of *L.l.limosa* were found along the entire length of the Washes (in Norfolk and Cambridgeshire), falling from over 60 successful pairs in the mid-70's. Most of Britain's breeding successes for the nominate form are now all on the Cambridgeshire Washes and, as discussed above, some of those birds stray in to Norfolk on an annual basis post breeding. Numbers of nominate birds visiting Norfolk are hard to gauge, figures are based almost entirely on colour-ring returns only.

The rise of Icelandic birds within Norfolk has been quite spectacular across the past 30-40 years. At one point, at the start of the 1970's, Black-tailed Godwits remained a scarce passage migrant and winter visitor to the county (it was thought at one point that only *limosa* occurred in Norfolk) and a maximum of perhaps 90 or so was recorded on The Wash in late summer/early autumn during the 1960's (Seago 1977).



Black-tailed Godwit, form *islandica*, Salthouse, April 2006 (Steve Gantlett)

Indeed it was only comparatively recently that Icelandic Black-tailed Godwits became a feature of Norfolk birdlife; the mid 1980's onward saw a sharp rise in numbers visiting the county in winter (over 1200 were at Welney in March 1986) with autumn numbers in the Wash in the late 1990's peaking at over 6000, a long way from the average peak counts of 28 birds between 1970 and 1983. Large gatherings are now a part and parcel of birding at sites such as Titchwell, Holkham Freshmarsh, Cley and Breydon Water in spring, summer and autumn, many 1000s passing through on their, now, familiar migration route.

Nominate *limosa* are recorded at a small number of sites along the Norfolk coast on an annual basis in very small numbers, with the majority of records relating to colour-ringed individuals, almost all of which originate from East Anglia (in recent years a Dutch ringed bird made it to Cley). Very few observers record unringed *limosas* but double figures are recorded annually at Cley and, in 2007, a sizeable influx of presumed true "Continental Black-tailed Godwits" occurred, with dozens recorded on the NWT reserve.

Overview

Where possible, examples of the two forms, *limosa* and *islandica* are included to help illustrate the primary in-field identification features. Many of the photos that follow have been made available to me by Steve Gantlett who has pointed his lenses at any number of birds that I, or Richard Millington, asked him to capture for us over the last 10 years or more. Other photographers, most notably Richard Chandler, have also been kind enough to allow me to use some of their images to help illustrate this article and I am extremely grateful to all of them.



Black-tailed Godwit flock, Arnold's Marsh, Cley Marshes July 2019 (Mark Golley)

Generally, a safe identification of an unringed *limosa* can be made in spring (from April onwards), summer and autumn (through to mid-to late September); some informed guesswork can also be employed (with a combination of an array of field traits, structural characteristics and overall "feel") to put a name to winter birds too.

In the descriptions and accounts that follow, the aim is to provide a number of helpful hints and pointers on what the key areas are to examine when you have a flock of Black-tailed Godwits in front of you. These focus primarily on size, structure and plumage but there are notes too on other significant factors such as the time of year and, importantly, ageing individual birds and assessing their moult state.

There are always questions when tricky godwit identifications come along and it must be stressed that there are times when even exceptionally experienced field birders will balk at putting a name to every potential *limosa*, but don't let that put you off!

Hopefully there's enough here by way of presenting at least some of the keys required to unlock the door to the wonderful world of *limosa*...

First steps in the field

If you start to take an interest in the sub-specific identity of Black-tailed Godwits there are a few pointers to try and remember as the process begins. I often work through the following selection of points.

#1 ~ Establish the age of the bird (see below). This may take a little practice at first but, with time, the jigsaw of ageing falls in to place. Summer adults, first-summer birds (2nd calendar year), juveniles and moulting first-winters are straightforward to work out (to one degree or another) but at certain times of the year, especially late spring and early summer, “non-breeding” birds need extra attention paid to them. Figuring out how to age one of those individuals is key to the identification process of some *limosa* (for more on ageing see below).

#2 ~ Remember that some spring and summer adults can be all grey, while first-summer birds (2nd cy) can also appear largely grey too, very little showing in terms of colour on the upper- or underparts. If they show any summer feathers on the upperparts, be sure to take note of the pattern as best you can and also note the precise colours of those handful of summer feathers. They are vital to a correct sub-specific identification.

#3 ~ Try, where possible, to take almost as much notice of the bird’s structure as its plumage. With experience, there’s an undoubted feel that both forms have but that may not be enough. Look at the bill length (and also the width of the bill base too), look at the length of both tibia and tarsus, what shape is the forehead, does it have a hunched “giraffe-necked” look to it, is it gawky and lanky? It is not always easy but, with time and effort, it begins to make sense.

#4 ~ Gauge the size of the bird as best you can. A smaller looking bird (of either form) is almost certainly going to be a male. A larger bird, with more bulk, a longer bill and longer legs will almost certainly be a female ~ a female *limosa* can be a very large godwit indeed (though female *islandicas* can be big too).

Pitfalls

Before continuing, it has to be stressed that not every unringed *limosa* candidate will be identifiable in the field; there is a likelihood that birds will trip you up but try not to be put off by that.

“Winter plumaged” all-grey birds are notoriously tricky (borderline impossible) to identify and some moulting grey “non adults” between April and August, in particular large females of the two forms, are similarly tough to be 100% confident about. You can make a fair guess, but some will have to be left alone.



Black-tailed Godwit, form uncertain, Cley Marshes, September 2009 (Steve Gantlett)

Generally speaking though, there is a strong suite of characters that can be employed on a presumed *limosa* and, often as not, those characters do indeed make for a safe identification of this scarce form; with many spring, summer and autumn birds (of all ages) the code can be cracked.

Ageing

Throughout this article, there's a great deal of emphasis given to ageing your Black-tailed Godwits correctly and with confidence (the latter is far from being a given!). There are several different ages to work through across the year.

Juvenile

A relatively short-term plumage for both *limosa* and *islandica*, retained for just a few weeks post fledging. Characterised by exceptionally clean and fresh looking plumage, with pin-sharp fringes and tips to all the main feather tracts on the upperparts and across the wings, coupled with crisply patterned internal markings.

First-winter

Both forms will moult quickly out of their juvenile plumage as the autumn progresses, in terms of both head and body. Often its new (grey) first-winter feathers that will be laid down within the mantle and scapulars first of all (on both forms) whilst the juvenile coverts (and often tertials too) may be retained for many months, sometimes even in to the following spring and summer. Once godwits have progressed through their respective (and distinctive) juvenile to first-winter moults, they generally resemble grey, winter plumaged adults but those retained old brownish feathers across the wing are a tell-tale giveaway.



Black-tailed Godwit, first-winter, form *islandica*, Cley Marshes, January 2012 (Steve Gantlett)

First-summer

Limosa and *islandica* can both show distinctive first-summer plumages from the spring on to the middle of summer. They may retain some old juvenile feathers right in to their second calendar year (their "first summer") with Icelandic birds in particular able to show a wide range of feather generations; retained old and worn juvenile coverts can be admixed with grey, fading first-winter feathers elsewhere in the wing along with a few more obvious adult-type summer plumage. Contrast on the wings is often obvious in both forms, the coverts looking more faded and worn, likewise the often rather moth-eaten (rather pointed) looking flight feathers. However, there are times, especially in the latter part of summer, that it can be exceptionally hard to differentiate

between first-summer and grey (non-breeding/winter plumaged) adults (perhaps take note of bare part colouration as a potential clue) whilst some bright first-summer *islandica* may be almost impossible to tell apart from summer attired adults. At the end of the breeding season, 2nd calendar year birds will moult in to full adult winter plumage, sometimes losing feathers that may be 12 months old.

Adult summer

Nominate *limosas* often begin to attain their summer plumage earlier than *islandica* but its certainly not always the case, Icelandic birds can appear very bright and colourful as early as late March or early April. Their vibrant and rich plumage tones, awash with slashes of colour, render summer *islandicas* as being easily separable from the frequently less intensely toned *limosas*, females almost looking as though they've barely gained colour at all.

Adult winter

The two forms can begin to moult out their respective summer plumage relatively early in the summer, depending on individual circumstance. Some adult *limosas*, non-breeding birds or perhaps failed breeders, may start to moult in early to mid June and can be in full winter plumage well before August. Icelandic birds generally moult later, although that varies from year to year. If they leave the breeding grounds early, then they will moult earlier, but they will often still be behind the *limosa* moult strategy. Both forms can hold on to summer feathers into the autumn, but the all grey plumage is normally attained by late September to early October onwards.

Structure

Both forms, being closely related, share many similar structural traits. On both *islandica* and *limosa* the two sexes share the same general features.



Black-tailed Godwit, male, form *limosa*, Poland (Richard Chandler)

Males will be smaller than females, both in terms of body bulk and the relative lengths of the bare parts; they will look not only shorter in the bill but also shorter in the leg too. Some males (again of either form) look almost dwarfed by a big female (especially so when a female *limosa* is on the scene).



Black-tailed Godwit, female, form *limosa*, Poland (Richard Chandler)

Female Black-Godwits (again of both forms) are the larger of the two sexes. The body often appears larger and the bills and legs (both tarsus and tibia) look long (sometimes remarkably so) and I often think that female *limosas* are the biggest of them all. Note too the relative depth of the bills too. A long, very thick based bill will also be indicative of a female, males never reaching the thickness or the length of a female. Some observers also feel that the rather shallow forehead of both male and female *limosa* is a further structural feature to look for.

Occasionally over the past 15 years or so, juvenile female *limosas* have arrived on the Cley reserve and stood side by side to adult male *islandicas*. Given the age difference and the fact that the *limosa* may only have fledged a few weeks prior to appearing on the coast, the size difference is quite startling, the nominate bird towering above the Icelandic bird.

FIELD IDENTIFICATION

Juveniles

The separation of fresh juvenile *limosa* and *islandica* is one of the easiest parts of the Black-tailed Godwit conundrum to figure out with 100% confidence. At Cley, most recent years have presented several helpful opportunities to look at young birds of the two forms side by side with each other, those differences are pronounced and, occasionally, extreme.

As a basic rule of thumb, juvenile *limosa* will often appear to be rather big and lanky, remarkable given how young they are. They often look quite plain and sometimes rather pale, their plumage a

combination of rather subdued “Manilla envelope” grey-brown tones on the upperparts with dull creamy white underparts. There are though darker juvenile *limosas* in the mix too; they share the same intrinsic features of the paler birds, they differ primarily by looking somewhat darker, ranging from rather dark, almost chocolatey toned birds to individuals that are somewhere in between the “grey” and “brown” morphs with warmer sandy brown tones across the upperparts. A fresh juvenile *islandica* will be richly toned bird, vibrant upperpart patterns of rust and black contrasting with a lovely chestnut brown tone to much of the underparts. They will look rather squat compared to *limosa* and some will have really short looking bills too.

Given the staggered period in when the two forms breed, any fresh early (late June onwards to late July) juvenile Black-tailed Godwit encountered in Norfolk will be *limosa*. The earliest juvenile noted at Cley arrived within a significant influx of nominate birds (thought to, most likely, be true “Continental” birds) on June 23rd 2007 but, as a rule of thumb, juvenile *limosa* arrive from early to mid July onwards.

The first juvenile *islandica* are often a month or so later (depending on how early, or late, the breeding season has been further north) and, as a rule of thumb, it is often the first two weeks of August that will see the arrival of fresh juvenile Icelandic birds in Norfolk (there are late July records at Cley too but early August is the norm).

When they do arrive, the contrasts between the two different forms is marked, as mentioned above. Given the age difference of perhaps 6-8 weeks (or more) between the fledging times of juveniles of the two forms, by the time those fresh-as-a-daisy cinnamon hued Icelandic birds arrive in Norfolk, a young *limosa* will already be starting to lay down brand new lead-grey first-winter feathers within the scapulars and coverts, presenting an all together more subdued affair.



Black-tailed Godwit, juvenile, “grey morph” form *limosa*, Titchwell, July 2017 (James McCallum)

This beautiful fresh, fully juvenile *limosa* was seen around the Titchwell reserve in July 2017. Note the plain, rather two-tone look of the upperparts and closed wing, the grey-brown of the mantle and scapulars contrasting with the striking white fringes and tips of the otherwise largely greyish coverts, each feather so crisp and sharp. There’s very little colour on the underparts bar a wash of pale brown across the upper-breast and the top of the flanks, merging to greyer tones towards the face. The thick bill base is readily apparent on both images as is the extreme leg length (note the length of the legs of the Icelandic birds in the group shot), remarkable for a bird so young.



Black-tailed Godwit, juvenile, "brown morph" form *limosa*, Titchfield Haven, Hampshire, August 2017 (Ashley Saunders)

An all-together different looking juvenile *limosa*, in terms of plumage tones, to that of the Titchwell bird pictured above. The bird in Ashley's two images is a full juvenile, but this dark brown individual almost looks as far removed from the "grey morph" as the "grey morph" does from a juvenile *islandica*. The two full juvenile *limosas* do share several traits though; the head again shows that interesting bulge on the fore-supercilium and a fulsome, broad supercilium as a whole. The internal markings within all the main feather tracts on the wing are all rather plain looking (as it is on the "grey morph" above) and the internal marks that the Hampshire bird does show are all rather subdued in appearance and, importantly, colour. The Titchfield bird has rather plain brown weak-tea wash across the face, head and breast, comparable to the Titchwell juvenile and shows the same contrast between the rather dark rows of scapulars and paler panel of fresh-as-a-daisy wing coverts. Both birds share extremely long legs (tibia and tarsus) and their bills are exceptionally thick at the base, as well as being long.



Black-tailed Godwit, juvenile, "sandy morph", form *limosa*, Titchwell, August 2017 (Ashley Saunders)

Above is an individual that lies almost slap-bang in the middle of the two juveniles featured previously. Aside from the sandy brown hues of the upperparts, this youngster shares all the field marks and structural points highlight for the “grey” and “brown” individuals illustrated. That now familiar soft feature, the extreme bulge of creamy white on the fore-supercilium is readily apparent, as is the pallid wash of milky tea-brown across the face, breast and upper belly. The upperparts, although different in colour tone, share the same rather subdued look of the other two juveniles highlighted with little by way of internal marks within the main feather tracts; the coverts appear largely plain and pale-ish while the distinctive sub-terminal “thumb-print” within the greater coverts is present, ditto the rather plain looking fully juvenile tertials. The thick-based long bill is another shared feature. It would be interesting to see what percentage of young birds, across *limosa*'s breeding range, fit into the three “morphs” illustrated here or whether it's something more random than hard and fast colour forms, with individual variation actually providing a simple answer.



Black-tailed Godwit, juveniles, form *islandica*, Cley Marshes, August 2009 (Steve Gantlett)

When seen with a juvenile *limosa*, fresh juvenile *islandicas* such as these beautiful birds, taken at Cley in early August 2009, will confirm just how different the young birds of the two forms really are ~ as if you were looking at different species entirely. Compared to the *limosa*, juvenile *islandica* looks much warmer in overall plumage tones. I often think that Icelandic birds show a less pronounced head pattern (particularly the supercilium which seems less bulging and broad) but more obvious features are the rich apricot or cinnamon wash to the underparts, (variable in tone), which extends to the top of the belly and along the flanks, quite different to the white shown by *limosa*. The upperpart patterning of *islandica* is far removed from the somewhat plain look of juvenile *limosa*. The mantle shows neat black feathers with cinnamon fringes while all the main feather tracts on the wing show complex internal markings of black and that same cinnamon or apricot tone ~ the feathers full of internal anchors, notches, fringes and tips. Quite different from the relatively plain, silvery grey wing panel of *limosa*. The bill on these birds are rather short and neither appear too leggy, indeed sometimes some young Icelandic birds can appear even shorter billed than these two.

Moulting juvenile to first-winter

As the summer progresses, juvenile *limosas* start to moult out much of their full juvenile plumage quite quickly, so that by the time the first fresh juvenile *islandicas* arrive, a young *limosa* will often be in active moult towards its first-winter plumage ~ new grey first-winter feathers will be laid down within the juvenile feathers on the mantle and scapulars, giving an all together different feel compared to the chestnut toned *islandicas* (so striking are the differences you'd be forgiven for thinking that you were looking at two different species of godwit which, perhaps, may well be the case of course).

One thing to remember (and it is another potential pitfall) is that as the juvenile *islandicas* start to see those fresh young colours fade and wear as their first-winter moult begins (often from early September onwards for many) they can start to look a little like the subdued (but "fresh") colour tones of some fully juvenile *limosas*. If you come across a faded looking young *islandica*, be sure to check other features, in particular the precise patterns of any marks within the tertials and coverts.

On *limosa*, the greater coverts always show a "thumbnail" pattern sub-terminally within the feather and lack any hint of black barring along the edge of the innermost greater coverts and also lack any of the gingery or rusty tones that *islandica*, even fading ones, will retain.



Black-tailed Godwit, moulting juvenile, form *limosa*, with Icelandic Black-tailed Godwit behind, Cley Marshes, July 2013 (Mark Golley)

Although not the best of images, this phone shot taken in late July 2013 shows just how quickly a juvenile *limosa* will begin to lay down brand new grey first winter feathers. On this bird, some juvenile mantle and scapular feathers have already been replaced. This too was a large bird (again note the length and width of the bill as well as the relative length of the tibia), so presumably it was a moulting female.



Black-tailed Godwit, moulted juvenile, form *limosa*, Cley Marshes, July 2009 (Steve Gantlett)

Here's another July *limosa*, a much better shot than the one above, taken in July 2009. Again, note a handful of newly laid down grey first-winter feathers in the mantle and upper scapulars. The visible coverts, secondaries and tertiaries remain fully juvenile, and as is typical for *limosa*, check out the subdued internal patterning and the rather plain overall appearance compared to juvenile *islandica*.



Black-tailed Godwit, moulted juvenile, form *limosa*, Cley Marshes, August 2015 (Steve Gantlett)

This moulted August *limosa* may have hatched a little later than the two birds above but its pallid plumage is seen regularly within the form. Like the birds in 2013 and 2009, this individual has moulted a number of mantle feathers and scapulars. Presumably a young female, the bill base looks extremely thick and the remainder of the bill looks broad along its entire length.



Black-tailed Godwit, juvenile, form *limosa*, Cley Marshes, August 2009 (left) & Black-tailed Godwit, juvenile, form *islandica*, Cley Marshes, August 2009 (Steve Gantlett)

Side by side comparisons show the many differences between the two forms. These images were all taken at the same time of year during 2009 and the appearances of the two are dramatically different. Comparative images such as these are eye-catching especially when you think that *limosa* and *islandica* are the same species; juvenile plumages frequently suggest something altogether different.



Black-tailed Godwit composite, moulting juveniles, form *islandica*, Cley, September 2017 (James McCallum)

Just when you thought you've perhaps cracked it with these young birds, along comes an early autumn conundrum which always needs to be worked through with care. On several occasions recently at Cley it has been noticed that some juvenile *islandica* will begin to resemble the appearance of some of the sandier or greyer *limosas* when they start their moult in to first-winter plumage. These dull moulting *islandicas* are perhaps birds that fledged in an early season in the breeding range and have, by early September, started to resemble moulting *limosas*. The breast may retain a richer colour wash than you'd see on nominate birds, the internal markings are a bit too "busy", the well-marked tertials on a couple of the birds shown within this montage show tell-tale marks of *islandica*, similarly the coverts on the bird in the middle image on the bottom row show typical juvenile *islandica* patterns.

The second set of composite images below shows the Cley moulting juvenile *limosa* compared to a couple of the young *islandicas* above. There are strong similarities, undoubtedly; the *islandica* in the middle of the montage is a rather grey individual, with restricted internal feather markings for an Icelandic bird (but it shows only a small amount of moult across the scapulars), while the right hand bird is certainly more advanced and *limosa*-like in appearance. However, these birds are at least six weeks apart in their appearance, the *limosa* was taken in late July, the *islandicas* in early September; within that time frame, the *limosa* would have moulted to somewhere close to full first-winter plumage and be markedly different in appearance. But these dull *islandicas* are a problem which must be considered later in the autumn.



Black-tailed Godwit composite, moulting juvenile, form *limosa*, Cley, July 2013 (Mark Golley) & moulting juveniles, form *islandica*, Cley, September 2017 (James McCallum)

“Non-breeding” plumaged birds ~ 2cy, 3cy and older

From arguably the easiest age to identify the two forms to the toughest of all.

Godwits in either partially grey or entirely grey plumages are notoriously hard to identify, indeed some all grey birds will be left alone by everyone. There is a feel to some *limosas* though (especially those long and lanky females) which can at least give an intuitive guess as to what form is being looked at.

As was mentioned earlier, there are many variables involved in trying to identify “grey” birds; fundamental to the process is the correct ageing of the bird and the time of year will clearly have a bearing on the identification too.

During the winter, grey Black-tailed Godwits in Norfolk will be Icelandic birds. I've never been close to seeing a *limosa* (colour-ringed or a candidate unringed bird either) from mid-to late October to very late March. *Limosa* winters anywhere from southern Europe right down to sub-Saharan Africa (in 2009 a Dutch *limosa*, bearing a transmitter flew around 3500 miles in 72 hours to Senegal, west Africa), so there's little likelihood of one remaining in Norfolk after early-ish autumn.

With that in mind, the focus falls on the toughest of the tough; the “grey” birds (non-breeding individuals). However, despite the difficulty involved, there are times of the year when, with patience, pieces of the puzzle can safely be put together.

First-summer

The easiest way to dissect some of these non-breeding birds is to look closely at a selection of photographs from Cley and Titchwell.



Black-tailed Godwit, first-summer (2cy), form *limosa*, Titchwell RSPB, July 2013 (Mark Golley)

A super example by which to start with, a real monster! When Richard Millington and I found this bird we were both stunned at how striking a bird it was. Even though belly deep, the bill length and breadth alone (and apparent body size too) point to this being a female *limosa*. The summer adult type feathers present are limited but their patterns are classic *limosa* too ~ narrow areas of pale straw yellow contrasting with large blackish remainders on the feathers in question, these are colours *and* patterns that you will not see on *islandica* of any age. The coverts and tertials appear worn and a little ragged and some darker grey feathers are apparent on the scapulars and all help to confirm the age as being first-summer (2cy). The head pattern too is something that may be a “soft” feature of the form, an obvious bulge on the fore-supercilium is something noted on many *limosas*. This bird is a dream for working through the challenge of first-summer “Continental Black-tailed Godwits”.



Black-tailed Godwit, first-summer (2cy), form *limosa*, Cley Marshes, July 2015 (Nigel Rogers)

Another July bird for you here, this one taken at Cley. Aged confidently as a first-summer (2cy) bird, you see a largely grey bird with only a handful of summery feathers on the upper-and underparts, but also there's an obvious contrast on the closed wing, where a number of retained 1st year feathers are seen across the coverts, presenting a distinctive paler grey panel. As with the Titchwell bird above, this individual's limited summer feathers in the upperparts show typical *limosa* patterns; there's the dull straw yellow contrasting with a large blackish area in the remainder of the feathers in question, lacking the rich orange-chestnut of *islandica* (illustrated nicely by the stunning adult Icelandic individual in front of it). What little reddish colour there is below on the *limosa* is also rather pale and the handful of partial bars are restricted to the breast and upper belly. The structure suggests this is a male *limosa*, but it still appears larger than the older *islandica* in the foreground. The tibia length is long, the bill shows a thick base and is rather thick too along its whole length while the "giraffe-neck" is present (albeit not as obvious as a female would be). Even the older grey feathers have a lead-grey pallor, something that may also suggest *limosa*.



Black-tailed Godwit, first-summer (2cy), form *limosa*, Cley Marshes, June 2019 (Mark Golley)

A phone shot of a striking first-summer female *limosa* that I found on Pat's Pool, Cley NWT in June this year. The bird's left hand side showed one retained, very worn ancient juvenile lesser covert (confirming its age as first-summer). Note the bulging fore-supercilium and also the breadth of the bill base which indicates this to be a female. That bill thickness and length can be seen easily in this image of this striking bird. The contrast on the wing, with paler grey coverts, is easily seen. Crucially, note the single patterned tertial proving it to be in an otherwise "grey summer plumage".



Black-tailed Godwit, first-summer (2cy), form *limosa*, Titchwell RSPB, July 2019 (Ashley Saunders)

A known, colour-ringed first-summer (2cy) bird that was fledged by a pair of *limosas* on the Nene Washes, Cambridgeshire in 2018. It was tracked around the Nene until late July last year and wasn't seen again until a re-sighting on the Coto Doñana, Spain in early February 2019. In the third week of April it was noted at Frampton RSPB, Lincolnshire before coming across to east Norfolk, spending two days at Breydon Water on May 8th-9th. By May 26th, it was back on the Cambridgeshire Washes and was noted on three dates to early June. It subsequently left there and moved to Titchwell RSPB on June 29th and remained there until at least July 18th. As with other 2cy birds above, there's very little by way of any summer feathering on this individual, but the single summer scapular peeping through is the classic, want-to-see pattern of *limosa*.

Second-summer

There's little available from Norfolk by way of illustrating definitively a second-summer *limosa*. The best I can manage is a personal account of a bird that I located in and around the Cley reserve in June 2013. At the time, I worked through it thinking it could be a second-summer (3cy) bird and some of that is shown below. There's every likelihood though that it could be a summer female, just a particularly pallid individual. For the moment, it will be left as a second-summer.



Black-tailed Godwit, perhaps second-summer (3cy), form *limosa*, (right) with Icelandic Black-tailed Godwit, form *islandica*. Sea Pool, Cley Marshes, June 2013 (Mark Golley)

Initially seen sleeping on Whitwell Scrape, this bird was, literally, head and shoulders above the remainder of the flock and, although in a plumage I wasn't overly familiar with, the lack of summer breeding feathers on the brown closed wing (one summer inner tertial on the right wing), the delicate wash of pale orangey red across the head and breast, to the lower flanks, along with a selection of dark bars across the breast and flanks, along with the length of both sections of the leg and a long bill, all pointed to this bird being a second-summer female *limosa*.

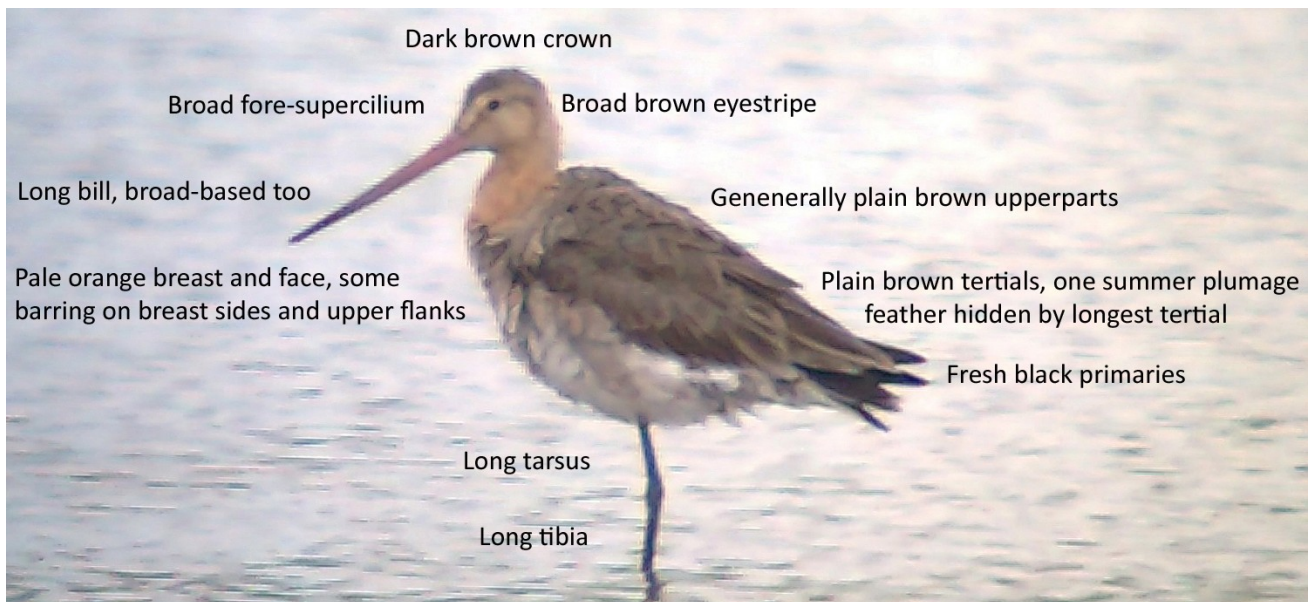


Black-tailed Godwit, perhaps second-summer (3cy), form *limosa*, Sea Pool, Cley Marshes, June 2013 (Mark Golley)

My notes at the time mention the following; "...a very obvious bird, even when asleep...hugely long legs (in both tarsus and tibia lengths), a very pronounced "Stilt" feel when walking around. Faded orangey in the face (palest around the lores) contrasting w/darker brown marked crown and "eye-stripe". Bold supercilia, with distinct bulge in front section. Closed wing entirely brownish, save for "fresh" black primaries. Small black smear in upper scaps, larger spear marks in what look like the rear scaps (forming distinctive pattern on closed wing). Greater coverts perhaps darker brown in tone. One s/p (summer plumage) feather on whole of the uppers ~ the inner tertial on the right wing ~ blackish with pale yellowy notches (not golden and nothing like the rich colour shown even by 1s Icelandic birds). Breast faded orange, merging to blackish bars, extending to lower breast and upper flanks. Incredibly long legs and broad-based long bill. So lanky when walking about and clearly one of the biggest birds in the flock."

The following day, I found the bird again on Sea Pool, when it was generally awake, rather than asleep, I noted some additional points...

"...dark crown (flecked with rusty pale orange) with bulbous looking pale orangey fore-super...broad behind the eye too. Dark lores & eyestripe. Wash of some pale orange thru' breast bars ~ upper breast only area of full colour (extending around to the nape). Lots of fine arrowheads on upper scaps; v. neat pattern. Some black marks in rear nape and mantle (upper bit), classic *limosa* patterned feathers, black w/pale creamy edges, not broad and extensive like *islandica*."



Black-tailed Godwit, perhaps second-summer (3cy), form *limosa*, Sea Pool, Cley Marshes, June 2013. This annotated image was done at the time as part of a potential submission to the Norfolk Records Committee when the form was being considered as a description "species". (Mark Golley)

Grey adults

Confirmed grey adult *limosas* are normally encountered in Norfolk by virtue of known colour-ringed examples which may summer at a site and can be watched losing their summer finery and replacing them with typically lead grey (rather strikingly dark new feathers) anytime from late June onwards. At Cley in 2019, there have been a trio of colour-ringed nominate birds that have moulted rapidly and have been watched changing between the third week of June to the very middle of July into grey non-descript individuals.



Black-tailed Godwit, moulting adult, form *limosa*, Cley Marshes, June 2019 (Steve Gantlett)

Taken in June, this particular *limosa* is already well on the way to losing its summer attire, laying down many new grey feathers (and was in full winter dress by the start of the third week of July). No two years are the same, so that must always be borne in mind when you come across a grey godwit in summer. As has been touched on previously, you can work through ensuring you've aged the bird correctly (that's the first starting point) and then look at structural points and the overall "feel". You may be able to come to a conclusion in your own mind from there but to convince a records committee you'll need experience of the two forms, excellent notes and decent images to back up your theory. But a large, lanky grey adult godwit, with a gawky (almost top-heavy) demeanour, a characteristic "giraffe-neck" look, a long, thick-based bill and long legs will put you in the ball-park of *limosa*.



Black-tailed Godwit, moulted adult, form *limosa*, Cley Marshes, July 2019 (Andy Johnson)

Another of three long-staying known *limosa* at Cley in the summer of 2019 was this individual from the Nene Washes. By the middle of July (when this photo was taken) it had already moulted in to almost full winter plumage. The hint of a "giraffe-neck" and a thick-based bill are the only clues (rings, flags and geo-locator aside) to the bird's identity, although a correctly aged all-grey adult in the middle of the summer is well worth checking thoroughly.

"Breeding" plumaged adults

In their respective summer plumages, *limosa* and *islandica* are relatively straightforward to pick apart from each other.

As discussed previously, *limosas* breed several weeks earlier than *islandicas*, so in early spring a godwit with a decent amount of colour will certainly be worth investigating further. Obviously, individual birds from Iceland can lay down summer colour early on in any one given season but even if they do, there are plenty of pointers by way of separating the two forms, and this holds true from April through to at least July.



Black-tailed Godwit, form *limosa*, Cambridgeshire Washes (Richard Chandler)

From April through until, sometimes, the middle of summer (right in to the third week of July), a male *limosa* will often be, with careful searching, relatively straightforward to pick out amongst a flock of Icelandic birds. The bird above, photographed in East Anglia in June 2013, is a textbook spring/summer male *limosa*. The bill (with its extensive rich coral orange colouration) and relatively short-legged look (for a nominate bird) point to the sex of the bird whilst identification features include the “tomato soup” tone of the head and breast colouration which extends only to the top of the breast (with some suffusion within the heavy-ish barring across the underparts). The few summer feathers within the mantle and the upperwing are typical of the form; plenty of black within the feather centre coupled with very pale yellowy-brown notches and bars. Much of the remainder of the wing is plain looking, mid-brown in tone (this bird, like many, shows nothing in terms of marks on the tertials). Also on this bird, the “soft feature” of the bold, broad creamy supercilium is obvious (it does seem to be recurring plumage trait on the form).



Black-tailed Godwit, form *limosa*, Poland (Richard Chandler)

Female *limosas* will always be less colourful than males, showing less colour both above and below, with fewer of the tell-tale summer patterned feathers on show within the upperparts especially. Indeed they can look rather plain and almost anaemic when seen side by side with an *islandica* at the same time of year. This impressive bird, photographed in Poland in late April 2005, typifies the appearance of many female *limosas* in spring and summer. Notable features are that long, thick-based bill (sharing the nice coral orange spring tone of the male), the distinctive looking supercilium, very muted colour around the head and neck with very little in and amongst the body bars. The upperparts are almost entirely plain brown (some will show the odd summer feather within the upperparts (see the bird below) while the legs are typically exaggerated in length.



Black-tailed Godwit, form *limosa*, Poland (Richard Chandler)

Another Polish female from late April 2005. This bird shows a less well-marked supercilium but many other features are almost identical to the bird above. Note here the few summer feathers within the upperparts; the typical subdued *limosa* pattern is obvious and distinctive.



Black-tailed Godwit, form *limosa*, Cley Marshes, June 2012 (Steve Gantlett)

A lovely portrait of a summer *limosa* alongside an Avocet at Cley. This super looking bird is perhaps already losing colour around the face although it is equally as likely that this is the bird in full summer plumage, pale faces are not uncommon on summer adult *limosas*. The orange of the remainder of the head and on the breast is that lovely “tomato soup” tone fading in to some rather striking black barring, dense in places, across the breast and upper belly. There are suggestions of wing moult starting while the plain wings, dull chocolate brown are typical of *limosa*. Typical too, those few distinctive summer feathers in the upperparts, showing the now-familiar combination of very pale straw yellow edges and fringes to black centres (quite unlike the bold, vibrant tones of *islandica*). As with so many other summer *limosas*, the tertials on this bird are plain and unmarked (*limosa* can have patterned tertials, often only one or perhaps two though and those tertial patterns are as subdued as other feathers on the upperparts and are markedly different to those of Icelandic birds).



Black-tailed Godwit, form *islandica*, Cley Marshes, July 2015 (Steve Gantlett)

Compare this Icelandic bird with the *limosa* above. The overall colour tones and feather patterns are so much more vibrant than the subdued look shown by the June *limosa*. The intensity and extent of the rich chestnut-orange is in marked contrast to the *limosa*, the colour extending well on to the belly of this standard looking summer *islandica*. The underpart barring is a little more extensive on the Icelandic bird (and broader) with orange extending well on to the flanks. The most startling difference is the amount of colour in the upperparts and the markedly different patterns of the mantle and scapular feathers, rich orange bases are extensive and the bold black feather tips contrast strongly with the bright burnt orange. Look again at the same feather groups on the *limosa* above ~ the differences are wide-ranging. It is interesting to see on this *islandica* a lack of summer feathers within the coverts and tertials, mimicking a familiar trait that is often used to pick out potential *limosas* such as the bird above. However, as detailed above, there are more than enough other plumage details on this individual to make its sub-specific identity extremely straightforward.



Black-tailed Godwit, form *limosa*, Cley Marshes, July 2019 (Mark Golley)

These hurried phone shots of this well marked (presumed) male *limosa* on Simmonds Scrape are included to show that, in some years, a *limosa* will hold on to what is basically full summer plumage well in to the summer. Often, by mid-July, male and female *limosas* will be moulting (some of them particularly advanced) and in previous years at Cley, I have seen birds in late June with the characteristic rear wing look of dropped feathers exposing whitish bases as the start to change from summer to winter plumage. The bird in these images wouldn't have been out of place if it had looked like this in late April or early May such was the freshness of its appearance. Note the tone of the orange around the head and underparts and also the extent of the orangey-red tones below, finishing on the upper breast. The black barring extends to the middle of the belly (and is almost entirely on a white ground colour) while the upperparts show the typical summer *limosa* combination of limited numbers of "summer" feathers and those that there are show the familiar subdued pattern of pale straw-yellow and black, all set within a rather cold, brown toned, plain looking rest of the wing, the tertials characteristically unmarked on this bird.



Black-tailed Godwit, adult summer, form *islandica*, Cley Marshes, April 2006 & Black-tailed Godwit, adult summer, form *islandica*, Cley Marshes, April 2015 (Steve Gantlett)

These beautiful Icelandic birds are included to offer further comparisons with nominate birds in summer plumage, such as the lovely bird from Cley in July 2019. These birds, almost certainly both males, given their rather short-legged and short-billed look both show an array of classic *islandica* features; the deep richness of the orange on the head and breast, colour extending within the broad underpart barring to the flanks, striking feather patterns on the upperparts with lots of colour and on the bird from April 2006, summer tertials with a similarly bold and strong pattern of orange and black, quite unlike anything you'd see on a *limosa*.

Summer moult ~ adults only



Black-tailed Godwit, moulted adult, form *limosa*, Cley Marshes, June 2019 (Steve Gantlett)

At almost any point between the middle of June and into early July, almost any adult that is already in wing moult is likely to be *limosa*. The nominate form breeds earlier than *islandica*, it generally attains its full summer plumage earlier than *islandica* and, therefore, it will (generally) also moult earlier than birds that head back and forth to Iceland. This summer (2019) has seen a significant number (many 100s) of full summer adult Icelandic birds arrived back to Cley from late June and early July onwards (earlier than usual for such numbers) and this appears to have triggered early moult amongst a number of birds but, despite this, they do remain several weeks behind *limosa* in terms of their moult state; in mid-July 2019, these rather early wing-moulting *islandicas* were easy to separate from wing-moulting *limosa* such as the bird above.

Seven things to remember with that godwit flock in front of you...

#1 ~ It must be stressed (again!) how important ageing the bird correctly is fundamental on anything that isn't an obvious adult (this applies mainly to *islandica*; as mentioned above, a grey 1s (2cy) female *islandica* can be almost as big as a 1s (2cy) female *limosa* and I generally shy away from some of these "big grey birds", even though I've a fair idea which form is which).

#2 ~ Some summer adult *islandicas* (and also some well marked 1s and 2s *islandicas* as well) can, as the summer goes on, begin to show a brown cast across the silvery-grey coverts (as shown above), occasionally resembling *limosa*. Don't forget though, they will always show those boldly patterned giveaway summer plumage feathers elsewhere on the body and the size, structure and general "feel" will always be an indicator that the bird is hot foot from Iceland.

#3 ~ Be wary of identifying a bird on size alone. A big lanky godwit is not always going to be a *limosa*. As mentioned earlier, a female *islandica* can be as large as a female *limosa* (the main issue being those all grey first summer birds) and judging precise size on a lone bird can be notoriously difficult. But as with species such as Coues's Arctic Redpoll, working through the recognised suite of characters will, invariably, land you at the correct conclusion. A female *limosa* is the easiest summer "Continental Black-tailed Godwit" to uncover in a flock, the smaller males take a little more looking for.

#4 ~ Juvenile *limosas* can be identified with confidence, from the end of June until they leave (as moulting first-winters) in mid to late September. They are always much more much straight forward to separate from juvenile *islandica* than some adults (or first-summer/second-summer birds) of the two forms can be.

#5 ~ Some grey birds undeniably have a *limosa* feel, others really seem like *islandica*. A satisfactory identification of such "big grey birds" is almost impossible at times. Grey adults do appear every spring and summer (aged primarily on condition of the primaries) and they are (generally) best left as unidentified to form.

#6 ~ Some bright first-summer *islandicas* can be a bit confusing, but the plumage patterns of any adult-type feathers they may have laid down will always be standard, classic, boldly marked *islandica* patterns ~ always pretty garish affairs with bold slashes of colours in the tips, notches, fringes and feather edges compared to the lovely subdued patterns (much more dark in the individual feather with, at best, straw yellow narrow notching or fringing) shown by adult or first-summer *limosas* (some of which can also lay down s/p feathers in year 1).

#7 ~ Not all *limosa* in spring/summer will be adults, see the text above for examples of striking Norfolk birds, from Cley and Titchwell of 2cy and 3cy birds.



Black-tailed Godwit, form *limosa*, Cambridgeshire Washes (Richard Chandler)

Summary

Finding a *limosa* remains an enthralling identification challenge and in Norfolk, we are fortunate enough to have a fine selection of Black-tailed Godwits to scan and search. In terms of any submissions to the county recorder, the following should be deemed as assessable by the records committee.

#1 ~ Colour ringed birds with history provided (just to ensure that they aren't *islandica* that are being reported. People do see ringed Icelandic birds here and name them as *limosa*).

#2 ~ Juvenile and juv/1w (ideally with photos and/or a detailed description backed with observer familiarity of the form).

#3 ~ Adults in spring and summer (again photos are required ideally. If not, detailed notes with sketches of pertinent summer feather patterns are key).

#4 ~ Adults in autumn (with birds seen later in summer and early autumn, photos are almost a must to aid any submission).

#5 ~ 1st and 2nd summer birds (as the paper shows these are ages that can be identified in Norfolk, particularly by experienced godwit watchers). Once again photos are almost a must or the descriptions must to be exceptionally detailed.



Black-tailed Godwit, form *limosa*, Cambridgeshire Washes (Richard Chandler)

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Mark Golley
Cley next the sea
August 2019

References:

- Gill, J.A. & Evans, J ~ 1999 ~ Black-tailed Godwit. *The Birds of Norfolk*
Golley, M.A. ~ 1990 – 2018 ~ Notes, accounts, photographs and descriptions of *limosa* and *islandica*. *Unpublished*
Norfolk & Norwich Naturalists' Society ~ 2014-2017 ~ Norfolk Bird and Mammal Report: *Volume 48-51*
Richardson, R.A. & Bishop, W.F. ~ 1969 ~ The Godwits of Cley. *Norfolk Bird Report 1968: p284-291*
Richardson, R.A. ~ 1970 ~ The Godwits of Cley. *Norfolk Bird Report 1969: p5-11*
Richardson, R.A. ~ 1971 ~ The Godwits of Cley. *Norfolk Bird Report 1970: p180-186*
Seago, M.J. ~ 1977 ~ *Birds of Norfolk (2nd edition)*
Taylor, M., Seago, M.J., Allard, P.R., Dorling, D. ~ 1999 ~ *The Birds of Norfolk*



