



The Identification and Migration of Breeding Plumaged Dowitchers in Southern Ontario

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Dowitcher taxonomy and identification have caused a great deal of confusion in the past. Originally, the Long-billed Dowitcher *Limnodromus scolopaceus* and Short-billed Dowitcher *Limnodromus griseus* were described as different species. Due to the frequent observations of birds that appeared to be intermediate, the two forms were lumped (Bent 1927). In 1932 W.Rowan published a paper describing the newly discovered breeding population of Short-billed Dowitchers in Alberta and Manitoba. He decided that these bright looking birds were worthy of subspecific recognition, *L.g.hendersoni* (Rowan 1932). He also concluded that Long-billed Dowitcher was a separate species, partly because birds identified as intermediates were actually *L.g.hendersoni*. Conover (1941) was in complete agreement with Rowan, but there was still some confusion surrounding the occurrence of Short-billed Dowitchers on the West Coast that appeared to be of the eastern nominate subspecies. It was not until 1950, through a careful analysis of museum specimens, that Pitelka (1950) cleared up some of the remaining puzzles. He also came to the conclusion that the Long-billed Dowitcher and the Short-billed Dowitcher were different species. Part of the confusion had come from the fact that the Short-billed Dowitcher is highly variable as a species. Pitelka (1950) also described a new western subspecies of the Short-billed Dowitcher, *L.g.caurinus*, thereby clearing up some of the past difficulties. It was only after Pitelka's monograph was published that the majority of ornithologists accepted the two species of dowitcher as valid (A.O.U.1957). Recent research has shown the two dowitcher species to be more genetically divergent than certain species of *Dendroica* warblers and *Aythya* ducks, based on mitochondrial DNA; it was estimated that the two species diverged roughly four million years ago (Avisé & Zink 1988).

Even after all of this, field identification of dowitchers has been problematic. In the last few years, several publications on dowitcher identification have appeared, i.e Wilds & Newlon 1983, Hayman et al. 1986, National Geographic Society 1987, Kaufman, 1990, and consequently birders have begun to identify dowitchers in the field more confidently. In Ontario, most birders have concentrated on identifying juveniles partly because they are more easily identified than adults. Very little attention has been paid to the identification

of breeding plumaged adults in the province. In this paper we discuss the identification of Long-billed and Short-billed Dowitchers in breeding plumage, as well as the two subspecies of the Short-billed Dowitcher that occur in Ontario. Also, we examine the status of these forms as migrants through the province, and deal with the mystery of the subspecific status of the Short-billed Dowitcher as a breeder in the province.

The Short-billed Dowitcher is composed of three subspecies. Two of these are found in Ontario (James 1991). The eastern subspecies *L.g. griseus* breeds mainly in Northern Quebec and Labrador (Godfrey 1986). Its wintering grounds extend from the southern USA to the Caribbean (Hayman et al. 1986) – many winter in the eastern Caribbean (Pitelka 1950). The inland dowitcher *L.g. hendersoni* breeds from eastern B.C. eastward, north of the prairies, to Manitoba (Godfrey 1986). This subspecies winters in Florida and the Caribbean, south to northern South America (Hayman et al. 1986). The third subspecies, *L.g. caurinus*, is found on the west coast and is not expected to occur in Ontario other than as an accidental. Long-billed Dowitcher breeds from Siberia eastwards to the Yukon, and winters north of South America on both Pacific and Atlantic coasts (Hayman et al. 1986). It passes through the interior during migration.

IDENTIFICATION

GENERAL POINTS

In order to identify dowitchers an observer has to have basic knowledge of feather anatomy. For example, it is crucial to know the difference between a wing covert and a scapular. Excellent references to study regarding feather topography are found in the following works: Veit and Jonsson (1984), and Hayman et al. (1986).

In breeding plumage, dowitchers are characterized by orangeish underparts with white areas of variable extent. It is important to note the actual colour of the underparts; since the perception of colour is subjective, it is useful to compare an unidentified individual to a bird of known identity. The extent of white on the underparts should be noted as it is a critical identification feature in breeding dowitchers. When studying the underparts one should also concentrate on defining the pattern of dark markings. Are they spots, bars, chevrons, wide spots? The extent and distribution of bars versus spots on the underparts is one of the crucial identification features in breeding plumage.

When viewing the upperparts one should ask the question, is this a dark-backed or bright-backed individual? Once again it is best to do this by comparison, keeping in mind factors such as wear and moult. Therefore, try to compare an individual with other birds in similar stage of wear, not with memories of how they appeared several weeks back in the early spring. It is a useful exercise to study the patterns on the individual feathers on the upperparts. Try to assess whether white tips are present, the colour and tone of the pale fringes and marks on the feathers, the width of the internal markings, the relative dark versus pale on the feathers etc. Finally, make sure to look at the pattern on the central tail feathers and if possible on the other tail feathers. Dowitcher tails are striped with black and white bands. The relative width of dark and light bands in the tail has been given a great deal of attention as an identification feature on dowitchers. The variation of the tail pattern is great and in our opinion overrated as an

identification mark. One of the factors that may be causing confusion is that *L.g.hendersoni* and *L.g.griseus* differ in their tail patterns. In the field it can be incredibly difficult to see the tail in any great detail, as it is usually hidden by the wings and the tail coverts. Use the tail pattern feature with caution.

By far the best way to get know the rarer *L.g.griseus* and Long-billed Dowitchers is by studying the plumage details of the common *L.g.hendersoni*. An understanding of the range of variation in *L.g.hendersoni* is the best identification tool a birder could have in the field.

STRUCTURE

The Long-billed Dowitcher is the largest of the Dowitchers. On the average, it has the longest bill of the three, but there is a great deal of overlap. Bill length is usually not very useful as an identification mark except in a few (female) Long-billed Dowitchers which have very long bills. Dowitchers which show bills that are twice the length of the head are likely Longbills (Wilds & Newlon 1983).

As well as being long billed, Long-billed Dowitchers are also relatively longer legged when compared to Short-billed Dowitchers. The tarsus and tibia on Longbills are longer than on Short-billed Dowitchers. Due to the longer extremities, Longbills often feed in deeper water than Shortbills. Sexual size dimorphism is greater in Longbills than in Shortbills, with females being larger than males. This implies that reproductive parameters in Longbills may differ from Shortbills, or that differences have evolved such that the sexes will be able to exploit a slightly separate niche while foraging.

An intriguing feature that was pointed out in the early literature (Rowan 1932, Pitelka 1950, Nisbet 1961) is that even though Longbills are larger than Shortbills they have shorter wings. The difference in wing length is great enough to be detectable in the field, but since we learned of this feature we have not had many chances to try it out. From our limited experience, adult *L.g. hendersoni* have folded wings that reach noticeably beyond the tip of the tail. Adult Long-billed Dowitchers have wings which fall short of the tail. We welcome additional information on this character since it has not been field tested to a great extent. We do not know how *L.g.griseus* follows this trait. Another feature to look for with respect to the wing length is the extension of the primaries beyond the tertials, but remember the effect of wear. Juvenile, first-winter and first-summer birds have shorter wings than adults; therefore, learning their structure will not necessarily aid in the identification of adults.

The total effect of these features is that Long-billed Dowitchers look relatively long-legged, long-billed and short-winged. Longbills may appear front heavy, and short or truncated at the rear end. The long legs add to this awkward appearance. The "jizz" of Long-billed Dowitchers is more godwit-like than the more snipe-like Short-billed Dowitcher.

L.g.griseus is the smallest of the three dowitchers being dealt with here. It has the shortest bill length of the three. On average, *L.g. hendersoni* are bigger than *L.g.griseus* but not bigger than Longbills. Size in Shortbills proceeds as a cline increasing westward, with Ontario and Manitoba birds being intermediate to the typical *L.g.hendersoni* and *L.g.griseus* (Pitelka, 1950). Bill lengths also become longer westwards.

VOICE

Once learned, the calls of migrant Short-billed and Long-billed Dowitchers are distinctive and diagnostic. The usual call of the Short-billed is a rapid “tu-tu-tu”, not unlike Lesser Yellowlegs *Tringa flavipes*. This call is usually given as the bird flushes or in flight, but rarely while standing. Feeding Shortbills are silent, whereas Longbills often give low “peeps”. In spring, migrating Shortbills occasionally break into short episodes of the thin gurgling display song heard on the breeding grounds. At these times, the “tu-tu-tu” call is normally given as well. Vocalizations of nominate *griseus* and *hendersoni* are very similar, if not identical.

The typical call of the Long-billed Dowitcher is a high thin “keek”, having a peeping quality. The call suggests the “peep” notes of the male Blue-winged Teal *Anas discors* in spring. Alarmed birds utter a louder and sharper version of the “keek” call. The Longbill’s call may be doubled or tripled in rapid series. Unlike Shortbills, which call mainly in flight, Longbills call while feeding, standing and flying. Their calls are often difficult to pick out among other calling shorebirds, especially the vocal Lesser Yellowlegs *Tringa flavipes*. Migrating Longbills also occasionally break into what appears to be portions of the nuptial song from time to time. Both species can occasionally be frustratingly silent at times. The dowitcher calls on the National Geographic Guide tape are worth studying. Beware that some of the calls at the beginning of the Short-billed Dowitcher section of the Peterson Eastern Guide tape are surely Long-billed Dowitcher calls!

Long-billed Dowitcher *L.scolopaceus*

Fresh Long-billed Dowitchers in breeding plumage are very distinctive looking birds, once one is familiar with them. Wear and fading of plumage are very important in determining how a bird looks; this is especially true for Longbills. The difference between a fresh Longbill and a worn one is striking. As they wear, Long-billed Dowitchers begin to look like *L.g.hendersoni*. Because of this we have chosen to describe fresh and worn birds separately.

FRESH BREEDING PLUMAGE

Underparts

The underparts of Long-billed Dowitchers are typically characterized by the orange-red colour extending from the chin to the undertail. Contrary to some of the literature (i.e. NGS 1987, Wilds & Newlon 1983, Hayman et al. 1986), Longbills may have some white on the underparts. The amount of white is not extensive, and is restricted to the hind flanks, and sides of the undertail coverts. The pattern is caused by extra white fringes on these feathers or by feathers that lack the red colouration altogether. The vent and belly are never white in full breeding plumage.

The actual base colour of the underparts is orange-red rather than the pinkish-orange of *L.g.hendersoni* or the brownish-orange of *L.g. griseus*, but be aware of the range of variability. Each feather, when fresh, is fringed by white. These white fringes give the neck

and breast sides a frosty appearance, since this is where the feathers are smallest and most heavily concentrated. The widest fringes are found on the flanks. The reddish underparts in conjunction with the white fringes is reminiscent of a fresh fall American Robin *Turdus migratorius*. Due to feather wear the white fringes may be gone by mid-May.

The pattern of dark markings on the underparts is quite different from that of *L.g.hendersoni* in fresh plumage. Yet the pattern can be rather similar to that of *L.g.griseus*, but these have extensively white underparts unlike Longbills. On Longbills the neck and breast are densely barred. These bars are rather short and wide such that on some birds the markings are more like spots than bars. On very fresh birds these markings are obscured by the white fringes. On the sides of the breast the markings become distinct bars, which extend to the flanks and undertail coverts. Terminal spots are not present on the undertail coverts, giving them a distinctly barred appearance. The positioning of the bars on individual feathers is subterminal to the white fringe, with the red restricted to the base of each feather. There is only one bar present per feather, other than on some of the hind flank and undertail covert feathers. This is not usually true on barred feathers of Short-billed Dowitchers. While some Short-billed Dowitchers show thin white fringes on barred feathers there is usually some orange between the dark bar and the white fringe.

We have observed that Long-bills tend to have a noticeable half eye-ring below the eye. We have not observed such noticeable eye-rings on Short-bills. The value of this character as an aid to identification is not known; further observation is needed to clarify if this is a constant feature.

Upperparts

The patterns on the upperparts of dowitchers are much complex than that of the underparts. Feathers are black with variable brightly coloured internal markings and fringes. As with the underpart base colour, the colour of the upperpart feathers is deeper in tone than that of the Shortbills. Thus, pale markings are more cinnamon or chestnut on Longbills, especially on the lower scapulars and tertials. In fresh plumage, these feathers also have white terminal tips that are divided by a black shaft streak. Therefore, the white appears as two terminal spots on the feather tips. The contrast between the white tips and the chestnut markings on the scapulars is diagnostic for Longbills. The mantle feathers are edged with orange but these edges are not as wide as on fresh *L.g.hendersoni* - they do not appear as brightly striped as in that form.

Long-billed Dowitchers have a tail pattern where the dark bars are distinctly wider than the pale bars. Pale bars on the tail are usually washed with chestnut in breeding plumage. The tail pattern has been given a lot of attention in the literature (Wilds & Newlon 1983, NGS 1987, Kaufman 1990, Hayman et al. 1986). Even though all of these references clearly state that tails are variable, birders often consider the tail pattern to be diagnostic; this is not true. Often tail pattern can mislead the observer due to several factors that we will discuss. First of all, tail pattern is different for the two Ontario subspecies of Short-billed Dowitcher. *L.g.hendersoni* have pale tail bars as wide as or wider than the dark bars, whereas *L.g.griseus* commonly show dark bars that are much wider than the pale ones. Ten out of 11 specimens in the National Museum that were caught during the summer in Quebec show an arrangement where the dark bars are substantially wider than the pale bars. One of these birds had almost no white on the tail at all! Therefore, *L.g.griseus* tails are most similar to Longbill tails. The tail

of *L.g.griseus* possibly never shows wider white than dark bars, as does *L.g.hendersoni*. It is important to consider that it is quite difficult to get a good look at the tail on a sitting bird. Tail feathers are usually concealed by the wings and the uppertail coverts. The uppertail coverts on dowitchers are similarly patterned to the tail feathers and are often mistaken for them. The central tail feathers of dowitchers show a regular pattern of pale and dark bars, but outer feathers usually do not. The outer feathers tend to have complex patterns of alternating dark and light squiggles rather than straight bands. An observer faced with a good look at one of these feathers will have a hard time quantifying it in terms of proportions of dark and light. In our opinion, tail patterns are valuable but not diagnostic; use with caution.

WORN BREEDING PLUMAGE

Worn Longbills in summer are vastly different in appearance from fresh spring birds. Since the fresh breeding plumage of the Longbill has been described in detail, we will concentrate on how the worn birds differ from the fresh. The main changes that one will notice are those of the underparts. The noticeable white fringes will have worn off; thus, the underparts appear solidly orange-red with some dark markings. The base colour of the underparts will have faded slightly, but it is still comparatively deeper in colour than *L.g.hendersoni* in the same stage of wear. Due to the terminal positioning of the dark bars on the underparts, many of them will have worn off by the late summer. Most Longbills in mid-summer appear rather plain below; the belly is unspotted and usually they have a band of dark markings across the breast, which may be quite indistinct. The bars and spots that are most prone to be lost through wear are the ones on the centre of the breast; markings on the sides of the breast are not as likely to be lost. In fact, the leftover bars on the sides of the breast may form a noticeable darker patch.

The upperparts become darker through wear, as the white feather tips and the colourful fringes are worn away. The lower scapulars often retain some of the features of fresh birds; therefore; these feathers can be the most informative area of the upperparts to look at. If present, the chestnut colour on these scapulars is diagnostic. A late summer dowitcher with dark upperparts and cleanly orange-red underparts, with very few distinct dark markings except for a band of spots across the lower neck and flank bars, is a Long-billed Dowitcher.

By mid-August many Long-billed Dowitchers are in moult, being a mixture of red, gray and black. However, they retain enough pattern and colour to allow identification. Moult in Longbills is later than in Shortbills (Jehl 1963). Yet the head and neck can be moulted rather early (Jehl 1963, Cramp & Simmons 1983). This early moult of the head and neck gives some birds a distinctive grey-necked, red-bellied appearance by early August (Jehl 1963). At this time some scapulars and crissum feathers may also be moulted. Compare this to the moult of *L.g.hendersoni*. Moult in dowitchers is not synchronized among individuals; of interest was the range of moult stages observed in five Long-billed Dowitchers seen on August 12 and 22 1991, in York and Durham Regions, Ontario. Three were almost completely in winter plumage, one was in full summer plumage, and the last was one half of the way into its moult. Tertiaries and a few scapulars appear to be the last breeding feathers retained by Longbills.

“Inland” Short-billed Dowitcher *L.g.hendersoni*

Underparts

L.g.hendersoni in breeding plumage have virtually no white on the underparts. If there are white feathers, they are confined to the vent. In very fresh plumage, white feather fringes are found on the underparts, but these are never very wide and noticeable like on Longbills; they are usually restricted to the flanks. The white fringes wear away very quickly, such that they are largely gone on May birds. The colour of the underparts is a distinctive pinkish-orange; in contrast, *L.g.griseus* are browner and Longbills are more cinnamon or orange-red in colour. The pinkish-orange is very noticeable on the side of the nape, and behind the ear coverts, unlike typical *L.g.griseus*.

The distribution of barring and spotting is highly variable in *L.g.hendersoni*. Some are almost unspotted while others have spots scattered throughout the underparts. The main identification problem comes late in the summer when very worn Longbills have lost some of their breast spots, so their appearance begins to converge with *L.g.hendersoni*. In *L.g.hendersoni*, spots on the breast can extend right across forming a collar. Usually the spotting is light to completely lacking on the centre of the breast. Spots are largest on the breast sides; usually the spots here are distinctly circular. Longbills are barred, not spotted on the sides of the breast. Many *L.g.hendersoni* also have spots or flecks scattered in the breast and belly. A dowitcher with spots scattered throughout the lower breast and belly is a Shortbill. The lack of spots on the belly or vent is not significant since all three forms may show this.

Barring on the underparts is also quite variable. On some birds bars extend up to the lower breast sides, but this rare. Usually the bars on *L.g.hendersoni* are restricted to the flanks. Our observations indicate that most *L.g.hendersoni* have some barring on the flanks. The undertail coverts are most often spotted and rarely barred.

Upperparts

Of the three dowitchers that we are dealing with, *L.g.hendersoni* are the brightest on the upperparts. The mantle feathers have wide golden edges, creating a “golden-striped” appearance on the mantle. In fresh plumage, this pattern can be seen from a great distance. The patterns on scapulars and tertials vary, but generally they are brighter than on the other two forms. The lower scapulars and tertials on fresh birds look conspicuously “tiger-striped”, with black and golden-orange. The internal markings on these feathers reach the shaft, and thus, the stripes are continuous across the feather. On *L.g.griseus*, the markings usually do not reach the shaft of the feather.

Not surprisingly, the tail pattern in this subspecies is also variable. On most, the tail shows an equal distribution of pale and dark and on some there is more pale than dark. In our experience, this is the only form (in Ontario) that is likely to show the pale tail mentioned in the literature as typical of the Short-billed Dowitcher. Longbills and *L.g.griseus* have darker tails. Due to variation, tail pattern is an indicator but never diagnostic for any of the forms. Almost all breeding *L.g.hendersoni* have some rusty wash on the pale tail bars. A rusty wash on the tail bars is not diagnostic of Longbills; all three can show this to some extent. Uppertail coverts are usually distinctly spotted rather than barred in *L.g.hendersoni*.

Feather wear affects *L.g.hendersoni* by darkening their upperparts. Since the bright marking are relatively wide, worn birds still appear rather bright above, as compared with the other two. Try to get a handle on the range of possibilities. Late in summer, beginning in mid-July, birds can begin to moult. Body feathers are lost in a different sequence than on Longbills; scapulars and underpart feathers are moulted in an uneven pattern. Therefore, many individuals begin to lose their solidly coloured underparts early-on. Moulting in Longbills tends to begin with the neck, a few scapulars and the hind flanks; they retain the reddish belly for some time after moulting has started (Jehl 1963). In general, moulting occurs earlier in Shortbills than Longbills.

The National Museum of Nature in Ottawa holds a series of 12 *L.g.hendersoni* collected in early April in Florida. All are in active prebreeding moulting. The patterns of fresh feathers on these birds is quite informative. On the mantle these birds have completely unworn orange fringes all the way around each feather. The observed arrangement is that of a scaly look to the mantle rather than being striped. The fringe on the tip of the feather is much thinner than that of the sides, early in the spring the tip will wear off leaving only the bright edges. The other interesting feature is that the lower scapulars have large squared off grey tips, some with a slight orange wash. These tips are gone by the time that *L.g.hendersoni* reach Ontario in mid-May. These grey tips are unlike the contrasting white spots on the underparts of fresh Longbills.

“Eastern” Short-billed Dowitcher ***L.g.griseus***

Underparts

The breeding plumage of *L.g. griseus* is characterized by orangeish underparts. Unlike the other two, the colour is not so extensive. The colour of the underparts ranges from orange to brownish-orange; generally it is browner than both of the other forms. The duller colour of the underparts coupled with the dense neck and breast spotting make *L.g.griseus* much less colourful than the other two dowitchers. The orange colour is always present on the breast and neck; usually it extends to the flanks and undertail coverts. The pattern of colour on the flanks and undertail coverts is variable and not symmetrical. On all of the skins that we examined, patches of white were present somewhere on the flanks, so while the orange can be extensive on the flanks it is not continuous, but is broken up into blotches of colour. The belly and vent are always white, but contrary to the implication in the literature (Kaufman 1990, Wilds & Newlon 1983, Hayman et al. 1983), coloured feathers and dark spots may be present. Ten out of 11 breeding-plumaged (July to mid-Aug.) *L.g.griseus* skins from Quebec, in the National Museum of Nature, showed a small number of coloured feathers or spotted feathers on the lower breast, belly or vent. Even so, these individuals would stand out in the field as having white bellies and vents. Contrast this pattern with the Longbills and *L.g.hendersoni*, where the orange colouration usually extends throughout the underparts. In fresh plumage, the Long-billed Dowitcher has the underparts tipped with very obvious white fringes but it never has the solidly white belly and vent of *L.g.griseus*.

The arrangement of dark spots on the underparts of *L.g.griseus* most resembles that of the Long-billed Dowitcher, with the exception that the centre of the breast is densely spotted, rather than barred. On the sides of the neck and breast, the spots elongate into chevrons or bars, continuing as bars on the flanks. On *L.g.hendersoni*, if markings are present on the sides of the neck, they are always round spots. Undertail coverts tend to be barred but they often also have a dark terminal spot in *L.g.griseus*.

An interesting feature that we noticed in our research and observations is the extent of colour on the face and hind neck. On *L.g.griseus* the area behind the ear coverts and sides of the neck are rather grey, with only a slight wash of pale orange. *L.g.hendersoni* show the orange-pink of the underparts extending to the area behind the auriculars wrapping around to include the supercilium. The face of *L.g.hendersoni* is therefore quite colourful, whereas *L.g.griseus* is duller. The extent of colour on the sides of the neck also appears to be more restricted on *L.g.griseus*. These characteristics should be scrutinized more closely to fully understand their value as field marks.

Upperparts

L.g.griseus have relatively dark upperparts. Colourful markings are thin and constitute a smaller proportion of the feather area. The mantle fringes are grey-buff, becoming a brighter orange on the scapulars and tertials. The dullness of the mantle contrasts with the bright "gold-striped" look of fresh *L.g.hendersoni*. The lower scapulars and tertials usually have very thin coloured bands within them that do not extend to the shaft on most individuals. This is in contrast to the brighter scapulars and tertials on *L.g.hendersoni*.

The tail of *L.g.griseus* is more dark than light, much like typical Long-billed Dowitchers. Of the skins studied (approx. 30), none showed a pattern where the pale bands were wider than the dark. Most skins also showed a barred effect on the rump and uppertail coverts, some with terminal spots, and only one had large spots and reduced barring. Several of the specimens had a pale rusty wash on the pale tail bars, restricted to the shaft of the central tail feathers. While all three forms can show rusty on the pale tail bars, it is not as prevalent or extensive on *L.g.griseus*.

The appearance of *L.g.griseus* is not strikingly affected by wear. The underparts do not change much; most noticeable differences occur dorsally. Worn upperparts become even darker, appearing almost black on some by late July, especially on the mantle. Scapulars and tertials will also lose some of their brightness.

THE PROBLEM OF FIRST SUMMER INDIVIDUALS

During the research for this paper we considered the possible pitfalls that an observer may encounter in identifying the different dowitchers. One problem is that of first summer immatures; what do they look like? There is very little information on this subject, and much more research needs to be done. This would be a good project for keen birders! We have compiled all of the information available to us here as a starting point for future work on the topic.

The appearance of first-summer birds ranges from some that look to be in complete winter plumage to others that are like breeding adults, with every intermediate stage. According to Pitelka (1950), birds that undergo a partial migration or those that remain in the winter quarters have a partial first pre-breeding moult, so that a mixed plumage is attained. He also states that most first-summer birds have as complete a moult as do adults. However, there appears to be differences in the first-summer plumage between Longbills and Shortbills. Of 54 skins of Long-billed Dowitcher in first-summer plumage, 41 were in complete breeding plumage, 13 were in a mixed plumage and none were in full winter plumage (Pitelka 1950). Contrast this to his findings in Short-billed Dowitchers. Birds of the three subspecies of Shortbills are lumped in this analysis. Of 107 first-summer skins that were examined, 40 were in full breeding plumage, 26 were in a mixed state, and 41 were in full winter plumage. From these data Pitelka concluded that first-summer Short-billed Dowitchers were much more likely to be in full winter (basic) plumage than Longbills. Most of the birds in Pitelka's analysis were from areas within the migratory range of the species, not the wintering grounds; therefore his sample may be skewed against birds still in first-winter plumage.

Loftin (1962) studied summering shorebirds in Florida. He found that that majority of Shortbilled Dowitchers summering there were in winter (basic) plumage. Both subspecies were present at this site. Several of the birds he collected were moulting from one winter plumage to another, therefore skipping the breeding plumage altogether. Another interesting find was that first-year birds fed in the area up to early June, after which they decreased in abundance, only to increase again in early July. He hypothesized that first-year birds remained in the area to put on enough fat to migrate farther north, before returning to the area in July. Movements of colour-marked birds were in agreement with his theory. A similar pattern is observed in other bird species, such as Ospreys *Pandion haliaetus*, where nonbreeding immatures migrate to the summering areas, but in a delayed fashion as compared to the adults (Poole 1989). The significance of this is that birders here in the north should be especially aware of the possibility of encountering first-summer dowitchers in June and July after adults have gone north and before they come south. Unfortunately Loftin (1962) did not encounter Long-Billed Dowitchers in this study.

Pitelka (1950) identified first summer Longbills by retained juvenile feathers such as: lateral tail feathers, flight feathers, wing coverts, and rarely, retained juvenile tertials, scapulars and uppertail coverts. Most Longbills moult some of the central tail feathers in their post-juvenile moult; therefore, only the outer tail feathers will be retained juvenile feathers. Shortbills usually do not moult any tail feathers in their post-juvenile moult. Therefore, all of the first-summer Shortbills' tails will be juvenile (Pitelka 1950). All first-summer birds also have very worn retained primaries and secondaries.



Plate by Peter Burke

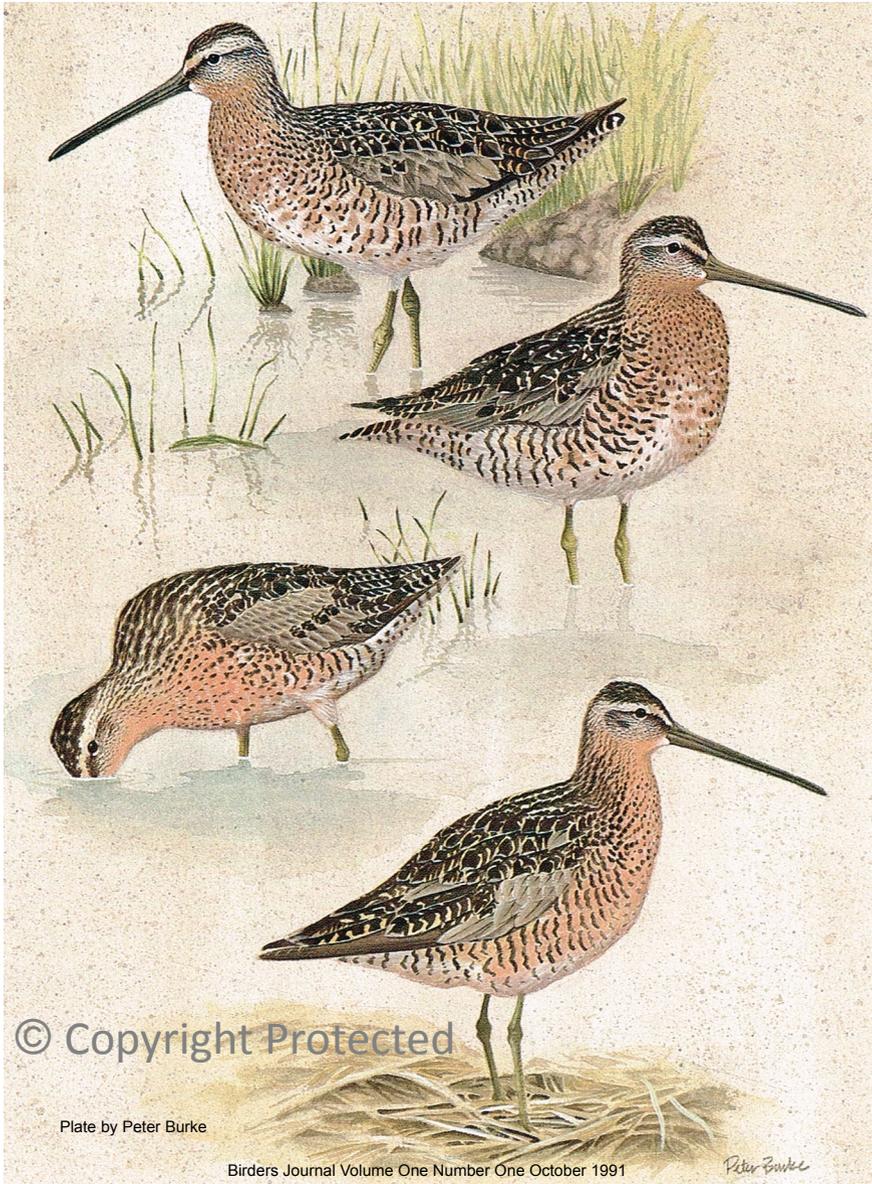
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Top: Worn breeding plumaged Long-billed Dowitcher *Limnodromus scolopaceus*, before July to mid-August.

Middle: Fresh Long-billed Dowitcher *L. scolopaceus* early April to mid-May.

Bottom left and right: Two typical Short-billed Dowitchers *Limnodromus griseus* of the *hendersoni* subspecies, showing variation in underparts. On the left, a fresh bird with spotted breast. On the right, a fresh bird with an unspotted breast.



Top and middle right: Two bright individuals of Short-billed Dowitcher *Limnodromus griseus* of the nominate subspecies *griseus*. The top individual is a fresh bird; early April to mid-May. The middle right hand bird is a slightly worn individual; early June to early-July.

Middle left and bottom: Two Short-billed Dowitcher *L. griseus* intermediate between the *griseus* and *hendersoni* subspecies, depicting some of the range in plumage. Middle left shows an individual in late-May through mid-June and bottom early-April through mid-May.

MIGRATION

The two subspecies of Short-billed Dowitchers share some of the same wintering areas, but breed in widely separate areas. Therefore, the migratory routes of the two differ. Dowitchers in eastern North America also have different migratory routes in the fall than in the spring, as is true for most shorebirds (McNeil & Burton 1977). The spring and fall routes of *L.g.griseus* are the most similar while the Long-billed Dowitcher's are most dissimilar (Cramp & Simmons 1983). The general pattern is that in fall birds deviate eastwards, congregating in large numbers on the Atlantic coast, with some of the Short-bills flying non-stop to the Antilles after fattening up, others proceeding south along the coast (McNeil & Cadieux 1972, McNeil & Burton 1977). In the spring the migration is more westerly, with many more inland migrants.

"Eastern" Short-billed Dowitcher ***L.g.griseus***

L.g.griseus migrate south chiefly along the Atlantic coast (Hayman et al. 1986). Large numbers of birds congregate at several sites on the North Atlantic coast. On the Magdalen Islands in the Gulf of St. Lawrence the numbers peak around July 20, and most of the birds present are males. Most of the females present leave in a massive exodus during late July (McNeil & Cadieux 1972). There is ample evidence that these birds make a non-stop flight over the Atlantic Ocean to the Lesser Antilles (McNeil & Cadieux 1972, McNeil & Burton 1977). Jehl (1963) studied the migration of dowitchers on the New Jersey coast. He found *L.g.griseus* predominated. He also noticed that females peaked in early July, whereas males reached their maximum in late July. The differences in timing and relative abundance of the sexes implies that the Magdalen Island birds are not from the same population as New Jersey individuals (McNeil & Cadieux 1972). Fat analysis of New Jersey birds concluded that these birds were also prepared to make a long non-stop flight (Jehl 1963). A few *L.g.griseus* are seen in fall in Ontario as well (Bain & Henshaw 1989). Given the easterly bias to southbound fall migrant, and the lack of *L.g.griseus* breeding west of Ontario it seems likely that these include birds that bred in the province. Our western-most observation of *L.g.griseus* in the fall was of three seen by Jaramillo on July 21, 1989 in Hamilton.

Northbound migration is different. *L.g.griseus* are common in Florida in spring where they are not numerous in fall (Loftin 1962). They are rare in Venezuela in spring where they are common in fall (McNeil & Cadieux 1972). The implication is that northbound migration involves shorter flights and that it takes more birds through a more westerly route. Even so, many individuals follow a coastal route in spring as in the fall (Cramp & Simmons 1983). For observers in Ontario and other inland locations, this means that spring is the better time to be looking for *L.g.griseus*. On May 21, 1990 a flock of 49 *L.g.griseus* and one *L.g.hendersoni* was seen in Durham Region (Bain & Henshaw 1990). A few *L.g.griseus* have been observed near Point Pelee and Hamilton in spring (Kevin McLaughlin, pers. comm.).

“Inland” Short-billed Dowitcher ***L.g.hendersoni***

This subspecies begins its fall migration from north of the Prairies. Many migrate southeastward across the continent to the Atlantic coast (Jehl 1963), while others migrate south through the interior (Cramp & Simmons 1983). Most arrive on the coast from the latitude of New York southwards. Large flocks of Short-billed Dowitchers on the Magdalen Islands in Quebec were composed solely of *L.g.griseus* (McNeil & Cadieux 1972). A few *L.g.hendersoni* have been identified in the fall from Nova Scotia (Tufts 1986). From the coast, most will undergo a non-stop flight to the Caribbean or northern South America (Cramp & Simmons 1983). Ontario lies between the breeding areas and mid-eastern coast of the United States; therefore we see many migrant *L.g.hendersoni* in fall. It is the most common migrant dowitcher in the province. Slightly further east in Quebec this form becomes quite rare (McNeil & David 1976). Numbers of *L.g.hendersoni* increase in fall as one moves south on the Atlantic coast, but they are always outnumbered by *L.g.griseus* (Pitelka 1950, Jehl 1963). In reference to the fall migration, Jehl (1963) concludes that there is no evidence that *L.g.hendersoni* migrate later than *L.g.griseus*, because early arrivals include members of both groups. Yet, he clearly states that the main movement of *L.g.hendersoni* is several days to a week later than *L.g.griseus* (Jehl 1963). Thus, peak movements probably do occur later in *L.g.hendersoni*.

In spring, many *L.g.hendersoni* use an inland route up to the Mississippi and Great Lakes. Some large flocks of *L.g.hendersoni* can be seen in our area at this time. The timing of *L.g.hendersoni* versus *L.g.griseus* in spring is not well understood. That question could provide an interesting project.

Long-billed Dowitcher ***Limnodromus scolopaceus***

Adult Longbills are very rare migrants in Ontario, but they have occurred in both spring and fall (James 1991). Most individuals migrate south through the western interior of the continent and along the Pacific coast, with a subgroup wintering on the Atlantic coast (Hayman et al. 1986). The Atlantic population's migration routes are most similar to those of *L.g.hendersoni*, but even more extreme since Longbills breed even further west. Due to the scarcity of reports from Ontario, it is possible that many adults overfly us or go misidentified as Shortbills; there is no doubt that the latter situation is common. Because so much of the literature (and photographs) concentrate on fresh adults, an observer faced with a worn adult Longbill is not likely to be able to identify it.

One thing is certain for all age classes, the Longbill is a later migrant in the fall and an earlier migrant in the spring (Jehl 1963, Pitelka 1950, Hayman et al. 1986, Wilds & Newlon 1983). An adult dowitcher in breeding plumage seen in Ontario after mid-August is more likely a Longbill. Similarly, a dowitcher seen in April is almost certainly a Longbill. Between 1978 and 1985 the

earliest Shortbill in the Point Pelee area was on May 2, commonly they did not arrive before May 8; the only Longbill identified was in early April, early even for a Longbill (Wormington 1978, 1979, 1980, 1981, 1982, 1984, Runtz 1983, Pratt & Pratt 1985).

ONTARIO'S RACES OF SHORT-BILLED DOWITCHERS: DO INTERMEDIATES EXIST?

Short-billed Dowitchers breed in low wet areas within the boreal forest zone (Harris 1987). The status of this species as a breeder in Ontario still holds mysteries. The first evidence of breeding in the province was the discovery of week old young near Winisk in 1963 (Tuck 1968). The Ontario Breeding Bird Atlas project discovered the species present in the Hudson Bay Lowlands. Short-billed Dowitchers were found in southern James Bay, including flightless young on Akimiski Island, none were recorded in northern James Bay (Harris 1987, Carpentier 1989). Manning (1981) found that breeding Shortbills from the Twin Islands, James Bay were referable to *L.g.griseus*, but that migrant *L.g.hendersoni* occurred beginning on July 4. A Short-billed Dowitcher nest has yet to be found in Ontario (Harris 1987). Dowitcher nests are notoriously difficult to find (Rowan 1932, R. Harris pers. Comm.). The first nest of *L.g.griseus* was not discovered until 1977, near Schefferville, Quebec, by Richard Poulin (R.Harris pers. comm.). This was 188 years after the subspecies was described! The subspecific identity of birds breeding in Ontario is not clear. James (1991) feels that both subspecies may breed in the province, perhaps with some individuals that are intermediate in plumage.

The collection at the Royal Ontario Museum holds skins of six individuals taken during the breeding season in northern Ontario; the National Museum of Nature has another six birds of the same status. Of these 12 birds, we identified three as *L.g.hendersoni*, two as *L.g.griseus* and seven as intermediate in plumage. The intermediates ranged from birds that looked mostly like *L.g.hendersoni* but with large amounts of white on the underparts to individuals that looked like *L.g.griseus* in the pattern of spotting but with extensive amounts of colour below. Pitelka (1950) looked at two of the Ontario birds from the Royal Ontario Museum. He classified one of them as *L.g.griseus* but the other he considered a probable intermediate. He also mentions that the first may also be an intermediate, but that it looked most like *L.g.griseus*. Birds from Churchill, Manitoba, add valuable information to this discussion. Churchill is the easternmost location where birds accepted to be *L.g.hendersoni* breed (Pitelka 1950, Rowan 1932, Jehl & Smith 1970, Godfrey 1986). For the most part, Churchill birds look like *L.g.hendersoni* but many show features that are more like *L.g.griseus*. Many have extensive amounts of white on the belly and lower breast and heavy streaking on the breast, while maintaining the brightness of the colours of typical *L.g.hendersoni*. Pitelka (1950) found that Manitoba birds were definite *L.g.hendersoni*, but that they tended to have more white below and more spotting than typical birds from further west. He also found Manitoba individuals to be intermediate

in measurements between *L.g.griseus* and typical *L.g.hendersoni*. Conover (1941) found a female from Churchill to be intermediate in nature between the two forms. Jehl & Smith (1970) cite that several *L.g.griseus* have been collected in migration in Churchill; likely these were birds of intermediate plumage. Even more intriguing is a photograph of a breeding pair taken in Churchill by Doug McRae. It shows one of the pair looking like a typical *L.g.hendersoni* and the other like a typical *L.g.griseus*! Do intermediates exist? Yes they do!

It is still too early to make any definite conclusions about the dynamics of this intermediate population. Two scenarios are possible. The intermediates may form a thin band where the two subspecies meet, like a hybrid zone between two species, or they may be the middle birds in part of an east to west cline in plumage. The second scenario appears to be the most likely given the evidence that is available.

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Alvaro Jaramilo, Ron Pittaway, Peter Burke

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