

# Advances

## in the Field Identification of North American Dowitchers

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The North American dowitchers are superficially so similar that, up until the 1950s (Pitelka 1950), the taxonomy of dowitchers was not yet agreed upon due to difficulty in field identification; see Jaramillo et al. (1991) for a synopsis of the historical changes in taxonomy. Part of this confusion stems from seasonal variability in dowitcher plumages and from subspecific variation in Short-billed. However, it is now agreed that dowitchers can be divided into two species, the Long-billed (*Limnodromus scolapaceus*) and Short-billed (*L. griseus*) Dowitchers, the latter comprising three subspecies: *griseus*, which breeds in the Maritime provinces; *hendersoni*, which breeds in Alberta and Manitoba; and *caurinus*, which breeds in southwestern and southern coastal Alaska (Pitelka 1950, AOU 1957, Takekawa and Warnock 2000, Jehl et al. 2001).

Advances in the field identification of dowitchers have been made over the past few decades by numerous field ornithologists (Wilds and Newlon 1983, Hayman et al. 1986, Kaufman 1990, Jaramillo et al.

1991, Paulson 1993, Chandler 1998, Dunn 1999, NGS 1999, Sibley 2000). It is now common knowledge that the flight calls of the two species are different enough that voice can be used for reliable and easy field identification. There have also been considerable advances in the field identification of dowitchers in fresh alternate and juvenal plumage (Jaramillo et al. 1991, Paulson 1993). However, silent birds in basic and worn alternate plumage still represent identification challenges.

Here we present new structural field marks and more-refined plumage field marks (plate, p. 37; Fig. 1) which, taken together, provide a new system for identifying North American dowitchers. The results presented here are based on almost a decade of observing dowitchers at all seasons (in California, Massachu-

*Short-billed Dowitcher (race hendersoni). Churchill, Manitoba; June 1996. © Kevin T. Karlson.*



## Separating the two North American dowitcher species has long been a challenge for birders. This article describes an important field mark for distinguishing between the two species and reassesses the conventional wisdom about some previous distinctions.

setts, and Texas). We also examined 100+ photographs and numerous specimens in the Museum of Vertebrate Zoology at the University of California at Berkeley, the Los Angeles County Natural History Museum, and the Harvard Museum of Comparative Zoology.

### Structural Field Marks

#### *Loral angle, supercilium, and structural placement of the eye*

In an attempt to quantify “gestalt” or “jizz” features, such as facial expressions, we define a parameter that we term here the **loral angle**. Given a direct profile view, this is the angle between an imaginary extension of the gape of the bill toward the back of the head and the line connecting the gape of the bill with the center of the bird’s iris (Fig. 1). An important feature of the loral angle is that it is a scale-independent variable, which makes it especially useful when studying birds in the field or in photographs (absolute bill length, in contrast, requires that all photographed birds be scaled to the same size).

We measured loral angles from profile photographs of dowitchers that were resting but had their bills extended outward. We tried to avoid oblique views and instances in which dowitchers were preening, probing in the mud, or sleeping; see Fig. 1c. Long-billed’s loral angle averages smaller (more acute) than Short-billed’s. There is some overlap in loral angle between the two species, but part of this overlap is probably due to artifacts of projecting some obliquely viewed birds onto the two-dimensional plane of the photograph even though we tried to minimize the number of oblique views. In any case, the difference in loral angle appears to be a manifestation of the fact that the eye on Short-billed is placed just slightly higher on the head than on Long-billed. This small structural difference subtly influences facial expression. The higher placement of the eye on Short-billed forces a slightly more arched supercilium, whereas that on Long-billed is subtly straighter. The supercilium on Short-billed also tends to be slightly wider in the front, giving it a somewhat flared appearance, which accentuates the arched shape. In Long-billed, the supercilium is thinner.

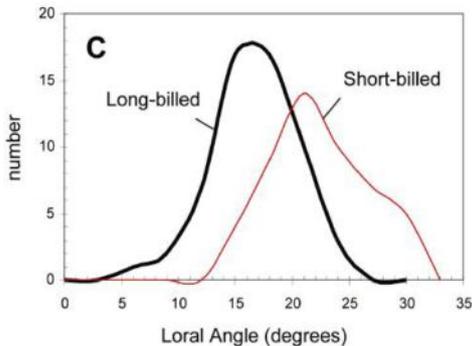
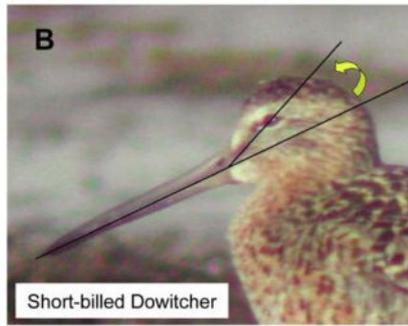
As far as we know, the differ-

ence in loral angle has not been previously described. This structural field mark, although subtle, holds in all plumages and ages. With experience, it can even be discerned on birds in flight. We have independently field-tested this method and have found this field mark to be remarkably robust, particularly in picking out a lone Short-billed within a flock of Long-billeds or vice versa. We caution, however, that one should never base identification on one field mark alone. Facial expression and loral angle at any given snapshot in time can vary depending on the bird’s posture or behavior (for example, facial expression can change when individuals open their mouths, feed, or preen). This field mark should be used in conjunction with other structural and plumage field marks, which we discuss next.

#### *Bill shape and length*

It is well-known that Long-billed tends to have longer bills than Short-billeds (note that females of both species have slightly longer bills). However, a less-discussed field mark pertains to bill shape. On Short-billed, the bill begins to gently curve downward about one third of the way from the tip. This gives Short-billed a somewhat down-curved bill shape. On Long-billed, the bill is typically very straight along most of its length. The straight supercilium, more acute loral angle, and typically





**Fig. 1.** A and B show how loral angle is defined, using **Long-billed** (A) and **Short-billed** (B) Dowitchers as examples. C shows a histogram of loral angles determined from photographs of the two dowitcher species. Photo A: © Jo-Szu Tsai. Photo B: © Cin-Ty Lee.

longer bill of Long-billed collectively serve to accentuate the overall very straight appearance of the bill. Again, we caution that bill shape can vary even on the same individual; both dowitcher species have tactile mandibles and thus can temporarily alter the shape of their bills when feeding or probing.

#### Body shape

Another subtle and rarely discussed field mark is body shape. The lower back on Long-billed has a slight indentation or concavity (Figs. 2 and 3). This is probably a manifestation of the tertials being pushed up slightly by the tail on Long-billed. As a consequence, Long-billed tends to have a longer tail, a more tapered or attenuated rear, and a slightly “cocked” tail appearance (B. J. Small, personal communication). In Short-billed, the lower back is less indented and appears to have a stouter rear and less of a “cocked” tail appearance (Figs. 4 and 5).

#### Head shape

Head shape is yet another structural field mark that can be helpful when scanning dowitcher flocks. Long-billed has a slightly shallower forehead, whereas Short-billed has a steeper forehead. It is possible that these differences may be related to the different placements of the eye and structure of the supercilium between the two species. Indeed, the steep forehead, slightly arched supercilium, and slightly higher structural placement of the eye in Short-billed give it a generally distinctive facial expression. The shallower forehead on Long-billed helps to accentuate its slightly straighter supercilium.

#### Tarsus length

Long-billeds have slightly longer legs than Short-billeds. This was pointed out by Pitelka (1950) based on measurements on speci-

mens and then later hinted at by Jaramillo et al. (1991). The effect of Long-billeds having slightly longer legs is that in mixed flocks, Long-billeds are often seen wading in slightly deeper water whereas Short-billeds are closer to the shore (somewhat akin to the differentiation in water depth preference between Western and Semipalmated Sandpipers). With experience, this feature can often be discerned, especially in side-by-side comparisons (Fig. 6).

## Aging, Molt, Migration, and Biology

### Overall molt strategy

The first step in using plumage field marks is to determine age and molt stage. Individuals in their first several months of life are in juvenal plumage, characterized by pale to slightly buffy underparts, pale-edged feathers on the upperparts, and uniquely marked scapulars, coverts and/or tertials. Over most of the Lower 48 states, juvenile dowitchers begin arriving in August. In Texas, juvenile Short-billeds arrive by 20 August; on the West Coast, they start to appear in the first week of August. However, juvenile Long-billeds begin arriving at the very end of August (rarely so) and early September. For both species, the first juveniles to arrive are characterized by very fresh plumages, and juvenal plumage in both species persists into late September and early October. By late October and early November, juveniles have largely molted into basic plumage, although remnants of juvenal-plumage tertials or coverts may still remain (sometimes even until January; Fig. 3).

Fresh alternate plumage in both species (especially so for Short-billed) is characterized by dark mantle feathers edged by bright buff fringes. In adults, molt into alternate plumage begins in early March (hints of alternate scapulars may come in even by late February) on wintering grounds and involves the gradual replacement of tertial, covert, and scapular feathers over the course of the next two months (molt in first-year birds discussed in the next section). Molt into fresh alternate plumage is usually complete by late April, such that northbound migrants of both species are mostly in full alternate plumage. However, the timing of molt is not perfectly synchronous. In April, any given flock of northbound dowitchers of both species may contain individuals at various stages of molt into alternate plumage. By May, however, both species are in full alternate plumage—except for basic Short-billeds (presumably first-summer birds) that summer on the coast.

Basic plumage in both species is characterized by gray upperparts and whitish underparts (Figs. 2–4). Molt from alternate to basic (in adults) begins in both species as early as late July, but most of this early molt involves slight changes to head or underpart coloration and the replacement of a few coverts. First fall arrivals of adults in both species are largely in full but worn alternate plumage (Figs. 5 and 6). Most of the transition from alternate to basic plumage is completed on wintering grounds and is largely complete for most birds by late August or early September. One difference, as pointed out by Putnam (2005), is



Long-billed Dowitcher  
summer

Short-billed Dowitcher  
*griseus* • summer

Short-billed Dowitcher  
*hendersoni* • summer

Short-billed Dowitcher  
*caurinus* • summer

Short-billed Dowitcher  
winter

Long-billed Dowitcher  
winter

Short-billed Dowitcher  
juvenile

Long-billed Dowitcher  
juvenile



**Fig. 2.** On these **Long-billed Dowitchers** in basic plumage, diagnostic field marks include the following: low loréal angle, straight supercilium, limited pale region around chin, dark covert feathers with brown (instead of white) fringes, dark and barred sides, dark chest, and short primary projection. The pale chin is more limited in extent on Long-billed than on Short-billed such that on sleeping birds, the pale chin is not seen on Long-billed. *Brazoria National Wildlife Refuge, Texas; 9 October 2005.* © Cin-Ty Lee.

that Long-billeds molt their primaries during migration whereas Short-billeds wait until they arrive at their wintering grounds to molt their primaries.

Putnam argued that for birds that can be unequivocally demonstrated to be migrants, the differing molt strategy can be a reliable field mark. This field mark is unlikely to be useful anywhere along the Pacific, Gulf, or Atlantic coasts, which are not only migration stopovers but also wintering grounds for Short-billeds. For example, in mid-July, along the upper Texas coast, some of the first Short-billeds to arrive (or pass through) have already lost their inner primaries, suggesting that molt strategy may be a little more complicated than suggested by Putnam. It is possible that the apparent difference in molt strategy suggested by Putnam is due to the fact that Short-billed migrates south through the Lower 48 slightly earlier than Long-billed. In the Pacific Northwest and along the central California coast, Short-billeds (*caurinus*) arrive by late June, while Long-billeds arrive by mid-July (Paulson 1993, Roberson 2002). In Illinois, Short-billeds begin arriving in early to mid-July and Long-billeds much later (Robinson 1996). Along the upper Texas coast, Short-billeds (*hendersoni*) arrive in early July while Long-billeds arrive in mid- to late July (Eubanks et al. 2006; C.-T. Lee, personal observation). In New England, Short-billeds (presumably mostly *griseus*) begin passing through in early July while Long-billeds begin passing through in mid- to late July (Veit and Petersen 1993). Thus, rough differences in molt strategy (Putnam 2005) may be a helpful field mark, but like any other character, should be used only in conjunction with other field marks. An additional complication in the molt “field mark” is the molting strategy of first-year birds, which we discuss below.

#### *Peculiarities of first-year birds*

Our discussion thus far of the prebasic molt pertains only to adult birds, at least in the case of Short-billed Dowitchers. Paulson (1993) suggested that Short-billeds may take one year to mature into adults and that, during their first spring, they may actually molt directly into second basic plumage. Based on exper-

ience from the Pacific Northwest, Paulson also suggested that a few of these first-year Short-billeds may summer locally on their wintering grounds. Our surveys along the upper Texas coast (2002–2005) confirm Paulson’s speculations. Large numbers (up to 400) of Short-billeds (*hendersoni*) remain through the summer along the upper Texas Coast (C.-T. Lee and Ron Weeks, personal observation). For example, in June along the upper Texas coast, 95% of these summering individuals are in fresh basic plumage although many may show one alternate tertial or a few alternate covert feathers. The remaining ~5% are birds that have only partly molted into alternate plumage. Such birds show a tint of red or orange on the undersides, but have a number of basic-like covert feathers. An important feature of all of these summering birds is that, although they are mostly in fresh basic plumage, their outer primaries appear to be pale brown, and hence worn. In early July, there is a rapid increase in the number of Short-billeds along the upper Texas coast, but nearly all of these are in worn alternate plumage and represent southbound migrants. The primaries on these fall arrivals tend to be darker, and hence fresher, than those on individuals that have summered locally.

These observations corroborate the suggestion by Paulson that summering individuals are first-year birds. Additional circumstantial evidence in support of this suggestion comes from our surveys of shorebirds at Bolivar Flats, an extensive mudflat region for migrating and wintering shorebirds along the Texas coast. During June 2004, approximately 150 Short-billed Dowitchers summered at Bolivar Flats. In contrast, only ~30 were found at this same locality in June 2005, which followed an unusually poor shorebird nesting season the previous year, as evidenced by the fact that during the fall of 2004 very few juvenile Short-billeds (<2% of the population) were observed at Bolivar Flats. Many more juvenile Short-billeds were observed in the fall of 2005.

It is likely that Short-billeds take one year to achieve full plumage maturation. During their first spring, they molt directly into basic plumage. Many of these individuals over-summer on their wintering grounds along the Gulf Coast (*hendersoni*). A few may summer locally in the Pacific Northwest,



**Fig. 3.** This first-year **Long-billed Dowitcher** is presumably a male. Note that although the length of the bill is on the short end of the spectrum for Long-billed, it appears straighter than on Short-billed. Note the more acute loréal angle, the straighter supercilium, the dark chest and sides, the barred (rather than chevroned) flanks, and the dark upperparts. Some juvenal scapulars are still present. *Bolivar Flats, Texas; 7 January 2006.* © Cin-Ty Lee.



**Fig. 4.** Distinctive features to note on this basic-plumage **Short-billed Dowitcher** include the following: short, somewhat decurved bill; larger loreal angle; arched supercilium; lighter upperparts; lighter chest; and chevroned (instead of barred) sides. Bolivar Flats, Texas; 7 January 2006. © Cin-Ty Lee.

central California coast, and the Atlantic coast (Zeranski and Baptist 1990, Paulson 1993, Veit and Petersen 1993, Sibley 1997, Roberson 2002), but total numbers are much lower than on the Gulf Coast. Interior summer records away from breeding grounds are rare, but not non-existent. For example, Patten et al. (2003) report several June records of Short-billeds at the Salton Sea in southern California, and Robinson (1996) reports one June record for southern Illinois; these birds could potentially represent summering individuals.

First-summer Short-billeds in July show highly worn outer primaries but actually have fresh, full-grown inner primaries indicating that they have already molted and replaced their flight feathers by mid-summer. By contrast, alternate-plumage fall arrivals of Short-billeds on the upper Texas coast are only then beginning to molt their inner primaries as evidenced by distinct “windows” in their secondaries and primaries. This means that these first-year birds begin molting inner primaries much earlier than the adults. If some of these Short-billeds summered in interior localities or to the north, then it is likely that some southbound Short-billeds will already have started molting their primaries. Thus, care must be taken to age the birds before molt timing is used as a field mark.

The question that follows is whether Long-billeds behave similarly with regard to plumage maturation. In stark contrast to Short-billeds, summer records of Long-billeds away from breeding grounds seem to be rare. Small numbers regularly summer along the coast in the Pacific Northwest, but total numbers are nowhere near those of summering Short-billeds (Paulson 1993). Similarly, we have recorded a few Long-billeds in basic-like plumage along the upper Texas coast in late May and early June, although none of these stayed through June. One place where summering Long-billeds may be more common is in the Salton Sea. Patten et al. (2003) report that non-breeding Long-billeds regularly summer at this spot each year, the highest summer count being 40 on 20 June 1991. Clearly, more work is needed to clarify the migratory and molt behavior of first-year Long-billeds. However, the above observations suggest that at least some Long-billeds may summer locally on wintering grounds. Are such individuals first-year birds, and if so, how does this complicate our understanding of molt timing?

## Plumage Field Marks

### Pattern of tail feathers

Tail feather pattern is one plumage feature believed not to

change significantly with age and is often cited as a reliable field mark (Wilds 1990, Jaramillo et al. 1991, Jaramillo and Henshaw 1995). On Short-billed, the white (or buff in alternate plumage) bars on the tail feathers are reported to be as wide or slightly wider than the black bars; on Long-billed, the black bars are wider than the white (or buff in alternate plumage) bars, sometimes even twice as wide. Paulson (1993), however, has noted that there is some overlap in tail feather pattern between Long-billeds and Pacific coast Short-billeds (*caurinus*). We have also observed variability in tail feather patterns in Long-billeds and Short-billeds along the Gulf Coast (*hendersoni* in Texas). Thus, although Short-billed generally tends to have wider pale bars on the tail feathers, this field mark should be used cautiously. Nevertheless, it can often be used as a clue to the presence of an odd dowitcher. These cautionary caveats are in agreement with Jaramillo et al. (1991).

### Field marks in juvenal plumage

Dowitchers are easiest to separate in juvenal plumage. Tertial pattern is a handy and reliable field mark. Fresh juvenal tertials on Short-billed are overall dark gray, but are fringed with contrasting buff/orange edges and are internally marked by strong buff/orange stripes, the latter giving a “tiger-striped” appearance (see Paulson 1993). In contrast, Long-billed tertials are dark gray with narrower buff edges and duller to no internal markings. It is often erroneously stated that juvenal Long-billed tertials lack internal markings altogether.

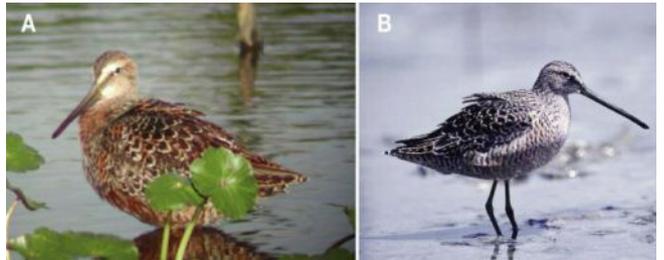
Juvenal greater coverts on Short-billed are also strongly patterned, whereas those on Long-billed are typically uniform gray. Both species have patterned juvenal scapulars, but those on Short-billed tend to be more strongly marked owing to brighter and bolder buff fringes to the scapulars. Finally, the crown on juvenile Short-billeds has an overall dark brown coloration, which is a manifestation of its chestnut ground coloration upon which are superimposed fine black streaks. The dark brown crown contrasts with the white supercilium. On juvenal-plumage Long-bills, the crown is slightly grayer, showing slightly less contrast with the rest of the plumage.



**Fig. 5.** On this **Short-billed Dowitcher** (*hendersoni*) in worn alternate plumage, note the high loreal angle, the arched supercilium, and the short and somewhat decurved bill. Note too the long primary projection. Side spotting is still retained. Although the pale fringes of the alternate covert feathers have been worn away, the black feather centers have pointed tips rather than squared-off tips. Bolivar Flats, Texas; 11 August 2005. © Akira Yamamoto.



**Fig. 8.** On these **Short-billed Dowitchers** (*hendersoni*) in fresh alternate plumage, note the V-shaped covert feathers, the lightly spotted sides, and the largely reddish underparts but with a slightly whitish lower belly and flanks. Bolivar Flats, Texas; early May 2006. © Cin-Ty Lee.



**Fig. 9.** On the **Long-billed Dowitcher** in fresh alternate plumage, at left, note the squared-off white feather tips on the median and greater coverts. Note also the black-barred sides of the breast and the diagnostic white edges to the black bars (these will be worn away by mid-summer). Note further that the primaries do not project beyond the longest tertial. On this bird, the black stripes on the tail feathers are distinctly thicker than the white stripes. Anahuac National Wildlife Refuge, Texas; mid-April 2002. © Cin-Ty Lee.

On the **Long-billed Dowitcher** in fresh alternate plumage, at right, note the small loral angle, the short primary projection, the long and straight bill, and the barred sides. The squared-off white feather tips give this bird an overall white-barred appearance at a distance. Japan; spring 2005. © Akira Yamamoto.

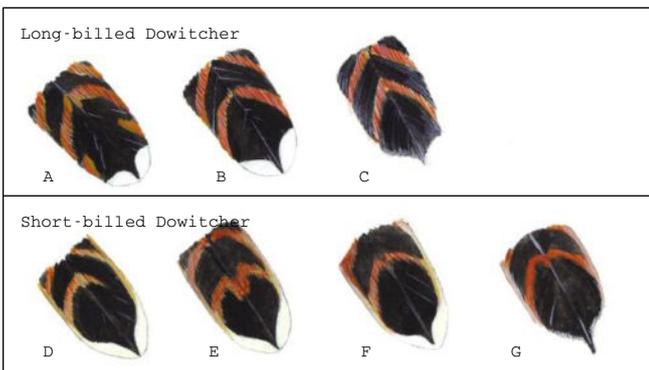
## Field marks in basic plumage

Basic-plumage dowitchers present the greatest identification challenges. However, some field marks, when collectively used, are fairly reliable. The flanks on Long-billed tend to be washed with dusky or dark gray vertical bars (Figs. 2 and 3). On Short-billed, the flanks have slightly paler gray splotches or spots; these spots are occasionally arranged in a somewhat vertical barred pattern, but overall the spotting is sparser than the barring on Long-billed (Fig. 4). Thus, the sides and flanks of Short-billed tend to be slightly paler overall and as a consequence the contrast between the sides/flanks and white belly is less than that seen on Long-billed.

Chest coloration is also a helpful field mark (Figs. 2–4). On Long-billed, the chest appears to be composed of a continuous and uniform dark wash. On Short-billed, the gray color of the chest is composed of small spots or streaks. As a consequence, Long-billed has a slightly darker chest that contrasts more with



**Fig. 6.** These two dowitchers (**Long-billed**, left; *hendersoni* **Short-billed**, right) in worn alternate plumage provide a good comparative study. Note the Long-billed's proportionately longer legs, and longer and straighter bill. Note also that the Long-billed's upperparts appear darker due to the narrower internal feather markings. Note further that on worn-alternate Long-billed, the black bars on the sides (distinctive in fresh alternate plumage) have worn away, giving relatively clear orangey sides. On Short-billed, some side spotting is retained. The wash on the undersides of Long-billed is brighter and redder than in Short-billed. Bolivar Flats, Texas; 31 July 2005. © Cin-Ty Lee.



**Fig. 7.** Depicted here is the range of variation in **alternate greater coverts** in dowitchers: fresh (A & B) alternate greater covert feathers in Long-billed Dowitcher; worn Long-billed Dowitcher covert (C); variation in fresh covert feathers in Short-billed Dowitcher (D–F); worn covert feather of Short-billed Dowitcher (G). © Cin-Ty Lee.

the white belly than on Short-billed. We also note that the slightly darker chest of Long-billed is more sharply demarcated from the white undersides, whereas that on Short-billed is only slightly demarcated.

Another helpful field mark is that the dark wash on the chest of Long-billed grades gradually into the chin. However, on Short-billed, the entire chin tends to be whiter or paler. From a distance, this effect gives Short-billed a pale-chinned appearance whereas Long-billed often has a more-uniform gray wash from the chin down to the upper chest or a limited region of paleness confined to the chin. The Short-billed's slightly pale chin gives this species a somewhat "belted" appearance, which is not as pronounced as in Long-billed. The more extensive pale chin on Short-billed can be seen on sleeping birds. Sleeping Long-billeds show less-obvious pale chins.

## Field marks in alternate plumage

The identification of alternate-plumaged dowitchers is often much more difficult than standard field guides or texts portray. Wilds and Newlon (1983) and Jaramillo et al. (1991) provide good overviews of the identification of alternate-plumage birds. We expand on their work here.

The most commonly cited field mark in alternate plumage is the difference in underpart coloration and in the pattern of barring or spotting on the flanks and sides of the breast. On all three subspecies of Short-billed, the sides of the breast are typically spotted, whereas the sides of the breast on Long-billed are barred (flanks of *griseus* and *caurinus* Short-billeds may be slightly barred). In fresh alternate plumage, these features are generally reliable, given a close-enough view. Another charac-

teristic that has been reported in the literature is that Short-billeds tend to have paler bellies, whereas the entire underparts of Long-billed are typically orangish red. The problem is that in worn alternate plumage—and almost all southbound migrants are in worn alternate—the barring and spots can be non-existent due to fading and wear. In addition, birds in transition to or from alternate plumage can be characterized by highly variable underpart coloration. Transitional birds of both species may have unusually pale bellies associated with basic plumage, rendering the above-mentioned field marks somewhat less reliable. Below, we present a few underappreciated field marks that, when used in combination with underpart coloration and pattern, will greatly aid in field identification.

**Lower scapulars and greater and median coverts.** Although not explicitly presented in the literature, all subspecies of Short-billed have lower scapular and median and greater covert patterns that differ distinctly from that of Long-billed (Figs. 7–9). The diagnostic feature is the shape and extent of the feather tips (Fig. 7). The alternate-plumage lower scapulars and median and greater covert feather tips on both species are edged with white. On Short-billed, the white edges continue up the feather, gradually grading into buff feather edges. This pattern gives the lower scapulars and covert feathers on Short-billed a distinct V-shaped appearance. On Long-billed, the white on the lower scapular and covert feathers is largely confined to the tips. The upper part of the white edges of the feather tips stops abruptly and is often separated from the buff edges of the upperparts of each feather by a black bar across the feather. Thus, the white feather tips on Long-billed do not typically show a V-shape but instead appear to have flat tops and only shallow indentations. On Long-billed, the “squared off” tops of the white feather tips often give fresh alternate Long-billeds a white-barred appearance from a distance. On Short-billed, the V-shaped covert feather tips and more-extensive buffy edges to the lower scapular and covert feathers tend to give a more striped appearance to the upperparts (Wilds and Newlon 1983, Jaramillo et al. 1991). This results in an overall lighter coloration to the upperparts on Short-billeds than on Long-billeds.

One advantage of the lower scapular and covert feather field mark is that even in highly worn alternate plumage (July or August), a few relatively unworn lower scapular and covert feathers usually remain (Figs. 5 and 6). These unworn feather tips often stand out in worn alternate plumage because the rest of the upperparts appear darker due to the abrasion of the pale feather edges. However, even in the case in which all alternate-plumage feathers exhibit wear, the foregoing field marks can still be used. After the pale feather tips have been worn down, the structure of the alternate lower scapular and covert feathers tends to retain the shape of the dark feather centers. Thus, in Short-billed, wearing away of the V-shaped white feather tips results in deeply pointed black scapular and covert feathers. In Long-billed, worn lower scapular and covert feathers accordingly have a more squarish or blunt tip. It is also important to highlight that although most of the whitish tips of the lower

scapular and covert feathers in late-summer alternate-plumage birds are worn away, the upper edges of these feathers are usually faded. Because Short-billed shows more extensive white edging than Long-billed, this feature is often still preserved in worn alternate plumage, such that late-summer Long-billeds appear very dark-backed while Short-billeds appear lighter-backed from a distance.

**Underparts and sides of breast.** In fresh full alternate plumage, Long-billeds are characterized by extensive dark reddish underparts and sides of breast marked by vertical black bars edged with white fringes. The pattern of barring is visible only in close-up views. However, when this feature is seen, it is diagnostic for Long-billed and has been widely reported and illustrated in the literature. It is important to note that the black bars and their white fringes are very delicate, with the result that they often wear away by the end of May (cf. Jaramillo et al. 1991). In worn alternate plumage, Long-billeds often have clear sides and appear dark reddish throughout the undersides.

Short-billeds in fresh alternate plumage are characterized by orangish underparts slightly lighter than those of Long-billeds. Short-billeds also tend to have more white on the belly or vent, ranging from small amounts of white on the vent of *hendersoni* to an extensively pale belly in *griseus*; *caurinus* is variably pale on the belly, sometimes approaching *griseus*. Instead of the white-fringed black bars of Long-billed, the side of the breast on Short-billeds is characterized by round black spots. The extent of spotting on the sides of the breast in Short-billed is highly variable. The spots are numerous in *caurinus* but sparse to non-existent in *hendersoni*. These side spots appear to be more easily retained than the black bars on Long-billed. As such, on worn alternate Short-billeds, the sides remain somewhat spotted unlike Long-billed.

## Identification of Short-billed Subspecies

The three subspecies of Short-billed Dowitcher show subtle differences in alternate plumage, but are indistinguishable in basic and juvenal plumages. In general, in fresh alternate plumage *hendersoni* has the most extensive reddish coloration. On *hendersoni*, the upper chest, breast, and belly are reddish, leaving only the flanks and undertail coverts whitish. The eastern subspecies *griseus* appears to have the least amount of red/orange on the underparts in fresh alternate plumage. In *griseus*, the upper chest, face, and chin have an orangish wash, but the breast, belly, flanks, and undertail coverts are typically whitish. The western subspecies *caurinus* appears to be intermediate (but variably so) between *hendersoni* and *griseus* in terms of the extent of reddish/orangish coloration on the undersides.

Other differences include the pattern of the barring/spotting on the flanks in fresh alternate plumage. On *hendersoni*, the sides and flanks are marked by sparsely spaced spots or small chevrons. In some cases, the spotting on the sides of *hendersoni* is so sparse that the sides look uniformly red/orange. On *caurinus* and *griseus*, the sides are more extensively marked and

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often are arranged as bars or chevrons rather than spots.

The pattern of lower scapular and covert feathers also differs subtly among the subspecies. In *hendersoni* and *caurinus* the upper edges of these feathers are fringed buff or orange, whereas in *griseus* the upper edges are fringed white. The width of the pale fringes to the lower scapular and covert feathers tends to be thicker on *hendersoni* than on *caurinus* and *griseus*. Overall, *hendersoni* appears to have much brighter and buffier upperparts when viewed from a distance. In contrast, *griseus* and *caurinus* have overall darker upperparts (due to the thinner pale fringes), with *griseus* appearing white-striped and *caurinus* appearing orange-striped.

We reiterate that these purported differences between subspecies are subtle and likely subject to considerable variation. Any claim that all alternate-plumaged Short-billeds can be identified to the subspecific level should be met with skepticism.

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### Literature Cited

American Ornithologists' Union [AOU]. 1957. *Check-list of North American Birds*, fifth edition. Lord Baltimore Press, Baltimore.

Chandler, R.J. 1998. Dowitcher identification and ageing. *British*

*Birds* 91:93-106.

Dunn, J.L. 1999. Some additional thoughts on dowitchers. *Ohio Cardinal* 23:30-33.

Eubanks, T.L., R.A. Behrstock, and R.J. Weeks. 2006. *Birdlife of Houston, Galveston, and the Upper Texas Coast*. Texas A&M University Press, College Station.

Hayman, P., J. Marchant, and T. Prater. 1986. *Shorebirds: An Identification Guide*. Houghton Mifflin, Boston.

Jaramillo, A., and B. Henshaw. 1995. Identification of breeding plumaged Long- and Short-billed Dowitchers. *Birding World* 8:221-228.

Jaramillo, A., R. Pittaway, and P. Burke. 1991. The identification and migration of breeding plumaged dowitchers in southern Ontario. *Birders Journal* 1:8-25.

Jehl, J.R., J. Klima, and R.E. Harris. 2001. Short-billed Dowitcher (*Limnodromus griseus*), in: A. Poole and F. Gill, eds. *Birds of North America*, no. 564. Birds of North America, Philadelphia.

Kaufman, K. 1990. *Field Guide to Advanced Birding*. Houghton Mifflin, Boston.

National Geographic Society [NGS]. 1999. *Field Guide to the Birds of North America*, third edition. National Geographic Society, Washington.

Paulson, D. 1993. *Shorebirds of the Pacific Northwest*. University of Washington Press, Seattle.

Pitelka, F.A. 1950. Geographic variation and the species problem in the shorebird genus *Limnodromus*. *University of California Publications in Zoology* 50:1-108.

Patten, M.A., G. McCaskie, and P. Unitt. 2003. *Birds of the Salton Sea: Status, Biogeography, and Ecology*. University of California Press, Berkeley.

Putnam, C. 2005. A tale of two strategies: Fall molts of adult dowitchers. *Birding* 37:380-390.

Roberson, D. 2002. *Monterey Birds*. Monterey Peninsula Audubon Society, Carmel.

Robinson, W.D. 1996. *Southern Illinois Birds: An Annotated List and Site Guide*. Southern Illinois University Press, Carbondale.

Sibley, D. 1997. *The Birds of Cape May*. New Jersey Audubon Society and Cape May Bird Observatory, Cape May.

Sibley, D. 2000. *The Sibley Guide to Birds*. Knopf, New York.

Takekawa, J.Y., and N. Warnock. 2000. Long-billed Dowitcher (*Limnodromus scolopaceus*), in: A. Poole and F. Gill, eds. *Birds of North America*, no. 493. Birds of North America, Philadelphia.

Veit, R.R., and W. R. Petersen. 1993. *Birds of Massachusetts*. Massachusetts Audubon Society, Lincoln.

Wilds, C. 1990. The dowitchers, pp. 68-75 in: K. Kaufman, ed. *A Field Guide to Advanced Birding*. Houghton Mifflin, Boston.

Wilds, C., and M. Newlon. 1983. The identification of dowitchers. *Birding* 15:151-166.

Zeranski, J.D., and T.R. Baptist. 1990. *Connecticut Birds*. University Press of New England, Hanover.