

# Wintering grounds and migration patterns of the Upland Sandpiper

*Robin P. White*

*Just now back from the Argentine.  
Aldo Leopold,  
A Sand County Almanac (1949)*



Photograph/Steven Holt/VIREO (h21/unacc)

**T**HE UPLAND SANDPIPER (*BARTRAMIA longicauda*) is a shorebird that frequents clumps of tall and short grass in upland grasslands, prairies, and pastures of the Americas. While the condition of the breeding grounds is a critical component of the reproduction ecology of Upland Sandpipers (Mitchell 1967; White 1983), the wintering grounds are equally important to a species' survival (Keast and Morton 1979). This article presents recent findings on the wintering distribution and migration patterns of the Upland Sandpiper—a species of declining numbers and endangered status in some states (Kirsch and Higgins 1976; Tate 1981).

## Methods

To describe more accurately and map the wintering range and migration patterns of the Upland Sandpiper, I have searched the literature for published records of *Bartramia* on the wintering

grounds, requested records of specimens collected on the wintering grounds from museums in North and South America, requested unpublished records of *Bartramia* on the wintering grounds from ornithologists and birders who have traveled in South America, requested sightings of Upland Sandpipers from South American ornithologists and birders through notices in ornithological newsletters (*A.O.U. Ornithological Newsletter*, *El Volante Migratorio*, *Nuestras Aves*), met with Argentine ornithologists and birders, and, visited potential wintering areas of *Bartramia* in Argentina.

These methods present several problems. First, published records and unpublished observations may be incomplete; records may not have a date or may include locational information that is not specific as to longitude and latitude. Names given to pinpoint a bird sighting, for example, may be of minor rivers or small villages not found on many maps. The ornithological gazet-

teers are an aid to finding some of the localities, but some observations have had to be omitted because of an uncertainty in the date or location of the sighting. I have omitted some 87 records of Upland Sandpipers in Latin America from the wintering distribution and migration maps because of incomplete information.

Second, some reports are detailed, but others give only a general area or time for a sighting which makes it difficult to place on a map; e.g., "abundant in autumn"; "pass through rainy nights in February and March." I omitted some 15 records in Latin America from the wintering distribution and migration maps because of too general a description for area and time.

Third, historical changes in range must be taken into account. If the distribution of Upland Sandpipers on the wintering grounds has changed, it may be inappropriate to map recent sightings with records from the late 1800s. After organizing the available records, I des-

ignated historical sightings as those prior to 1930, and then marked historical and recent sightings with different symbols.

A fourth problem in preparing a distribution map is also temporal but on a shorter time scale. There are records for Upland Sandpipers in thirteen countries in South America, scattered throughout most months except June and July. Which records should be considered to represent wintering birds? I have plotted sightings from November, December, January, and February, treating these months as the wintering period.

A final problem is accounting for blank spaces on the map. An accurate map of the wintering distribution of Upland Sandpipers depends on an intensive census network in the potential range, and because such a data base is not available, blank spaces on the map represent uncertainty—how many blank spaces represent birds present but unobserved?

#### Wintering grounds

Publications on the Upland Sandpiper in South America present a sketchy picture of the distribution and abundance of this species on its wintering grounds. A description of the wintering range was given by Bent (1929) (Fig. 1):

The main winter range of the species is confined to the southern part of South America, north to northern Argentina (Tucuman); and southern Brazil (Irisanga and probably Mattoentro). East to southern Brazil (probably Mattoentro); Uruguay (Concepcion, Sta. Elena, and Colonia); and eastern Argentina (Buenos Aires and Rio Negro). South to Argentina (Rio Negro). West to Argentina (Rio Negro, Mendoza, and Tucuman).

Some field guides for South America provide slightly more recent but less detailed range descriptions—"winters inland chiefly in southern Brazil from São Paulo south to Uruguay and on pampas of Paraguay and Argentina south to Río Negro; a few winter in northern South America" (Meyer de Schauensee 1970); "winters principally in Paraguay and Argentina. Recently found to winter in small numbers in Surinam" (Meyer de Schauensee and

Phelps 1978), "migrates to Río Negro; accidentally to the Malvinas and South Shetland Islands" (Olog 1968; and Olog 1984). The A.O.U. (1983) describes the wintering distribution as "from Surinam and northern Brazil south to central Argentina and Uruguay." The most detailed description remains that of Bent (1929), although population declines of the bird may render his account inaccurate today.

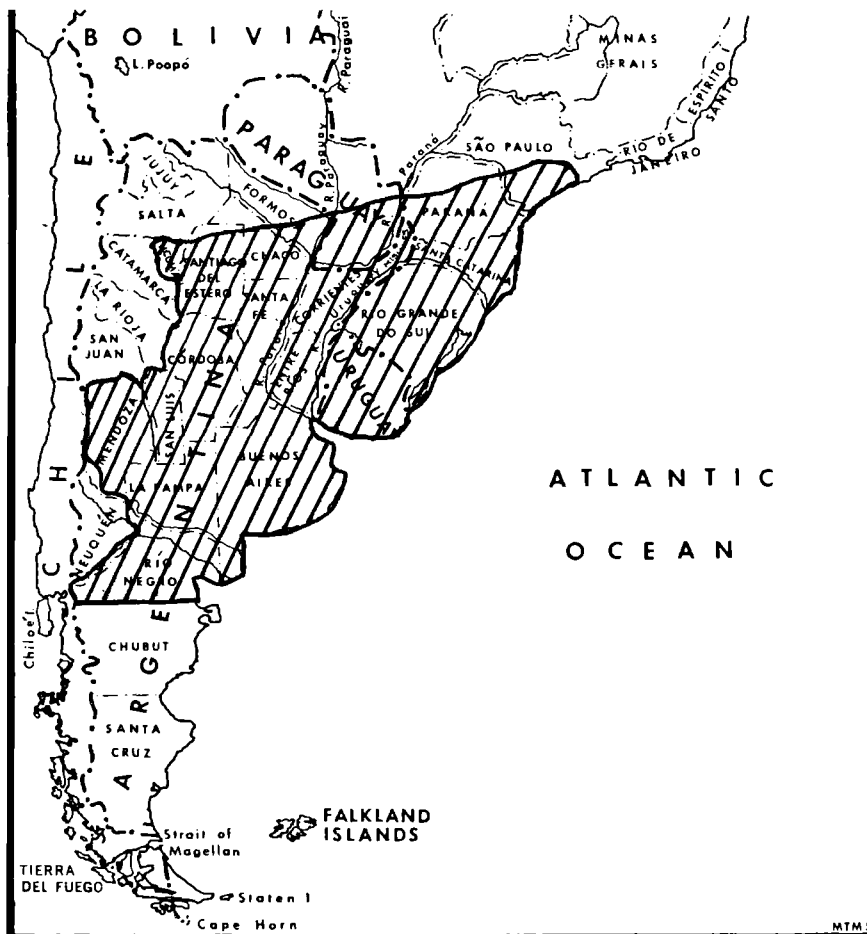
Accounts of the abundance of Upland Sandpipers in South America, even those of 60 years ago, are contradictory. Dabbene (1920) and Hudson (1920) described the bird as widely and evenly distributed over the pampas of Argentina. In contrast, Wetmore (1927) warned that the bird, "formerly very abundant," was present in reduced numbers, and claimed that, due to hunting "Those that remain must seek the pastures of remote estancias [ranches] in order to survive."

Since 1927, only one brief note (Olog 1967), has been published regarding population fluctuations of the Upland Sandpiper on its wintering grounds. From 1958 to 1962, Olog surveyed migrant birds in the Buenos Aires Province of Argentina. He attributed a decline in the numbers of most migrants

to the modernization of farms, draining, and drought. Several shorebird species appeared to be as abundant as in the 1920s but the Upland Sandpiper, described as one of the most characteristic birds of this region in 1920, was scarce and "in danger of becoming very rare."

Recent observations from ornithologists continue, in general, to support Olog's concern. M. Rumboll (*pers. comm.*) reports only three sightings of the species in Argentina in 14 years (1968–1982); J. P. Myers (*pers. comm.*), in his 18 months of field work in southeastern Buenos Aires province (1973–1974), did not see a single Upland Sandpiper; R. Ridgely (*pers. comm.*) has several scattered sightings of the bird from his study area in southern Brazil in 1980 and 1981, one sighting from Paraguay in 1982, several from Bolivia, and only one from northeastern Argentina in 1982. He calls the wintering grounds of this species "a mystery." In contrast, O. S. Pettingill (*pers. comm.*), observed up to 20 birds in one of two different sightings in northeastern Argentina in 1969 and believes that "the Upland Sandpiper is among several of our other North American shorebirds that winter in Argentina very commonly."

Figure 1. Wintering range of the Upland Sandpiper as described by Bent (1929).



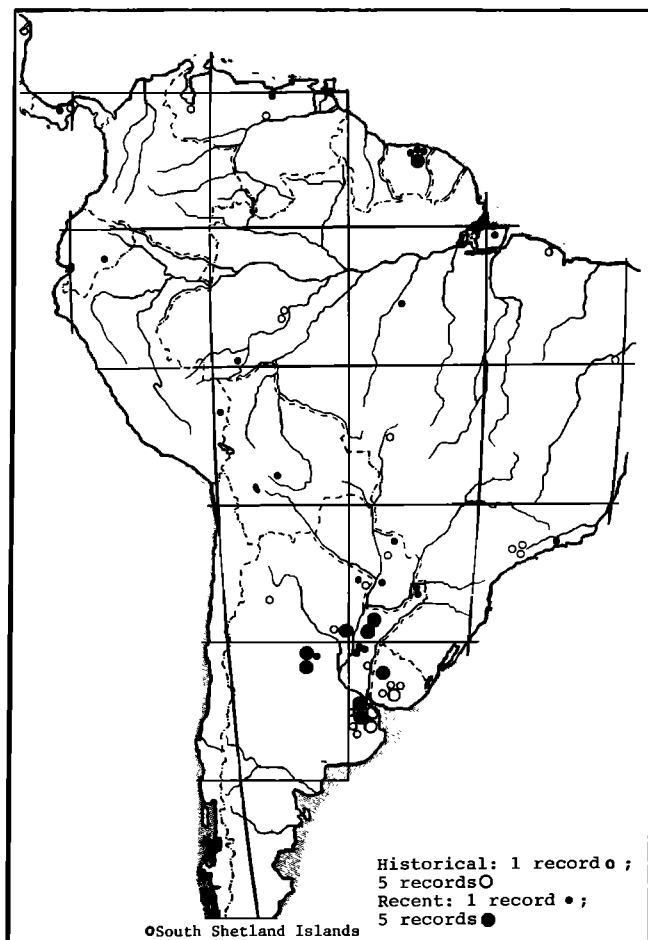


Figure 2. Wintering distribution of the Upland Sandpiper.

present in this area. The only other countries in South America with at least three records of Upland Sandpipers in November, December, January, or February are Brazil, Paraguay, and Venezuela. These birds may be overwintering in these countries, but they may also represent late migrants.

### Discussion

The map in Figure 2 portrays two features that deserve discussion: the small number of sightings and the apparent change in wintering distribution.

Several factors likely contribute to keeping the population low and the range restricted. The Upland Sandpiper is protected by law in Argentina, but hunting laws are not strictly enforced either on the national level or among provinces and landowners (Figs. 3 and 4). This lack of protection led Olrog, as late as 1967, to keep secret the location of several Upland Sandpipers to protect them from hunters. Landholdings are large in some parts of the Argentine pampas and regulation may be based on the discretion of landowners, or of local managers for absentee landowners. Some may not care what is hunted on their land; others may hunt themselves. All Argentine ornithologists, however, when questioned, were quick to disregard hunting of this species as a possibility; they stated that other problems on the wintering and breeding grounds (pesticides and habitat loss) were more critical factors in Upland Sandpiper survival.

Predators, other than human, on the wintering grounds do not seem to pose a threat. Mammalian predators that might take a bird 30 centimeters tall are

A new map provides the best available picture of the Upland Sandpiper's wintering range (Fig. 2). Out of 318 records of Upland Sandpipers in Latin America, I used 105 sightings from November, December, January, and February to construct this map. In addition to authors cited in the text, other sources for published records include the following: Ridgway 1919; Beatty 1938; Hellmayr and Conover 1948; Howell 1964; Monroe 1968; Land 1970; Karr 1976; and Spaans 1978. Sightings of Upland Sandpipers in these months are uncommon, but are strongly concentrated in the area usually identified as the species' wintering area in Argentina and Uruguay. The records also show that the Upland Sandpiper was observed more often in the Province of Buenos Aires and in Uruguay before 1930; since then, the species has apparently declined in that area. In contrast, records of Upland Sandpipers after 1930 increase north and slightly west of Buenos Aires.

In January 1985, I spent one month in northern and central Argentina in search of Upland Sandpiper wintering sites. I found three areas with Upland

Sandpipers—in the provinces of Entre Ríos, Corrientes and Córdoba. A total of 80 birds was counted for the three locations.

Outside of Argentina and Uruguay, wintering birds seem rare. Havereschmidt (1966) describes Upland Sandpipers wintering in Surinam as "regularly present in small flocks." Specimens were collected periodically from October 1965 through April 1966, to document wintering birds, but no thorough study has been conducted of numbers

Figure 3. Upland Sandpiper habitat in South America: Cattle and windmill on Argentine estancia.



not abundant in the grasslands. Rumboll (*pers. comm.*) states that foxes are not abundant, and that weasels, opossums, and other small mammals could take a sandpiper only if it were injured or roosting (Fig. 5). Similarly, the number of adult Upland Sandpipers taken by birds of prey is not considered large (R. Fraga, M. Rumboll, S. Salvador, *pers. comm.*).

Lack of space or scarce food resources could be a problem for wintering sandpipers. Myers (1979) discusses the limited space available for shorebirds wintering in southern South America, comparing land mass at similar latitudes on the two continents: "The extent of winter scolopacid habitat in south temperate areas is small relative to the area used during breeding, and this induces very high densities in wintering populations." He describes aggressive encounters between North and South American shorebirds and suggests that there is competition for limited resources.

On my visit to Argentina, I observed only one other shorebird—the Southern Lapwing (*Vanellus chilensis*)—feeding in close proximity to Upland Sandpipers. Myers (1979) describes this lapwing as an extremely aggressive species that attacks ferociously if other birds come close to its chicks, probably a response to limited food resources. On several occasions I did observe the Southern Lapwing chase Upland Sandpipers, suggesting support for Myers' statement on aggressive behavior of the lapwing and possible competition for food resources.

A competitive interaction between Upland Sandpipers and Southern

Lapwings, however, is not well accepted among several Argentine ornithologists (R. Fraga, S. Salvador, *pers. comm.*). First, the lapwing is often found in short heavily grazed pastures in contrast to the mixed short- and tall-grass areas most commonly used by Upland Sandpipers (Fig. 6). Second, food resources seem abundant on the pampas. Although a quantitative study of food abundance is not available, in the Villa María area, where the largest known concentration of Upland Sandpipers winters in Argentina, the field appeared to abound in grasshoppers; insects, including grasshoppers, crickets, and weevils, are described as the primary food of this species (McAtee and Beal 1912; Fig. 7).

Land-use practices that affect Upland Sandpipers on the wintering grounds are not well documented. Several Argentine ornithologists, when questioned about causes for Upland Sandpipers decline, quickly suggested the use of pesticides. Insecticides were sprayed heavily in the 1940s to eradicate locusts, and several authors (Barrows 1884; Durnford 1877; Dabbene 1920) reported that the birds ate large quantities of these insects. While pesticide use has been correlated with eggshell thinning in several carnivorous marine birds and in birds of prey, and with mortality in several songbird populations (Hickey 1961), there is no documentation of pesticide damage to Upland Sandpipers on their breeding or wintering grounds.

Changes in agricultural practices may be critical to the Upland Sandpiper's limited numbers and to its suggested change in wintering occurrence. The modernization of farms, draining, and

drought mentioned earlier (Olrog 1967), may account for a decline of Upland Sandpipers in the province of Buenos Aires. In addition, these practices may help explain the apparent shift of the wintering range to areas slightly northwest and north into the provinces of Córdoba, Santa Fe, Entre Ríos, and Corrientes. Birds may also have moved farther north to Uruguay, southern Brazil, Paraguay, and Bolivia—areas that have not been thoroughly surveyed but in which there have been several recent sightings.

Favorable changes in these northern and northwestern areas of Argentina may serve to attract the species. The province of Córdoba, which has reports of the most numbers of Upland Sandpipers to date, was originally *espinal*, or an area of short, scrubby trees (genus *Prosopis*) with a slightly drier climate and sandier soils than in the Buenos Aires Province (Cabrera and Willink 1973; Fig. 8, this paper). The central portion of the *espinal* belt has been cleared for dairy farms and is mainly in pasture and alfalfa. The Upland Sandpiper is said to prefer the drier climate and planted grasses, which do well on the sandy soil, to the wetter area with coarser native grasses farther south and southeast (R. Fraga and S. Salvador, *pers. comm.*). All three locations where I observed *Bartramia* in January 1985 were in this *espinal* region.

### Migration patterns

Important stopover areas of migrating Upland Sandpiper have not been identified. Bent (1929), however, pro-

Figure 4. Upland Sandpipers in wintering habitat: Argentine gaucho in background.



Figure 5. Upland Sandpipers are wary on the wintering grounds and not easy prey to predators.







Figure 6. Upland Sandpipers feeding among clumps of tall and short grass.



Figure 7. Upland Sandpiper feeding on the wintering grounds.

vides the most detailed notes available on general migration routes of this species. He states that the bird "is not recorded east of Cuba in the spring, but some birds migrate across from Yucatan to Cuba and Florida and then up the Atlantic Coast." Fall migration is described as "southward, through the interior and the Atlantic Coast States and through the West Indies to South America." The A.O.U. (1983) provides a more recent summary of the route—"migrates south through North America (rare along Pacific coast from southern Alaska to Washington casually to California, and rare in Arizona, Nova Scotia and the south Atlantic coastal region), Middle America (not reported northwestern Mexico), the West Indies and most of South America (also Tobago and Trinidad) east of the Andes."

I have constructed maps of the Upland Sandpiper's migration patterns using methods described earlier (Figs. 9 and 10). I used 65 sightings from March, April, and May for the Spring map and 148 sightings from August, September, and October for the fall map. These maps confirm descriptions given by Bent (1929) and the A.O.U. (1983) but several additional observations can be made.

There are fewer spring than fall records for migrating Upland Sandpipers. Wetmore (1965) describes Upland Sandpipers as found less commonly in the spring migration in Panama. Ridgely (1981) also states that the bird in Panama is an "uncommon to fairly common fall and rather rare spring transient. . . ." Spring records for the West Indies are rare. It appears that the birds travel south across the Caribbean as well as through Central America in

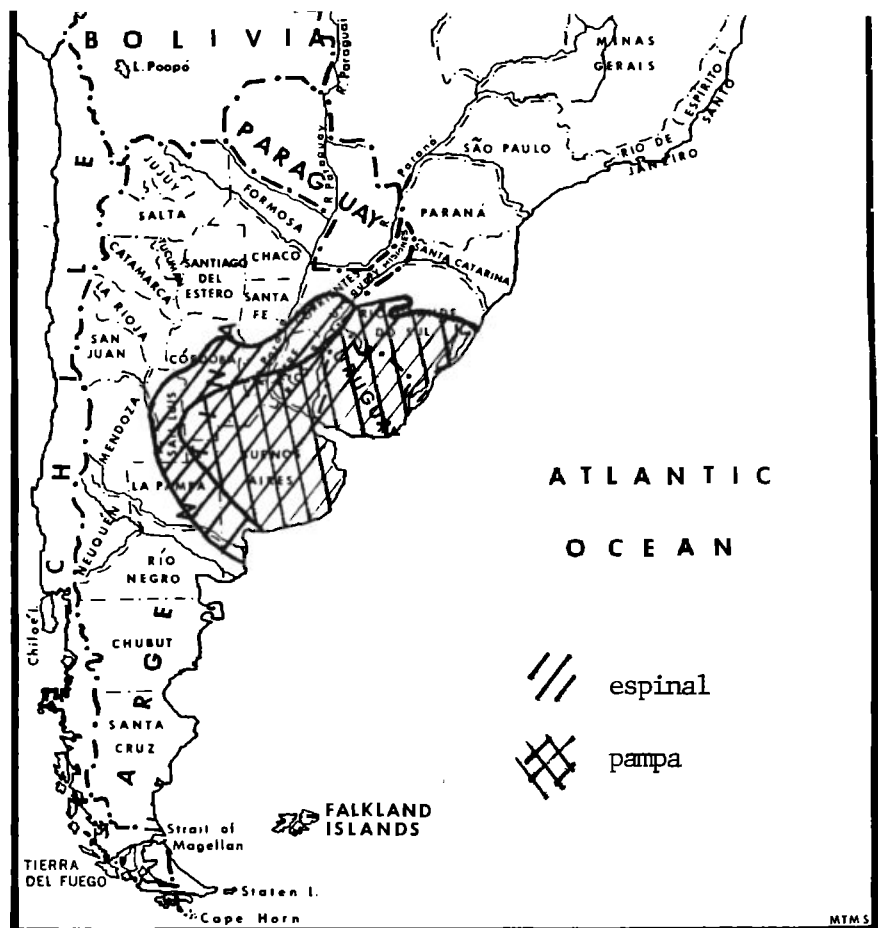


Figure 8. Biogeographical provinces of Argentina: Espinal and pampa (after Cabrera and Willink 1979).

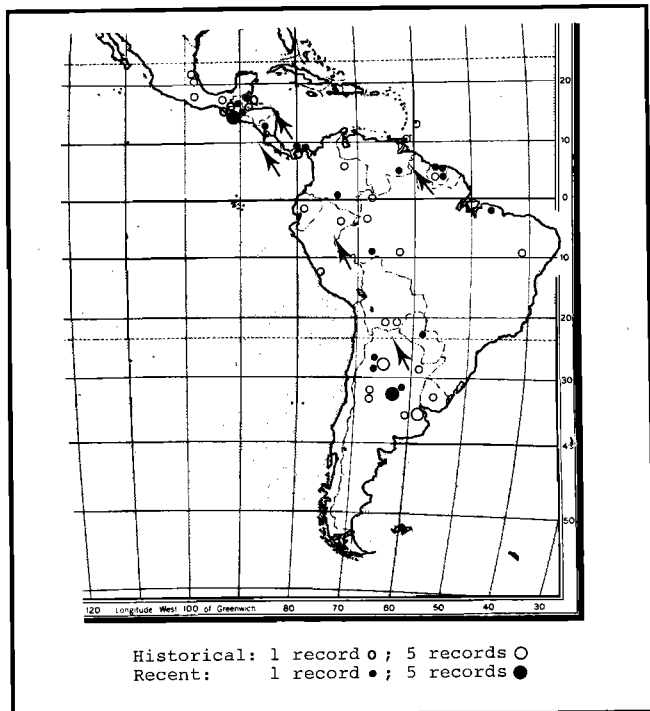


Figure 9. Spring migration patterns of the Upland Sandpiper.

fall but fly north only through Central America in spring, although the small number of spring records from Panama is perplexing. Perhaps there are fewer bird observers and collectors, and thus fewer reports of Upland Sandpipers, in the West Indies and Central America in the spring than in fall.

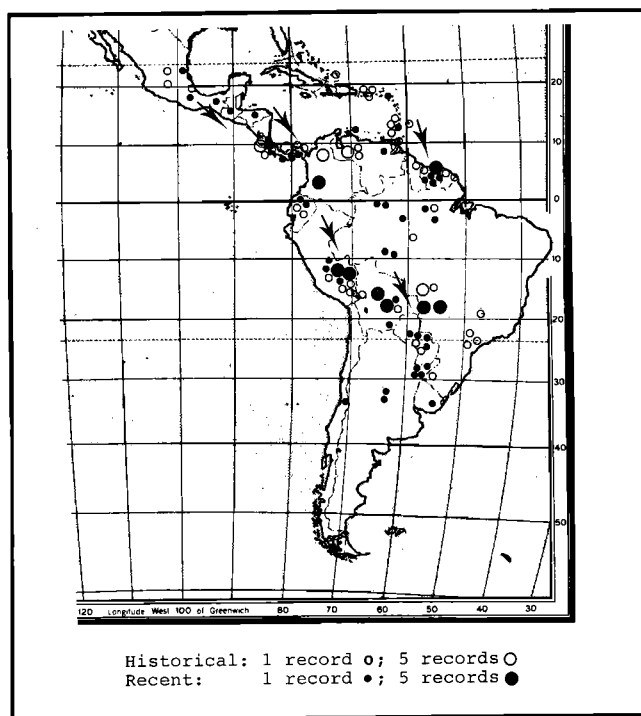
The length of the migration period appears to extend over three or four months in fall and in spring. Records of South American specimens and sightings are scattered throughout South America from August through May. While some birds may undertake a fairly rapid flight between the breeding and wintering grounds, there also appear to be birds that linger in Central and northern Southern America; migratory stopovers may be lengthy and birds may spend as little as two months on the actual wintering grounds. This is suggested by records of birds in Panama and Peru in November, and in Venezuela in November and December. Neither wintering or the year-round presence of Upland Sandpipers has been documented in these countries.

This extended length of travel along the migration route emphasizes the need to preserve inland and upland shorebird habitat used by Upland Sandpipers, not only on the breeding and wintering grounds, but through the Western Hemisphere.

### Conclusion

Any combination of the possible causes discussed previously—hunting, predators, interspecific competition, pesticides, and land-use change—may account for the apparent decline in Upland Sandpiper numbers. An important basic question that must be addressed, however, is how rare is *Bartramia* on its traditional wintering grounds? On my brief trip to Argentina, I found birds in places and in numbers (but still very few) of which local landowners and ornithologists were not aware. In fact, I found more birds in several locations

Figure 10. Fall migration patterns of the Upland Sandpiper.



in the four weeks I was in Argentina than many ornithologists had seen in the past 10 to 15 years. What about adjacent ranches and landholdings? Are Upland Sandpipers present there, in apparently similar habitat? How many of the roadless or inaccessible ranches are searched for upland shorebirds? Very few of the birding hotspots in Argentina—Iguazú Falls, Bariloche, Península Valdes—include grassland habitat and thus are not hotspots for Upland Sandpipers. In addition, very few of the potential wintering sites in other South American countries—Uruguay, southern Brazil, Paraguay and

Bolivia—are birded intensely in potential Upland Sandpiper wintering habitat

Further study on the wintering distribution of *Bartramia* in South America requires an intensive system of censusing. Owners of large landholdings should be contacted for knowledge of the presence of the bird, and for permission to search their land. The grassland provinces of Argentina should serve as the initial search area with additional census work in Uruguay, southern Brazil, Paraguay and Bolivia. Only by looking for this bird will we know where it winters. Once major wintering sites are identified the causes and extent of wintering mortality can be studied and documented.

#### ACKNOWLEDGMENTS

My trip to Argentina was made possible by a Foreign Travel Fellowship from the Graduate School at the University of Wisconsin-Madison. My travels were greatly facilitated and enhanced by Bob and Pat Sword and Family at Estancia Buena Esperanza, Malcolm and Anne Marie Pears and Family at Estancia Curupicay, Ana and Enrique Castignani and Family, P. Canevari, R. Fraga, H. Moulin, M. Ojeda, M. de la Pena, M. Rumboll, S. Salvador, and D. Wilson.

Unpublished information and helpful assistance was provided by B. Abrel, P. Alden, K. Anderson, P. Antas, N. Barillas, M. Beade, W. Belton, D. Bruning, E. Bucher, F. Cooch, T. Dick, P. Donahue, S. Eaton, R. Escalante, T. Farr, J. Fitzpatrick, E. Froehlich, S. Furniss, R. Fyfe, A. Gepp, M. Gochfeld, M. Goodwin, J. Jehl, B. de Jong, R. Kantin, C. Leahy, M. Lippsmeyer, J. Mata, P. Miles, R. I. G. Morrison, C. Munn, J. P. Myers, T. Narosky, M. Norens, J. O'Neill, T. Parker, O. Pettingill, W. Phelps, M. Pizarro, M. Plenge, I. Price, R. Ridgely, S. Robinson, R. Rowlett, A. Sada, H. Sick, T. Sherry, F. Silva, B. Sorrie, R. Straneck, A. Tarak, J. Terborgh, W. Voss, and D. Yzurieta.

Data on museum collections used in this study were kindly provided by E. Alabarce, Fundación Instituto Miguel Lillo; J. Bull and J. DiCostanzo, American Museum of Natural History; J. Dick, Royal Ontario Museum; H. Carmargo, Museu de Zoologia, Universidade de Sao Paulo; B. Farmer, National

Museum of Natural History, Smithsonian Institution; K. Garrett, Los Angeles County Museum of Natural History; A. Jacobberger, Museum of Vertebrate Zoology, University of California; J. Loughlin, Carnegie Museum of Natural History; J. Navas, Museo Argentino de Ciencias Naturales; D. Niles, Delaware Museum of Natural History; R. Paynter, Museum of Comparative Zoology, Harvard University; J. V. Remsen, Museum of Natural Science, Louisiana State University; M. Robbins, Philadelphia Academy of Natural Sciences; M. Serna, Museo de Historia Natural, Medellin, Colombia; R. Storer, Museum of Zoology, University of Michigan; D. Teixeira, Museu Nacional Universidade Federal do Rio de Janeiro; D. Willard, Chicago Field Museum of Natural History; E. Stickney, Yale Peabody Museum; B. Webb, Denver Museum of Natural History; Webber, Florida State Museum, University of Florida.

#### LITERATURE CITED

- AMERICAN ORNITHOLOGISTS' UNION. 1983. Check-list of North American birds, Sixth Ed. American Ornithol. Union, Lawrence, Kansas.
- BARROWS, W. B. 1884. Birds of the Lower Uruguay. *Auk* 1:315.
- BEATTY, H. A. 1938. Additional records for St. Croix, Virgin Islands. *Auk* 55:131.
- BENT, A. C. 1929. Life Histories of North American Shorebirds. *U.S. Nat. Mus. Bull.* 146:55-69.
- CABRERA, A. L. and A. WILLINK. 1973. Biogeografía de America Latina. Gen. Sec. Org. Am. States, Washington.
- DABBENE, R. 1920. Notas sobre los chorlos de Norte America que inviernan en la República Argentina. *Hornero* 2:99-128.
- DURNFORD, H. 1877. Notes on the birds of the Province of Buenos Ayres. *Ibis*: 166-203.
- HAVERSCHMIDT, F. 1966. The migration and wintering of the Upland Plover in Surinam. *Wilson Bull.* 78:319-320.
- HELLMAYR, C. E. and B. CONOVER. 1948. Catalogue of the Birds of the Americas. *Field Mus. Natu. Hist. Publi., Zool. Series* 13(3):86-90.
- HICKEY, J. J. 1961. Some effects of insecticides on terrestrial birdlife in Middle West. *Wilson Bull.* 73:398-424.
- HOWELL, T. R. 1964. Birds collected in Nicaragua by Bernardo Ponsol. *Condor* 66:151-158.
- HUDSON, J. J. 1920. Birds of La Plata, Vol. 2. E. P. Dutton, London.
- KARR, J. R. 1976. On the relative abundance of migrants from the north temperate zone in tropical habitats. *Wilson Bull.* 88:433-458.

- KEAST, J. A. and E. S. MORTON (Eds.) 1979. Migrant Birds in the Neotropics, Ecology, Behavior, Distribution, and Conservation. Smithsonian Inst. Press, Washington.
- KIRSCH, L. M. and K. F. HIGGINS. 1976. Upland Sandpiper nesting and management in North Dakota. *Wildlife Soc. Bull.* 4:16-20.
- LAND, H. C. 1970. Birds of Guatemala Livingston Publ. Co., Wynnewood, Pennsylvania.
- McATEE, W. L. and F. E. L. BEAL. 1912. Some common game, aquatic and rapacious birds in relation to man. *U.S. Dept. Agric. Farmer's Bull.* 497:15-16
- MEYER DE SCHAUENSEE, R. 1970. A guide to the birds of South America. Livingston Publ. Co., Wynnewood, Pennsylvania.
- and W. H. PHELPS, Jr. 1978. A guide to the birds of Venezuela. Princeton Univ. Press, Princeton.
- MITCHELL, G. J. 1967. The Upland Plover and its status in relation to environmental conditions and situations, past and present. *Blue Jay* 25:58-63.
- MONROE, B. L. 1968. A distributional survey of the birds of Honduras. *Ornithol. Monogr.* 7:112.
- MYERS, J. P. 1979. The pampas shorebird community: interactions between breeding and nonbreeding members. Pp. 37-49 in J. A. Keast and E. S. Morton (Eds.) Migrant Birds in the Neotropics; Ecology, Behavior, and Conservation. Smithsonian Inst. Press, Washington.
- OLROG, C. C. 1984. Las Aves Argentinas Administración de Parques Nacionales, Buenos Aires.
- . 1968. Las Aves Sudamericanas: Una guía de campo. Univ. Nac. Tucumán, Inst. Miguel Lillo, Tucumán, Argentina
- . 1967. Observaciones sobre aves migratorias del hemisferio norte. *Hornero* 10:292-298.
- RIDGELY, R. S. 1981. Birds of Panama. Princeton Univ. Press, Princeton.
- RIDGWAY, R. 1919. The birds of North and Middle America. *Bull. U.S. Nat. Mus.* 50(8):379-385.
- SPAANS, A. L. 1978. Status and numerical fluctuations of some North American waders along the Surinam coast. *Wilson Bull.* 90:60-83.
- TATE, J. 1981. The Blue List for 1981. *Am. Birds* 35:3-10.
- WETMORE, A. 1927. Our migrant shorebirds in southern South America. Dept. Agric. Technical. Bull. No. 26, Washington.
- . 1965. The birds of the Republic of Panama. Part 1. Tinamidae (Tinamous) to Rynchopidae (Skimmers). *Bull. U.S. Nat. Mus.* 150.
- WHITE, R. P. 1983. Distribution and habitat preference of the Upland Sandpiper (*Bartramia longicauda*) in Wisconsin. *Am. Birds* 37:16-22.

—Geography Dept., University of Wisconsin, Madison, WI 53706