

AMERICA'S ARCTIC BIRD CONNECTION

Over 100 migratory bird species use the Arctic coastal plain of Alaska

FACT SHEET—

Semipalmated Sandpiper (*Calidris pusilla*)

The Semipalmated Sandpiper is an abundant small shorebird of the New World. It nests in the Arctic and winters primarily in northern South America. Huge flocks of 100,000–300,000 birds may congregate in highly favored, migratory stopover sites to add fat for the next leg of their journey. In order to make a non-stop flight of 2,000–2,500 miles, some may increase their normal body weight (about an ounce) by more than 40%. With sufficient fat and the winds from the right direction, large flocks of these sandpipers take off on the next leg of their migration. One of the favored spring concentration areas is the Cheyenne Bottoms in central Kansas. It is a thrilling sight to watch tight flocks wheel and spiral in unison when threatened by a falcon or other raptor, leaving the enthralled viewer with impressions first of white flashes and then dark masses as the birds alternately flash their undersides and upper surfaces during these rapid flight maneuvers.

Arctic Bird Connection

The Semipalmated Sandpiper breeds from extreme northeastern Siberia across western and northern Alaska to northern Labrador. Migrants can be seen anywhere between the breeding grounds and the primary wintering range in northern South America, but most are found east of the Rocky and the Andes mountains. This species occasionally



Adult Semipalmated Sandpiper on Arctic coastal plain.

winters in Florida, south of the Amazon and even along the west coast of South America south of Peru.

Description

The Semipalmated Sandpiper has a black, moderate length bill (approx. 0.75 inches) and bare, black legs. The sides of the rump are white, as are the undersides of the wings and body. In winter plumage the upper parts are brownish gray with a whitish eye line and underparts; the latter have faint streaks of brownish gray on the upper breast. In breeding plumage, the upper parts have a rich reddish brown edge to each feather, which have dark brown, almost black, centers. The underparts are more finely streaked across the chest and neck. There are several other closely related, small sandpipers that look very similar to the Semipalmated and careful observation techniques are needed to separate all of them.

Food

The sandpiper eats all types of small marine and aquatic invertebrates. Small arthropods comprise most of their diet. Marine worms also are commonly taken along the Atlantic Coast and in South America. This sandpiper is heavily dependent upon the myriads of mosquitos and related insects on the Arctic tundra breeding grounds. The



Approximate week-old Semipalmated Sandpiper.

long beak is used to take prey off the tundra vegetation on the nesting grounds, probe in mud, and peck on the surface of water and mud.

Habitat

In winter and on migration, the Semipalmated Sandpiper is usually found on muddy flats with shallow water and little or no vegetation. It will wade into water that is up to about 1 inch deep. Wet or dry tundra with small streams, ponds and pools nearby are favored for nesting. Nests are placed in tussocks of grasses and other vegetation.

Breeding and pair bonds

Males arrive in early June several days before the females. Displays to establish individual territories begin immediately; these displays are a series of short flights around the territory accompanied by vocal calling and wing fluttering. Females select the territory and then are selected by the male. The male makes a series of nest scrapes over a period of several days, with the female eventually selecting one and finishing the construction with the addition of bits of leaves and grasses. About half of the returning birds pair with the mate from the previous year, although such pairs do not have any increased nesting success. Four eggs, the standard sandpiper clutch, are laid over four days; their total weight is about 85–100% of the mass of the female. Incubation is performed about equally by both sexes and takes about 20–21 days, rarely 22. In Arctic Alaska, few, if any, breeding birds are younger than 2 years of age.

Arctic Conditions

The majority of Semipalmated Sandpiper nests are started by mid-June in most years. If the first nest is lost to predators, a second attempt is sometimes made by the pair. Because of the limited length of the summer nesting period, eggs laid after the first few days of July have little chance of producing young that can survive to start their first fall migration. A late snow melt in some years may prevent any successful renesting attempts.

Young and development

Young Semipalmated Sandpipers leave the nest shortly after the last egg hatches. At this time they weigh about one-seventh of the adult or about 0.16 ounce. The downy young are marked with various blotches of browns, yellows, and black, with a white forehead and underparts. The young become very still when threatened and are then almost invisible to a passing predator. Males provide a new nest scrape for each of the first few nights for the young to be brooded after leaving the nest. Females desert the brood within 12 days after hatching, leaving the male to finish rearing the young sandpipers. Before fledging, the male and

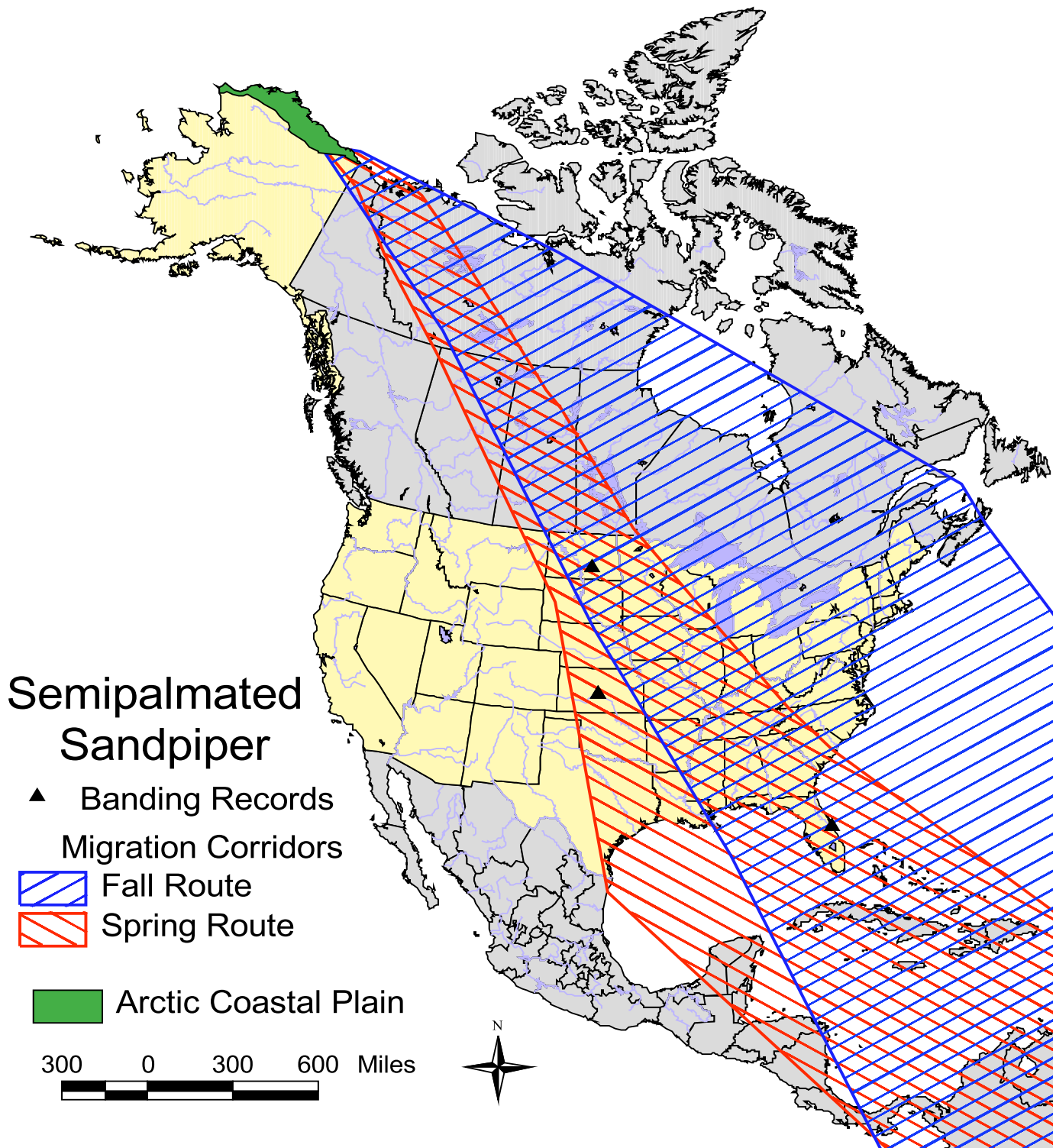
young may move up to 2 miles from the nest. Juveniles are able to sustain flight at age 16–19 days while weighing about 90% of the adult premigratory weight. Most young sandpipers are on their own at about the time they can sustain flight, although some may be deserted by both parents as early as the age of 10 days.

Migration and winter

Adult Semipalmated Sandpipers that are unsuccessful at breeding or are nonbreeders may leave the Arctic by the first few days of July. Females successful in hatching their eggs tend to precede the males by a week or so. Most adults have vacated the breeding grounds by the end of July or early August. The juvenile sandpipers leave several weeks later. Many of the birds from the western and central Arctic head to James Bay for the first major staging or assembly area. Birds then fatten themselves for the next jump, which is usually to the east coast of Canada and the United States (e.g., Bay of Fundy, Delaware Bay). Weight gains at these major staging areas of 40% or more are common. At the Bay of Fundy, up to 350,000 birds may be present in late summer—or about 40–75% of the entire world population of this species. Direct, over-water routes are usually taken from the middle Atlantic Coast staging areas to the north coast of South America. A number of these sandpipers take a fall route that retraces the spring route through interior North America. Fall migration is usually completed by mid-October.

Most of the sandpipers spend the winter in the shallow coastal lagoons and bays from Venezuela to northern Brazil. The spring migration route is mostly north from Venezuela to the Gulf Coast of the United States. One of the major spring staging areas is the marshes of Cheyenne Bottoms in central Kansas where up to 175,000 Semipalmated Sandpipers may assemble by mid-May. A last major spring stopover is the Quill Lakes area of Saskatchewan. All along this annual migration route, the sandpipers must avoid the ever-present falcons and other predators. On the nesting grounds, the major predators are foxes and jaegers (hawk-like relatives of gulls).

(Additional information on back page)



North American Range Map: This map is based upon all Alaska Arctic-banded Semipalmated Sandpipers or those banded elsewhere and later recorded on the Arctic coastal plain, a total of 14 birds. The outlines of the primary spring and fall migration corridors between Alaska and South America are based upon observation records and the few recoveries. Both banding and recovery locations outside of Arctic Alaska are plotted, except for those off the map in South America. Principal banders: E. Martinez and W.C. Hanson.

SEMIPALMATED SANDPIPER FACTS—

Wing Span (adults)	11–13 inches
Total Length (adults)	5.5–6.86 inches
Weight (adults)	0.7–1.5 ounces
Clutch Size	4 eggs
Egg Weight	0.25 ounce
Incubation Period	20–22 days
Age at first flight	16–19 days
Age at Parental Abandonment	10–20 days
Age at First Breeding	1–2 years
Oldest Wild Bird	13 years 11 months
Max. Nonstop Migration Distance	2700 miles
Max. Length of Migration (1-way)	9500 miles
Max. Sustained Flight Speed	50 miles per hour
Max. Altitude (migration)	Unknown
Normal Altitude (migration)	1,500–4,500 feet

Primary information sources:

Gratto-Trevor, C.L. 1992. Semipalmated Sandpiper (*Calidris pusilla*). In *The Birds of North America*, No. 6. The Academy of Natural Sciences, Philadelphia; American Ornithologists' Union, Washington.

North American Bird Banding Files, US Geological Survey, Laurel, MD.

Photo Credits: Kevin T. Karlson, Rio Grande, NJ(2); Brian E. Small, Los Angeles.



Semipalmated Sandpiper in fresh fall plumage.



THE WILDERNESS SOCIETY'S Migratory Bird Project

Following unmarked pathways more ancient than any living organism, using guidance systems that rival or surpass man's instruments, nearly all of the birds using the Arctic coastal plain of Alaska each summer migrate hundreds or even thousands of miles to areas best suited for their survival each winter. The Wilderness Society has initiated a special educational project to research and describe the major migratory pathways, stopover sites and wintering grounds for the bird species that depend upon the Arctic National Wildlife Refuge coastal plain.

One need not to travel to the Arctic National Wildlife Refuge, or even to Alaska, to be deeply interested and involved in the efforts to have its vital habitats protected for all time. Designating Wilderness on the coastal plain of the Arctic Refuge, where the birds, caribou, musk-oxen, polar bears, and other animals rear their young, will forever protect it. This land is where the giant multi-national oil companies are pushing hard for the Congress to grant full industrial-scale construction of roads, drill pads, airstrips and other facilities related to oil exploitation. The area of Arctic National Wildlife Refuge needing wilderness designation represents only 5% of the Arctic coastal plain in Alaska; the rest is already subject to development.

The Wilderness Society project will produce maps, informational brochures, exhibits and other educational materials so the public may learn firsthand about the many migratory bird benefits received from the Arctic, a legacy that our generation holds in trust for our children and, in turn, theirs, indefinitely. The material you are reading was prepared, in part, by the project. Comments and inquiries are welcomed. Please ask how to become more involved with protecting the Arctic coastal plain of Alaska.

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