

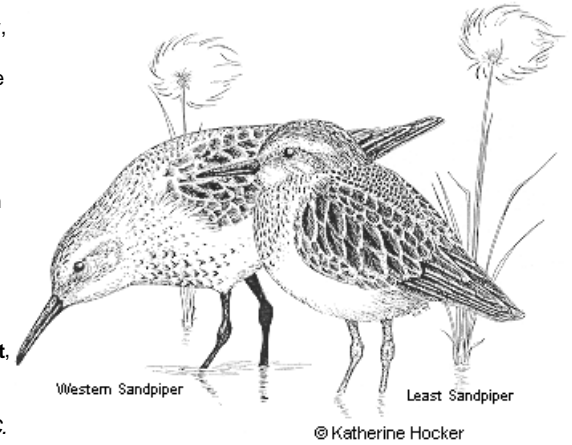


Peeps and Related Sandpipers

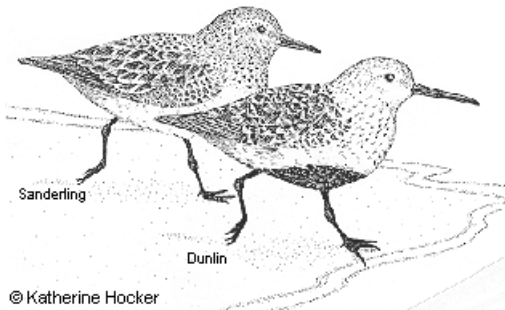
Peeps are a group of diminutive sandpipers that are notoriously hard to tell apart. They belong to a subfamily of subarctic and arctic nesting sandpipers known as the Calidridinae (in the sandpiper family, Scolopacidae). During their migrations, when most residents of North America have the opportunity to watch them, mixed flocks of calidridine sandpipers scurry about on mudflats, feeding at the edge of the retreating tide, or swarm aloft, twisting and turning like a dense school of fish. These traits, in a group of birds that look so much alike to start with, give bird watchers nightmares.

Fortunately for Alaskans and visitors to our state, Alaska is an excellent location to view and identify calidridine sandpipers. The early summer breeding season is the easiest time of the year to distinguish the various species, not only because they are in breeding plumage and are more approachable than at other times of the year, but also because each species performs a characteristic courtship display with unique vocalizations. For the avid birder, Alaska has the additional attraction of being one of the best places in North America to view exotic Eurasian species.

General description: Three peeps are abundant summer residents and breeders in Alaska—the **least, semipalmated, and western sandpipers** (*Calidris minutilla*, *C. pusilla*, and *C. mauri*) [all lists in order by size]. Another four species from Eurasia may also be seen—the **little, rufous-necked, Temminck's, and long-toed stints** ("stint" is the British equivalent for peep) (*C. minuta*, *C. ruficollis*, *C. temminckii*, *C. subminuta*). These seven species range from 5 to 6½ inches (15-17 cm) in length, and weigh from 2/3 to 1½ ounces (17-33 g).



Western Sandpiper Least Sandpiper
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Another 16 closely related members of the Calidridinae are also found here, including seven that are regular breeding species or migrants—**Baird's sandpiper, dunlin, sanderling, rock and pectoral sandpipers, surfbird, and red knot** (*C. bairdii*, *C. alpina*, *C. alba*, *C. ptilocnemis*, *C. melanotos*, *Aphriza virgata*, *C. canutus*). The remaining nine species are less common, some breeding regularly in remote areas—**white-rumped, stilt and buff-breasted sandpipers** (*C. fuscicollis*, *C. himantopus*, *Tryngites subruficollis*), some seen most years in small numbers during migration—**sharp-tailed sandpiper** (*C. acuminata*), and others only observed on rare occasions—**spoon bill, broad-billed and curlew sandpipers, great knot, and ruff** (*Eurynorhynchus pygmeus*, *Limicola falcinellus*, *C. ferruginea*, *C. tenuirostris*, *Philomachus pugnax*). These larger relatives of the peeps range in length from 6½ to 12 in. (17-31 cm) and weigh from 1 to 12 oz. (28-170 g).

Sandpipers have long, slender bills and legs, short tails, and relatively long pointed wings. As a group, the physical characteristics of the calidridines place them among the more conservative sandpipers, compared to the curlews and godwits with their long bills or the extra long-legged stilts and avocets. Most calidridine species have bills that are close to the same length as their head, with legs in proportion to their bills and bodies. In general, they are cryptically colored brown or gray above and pale or white below. However, there are some spectacular exceptions, such as the dunlin with its bold black belly patch and the ruff with its showy erectile frill of neck feathers.

Distribution: Tundra, meadows, and bogs are the nesting habitat of calidridine sandpipers. In the breeding season, most activities are restricted to the vicinity of the nest, though some species commute short distances to nearby mudflats to feed. Once the young are able to fly, family groups generally move from nesting habitat to coastal feeding areas.

During migration most calidridines rely on the coastal intertidal zone. Certain river deltas and mudflats are especially important staging areas during migration. In Alaska, the Copper River Delta near Cordova and the Fox River flats near Homer are used by hundreds of thousands to millions of calidridines for feeding during spring migration.

Most sandpipers arrive in Alaska in last April and May after migrating from distant wintering areas. Some winter as far south as the tip of South America (white-rumped, buff-breasted and pectoral sandpipers, some surfbirds) and in Central and northern South America (semipalmated and western sandpipers), while others are found along the coasts of temperate and southern North America (least sandpipers, most dunlins). The Eurasian species that visit Alaska may winter as far south as Australia. A few sandpipers, such as rock sandpipers and some dunlins, sanderlings, and surfbirds, overwinter along the coast in Alaska.

Life history: One of the most remarkable aspects of sandpiper biology is revealed once the birds arrive on their nesting areas. A variety of social systems have been observed among breeding calidridines.

The majority are monogamous, with the male defending a nesting territory and mating with a single female (least, semipalmated, western and Baird's sandpipers, dunlin). Males of these species perform conspicuous aerial flight displays where they trill, hoot, or whistle while gliding or hovering over the area they claim as their territory. When a female is attracted to a mate and his territory, nest scraping (ritualized behavior of excavating and molding nest cups in mossy or other substrate) helps cement pair bonds. Both sexes share incubation duties, but after hatching parental care may be left to one parent or shared by both (varies by species).

In contrast to the standard monogamous system, the females of some species may lay two or more clutches—one for the territorial male(s) to incubate and another for herself (Temminck's and little stints, sanderlings). A few species are polygamous, with the male defending an individual area and mating with several females that nest within his territory (white-rumped and curlew sandpipers). Then there are the promiscuous breeders, whose males may mate with several females that nest without regard to male territories (pectoral sandpiper). Two promiscuous species, the buff-breasted sandpiper and the ruff, use a "lek" system similar to that of the prairie chicken and sharp-tailed grouse. The males gather together on a display ground where females come to mate with dominant males and then disperse to nest independently. Males display by wing-flashing and jumping with little vocalization other than short call notes.

Four eggs make up the normal clutch laid in late May to mid-June. These eggs represent a big investment, for a clutch may nearly equal the weight of the female bird. Large eggs are necessary to produce the precocial young that are able to walk only hours after hatching (following the 3 week incubation period). Families

generally gravitate to wetland feeding areas soon after hatching. When young are capable of flight two to three weeks later, they move to coastal mudflats. Individuals of some species begin their southerly migration in early July, while others do not depart until September.

Food habits: In June, on their tundra and bog nesting areas, adults feed primarily on subterranean and aquatic fly larvae (especially craneflies and midges) and a variety of adult arthropods. The time of hatching of young in late June and early July coincides with the peak abundance of adult insects and spiders that serve as the first food for young sandpipers. Later, the growing peeps shift to feeding on midge larvae. When the birds move to the coast they continue to feed on freshwater insect larvae but also consume small clams, crustaceans, and other marine invertebrates. These are their staples for the remainder of the annual cycle.

Behavior: Sandpipers are exposed to a variety of predators during the year. On their nesting grounds, foxes, weasels, jaegers, and gulls may eat eggs, young, or even adults. While parents are incubating or caring for flightless young, they perform several interesting distraction displays to protect their offspring. In addition to the well known broken wing act, several calidridines impersonate a lemming or vole in a "rodent run" to lead predators away from their young. Merlins and peregrine falcons prey on a variety of shorebirds throughout the year. The close formation flying and clustered feeding groups of peeps are likely a defensive adaptation to aerial predations.

Calidridine sandpipers are a significant component of arctic tundra and coastal ecosystems. They are major predators on saproverous (eaters of organic litter) arthropods and intertidal invertebrates and, in turn, are an important food of foxes and several avian predators.

Sandpipers have become important indicators of the health of their tundra nesting areas and of the intertidal coastal areas they frequent during migration. The decline in sandpiper numbers at certain migration staging areas on the east coast of North America has raised concern for those habitats and others in the birds' annual cycles. The cumulative and unrelenting loss of coastal estuaries and mudflats to draining and filling is mirrored in the decline of certain sandpiper species. Some coastal wetlands are vitally important to migrant birds and other wildlife. In Alaska, the Copper River Delta is an example of a critical migration staging area. Although these areas are used for only a few weeks each year, they are crucial links in the annual cycle of calidridine sandpipers.

For additional information on shorebirds, see the *Wildlife Notebook Series* species accounts for [plovers](#), [phalaropes](#), and [yellowlegs](#).

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