



Wildlife Note — 49
LDR0103

Belted Kingfisher

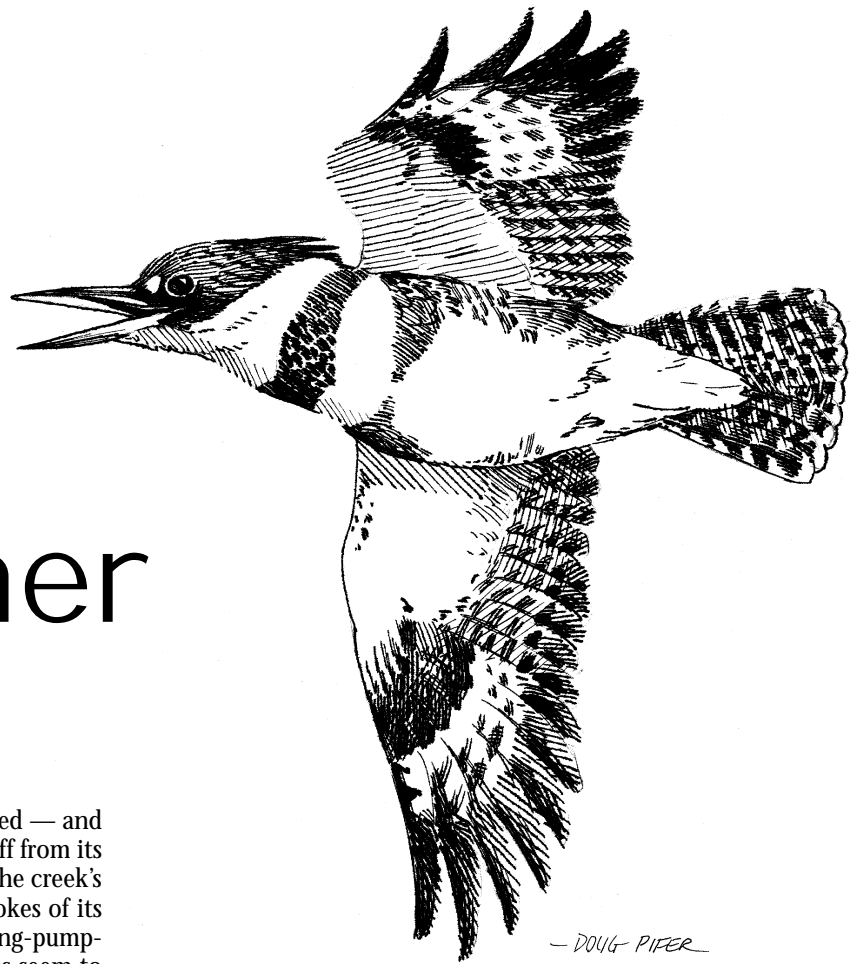
by Chuck Fergus

While paddling down a stream, I've often startled — and been startled by — a kingfisher. The bird takes off from its perch, sounding an alarm call that rattles down the creek's corridor. It flashes downstream, two or three strokes of its blue-gray wings, then a short glide, then more wing-pumping, sometimes skimming so low that its wingtips seem to brush the water's surface. When the bird reaches the end of its territory, it quietly loops around behind me. Sometimes I'm scolded by another kingfisher at the next bend in the stream. The belted kingfisher, *Ceryle alcyon*, belongs to Family Alcedinidae. Six species of kingfishers live in North and South America, and around 80 inhabit other parts of the globe. (Australia's laughing kookaburra is a well-known member of the family.) In North America the banded kingfisher breeds from Alaska to Labrador and south to Florida, Texas and California. It winters in the lower 48 states where open water remains available; some individuals go as far as northern South America.

Biology

A kingfisher has a stocky body and a large head with a ragged-looking double-pointed crest. The beak is sturdy and sharply pointed, the tail is short, and the feet — especially when considered along with the outsize head — appear to be absurdly small. Adults are 11 to 14 inches in length and weigh five to six ounces. The white neck ring and breast stand out against the blue-gray body plumage. The female has a belt of rusty feathers adorning her sides and breast, which the male lacks.

Kingfishers live along the banks of streams, rivers and lakes, where they catch fish near the surface or in shallow water. They mainly take fish that are four or five inches long or shorter. Kingfishers hunt from perches — branches, utility wires, pilings and bridge supports — or hover above the water while scanning for prey. A kingfisher dives into the water with its eyes closed and uses its bill to grab its prey. After catching a fish, the bird flies back to its perch, stuns the fish by whacking it against the perch, and swal-



lows it headfirst. Kingfishers take whatever types of fish inhabit a given waterway, from bullheads to sticklebacks to trout. When heavy rains make stream waters cloudy, kingfishers may turn to crayfish. They also eat mollusks, insects, reptiles, amphibians, and the occasional small bird or mammal. After feeding, a kingfisher coughs up a small pellet composed of indigestible matter such as bones and fish scales.

People often hear these alert birds before seeing them. The rattle call is given freely, both as an alarm signal and during territorial disputes. Mated pairs use a softer version of the same call to communicate with each other. Kingfishers become active just before sunrise, when they forage and patrol their territories; they do most of their feeding between seven and 10 in the morning and are less active during midday. At night they roost in trees. Kingfishers are solitary except when breeding. Both males and females defend individual territories, calling stridently and flying at and attacking intruding kingfishers. A territory may include 1,000 yards of stream or lake bank.

Migrating kingfishers return to Pennsylvania in March and April (others may have stayed through the winter, if streams did not freeze over). The male establishes and defends a breeding territory; once a female is attracted and the two pair up, she also defends the territory. During courtship, the male feeds the female. After mating, the male, followed by the female, may soar and then dip close to the surface of the water. Breeding peaks in early May.

Kingfishers nest in burrows that they dig into steep banks above streams, in road cuts, and in sand and gravel pits. Often the burrows are a few feet below the top of

the bank, where topsoil gives way to sandier subsoil. Burrows are usually near or along the water, but sometimes they're a mile or farther away. Both birds excavate the burrow, a task that may take three days to two weeks. The tunnel is three to four inches in diameter, slopes upward, extends a yard or two into the bank, and ends in an unlined chamber 8 to 12 inches across and six or seven inches high. Before entering, an adult will land on a convenient perch, give the rattle call, and fly straight into the burrow opening. To tell whether a burrow is in use, look for twin grooves on the outer lip made by the kingfishers' feet.

On the dirt floor of the nest chamber the female lays five to eight white eggs. Both sexes incubate the clutch, with the female sitting at night. The eggs hatch after about 24 days. The young are altricial; they have pink flesh, and their eyes are shut. The female broods them continuously for three to four days after hatching. The adults regurgitate fish to the young and, as the hatchlings grow and strengthen, begin bringing them whole fish as frequently as once every 20 minutes. After defecating, the young use their bills to peck or scratch at the nest chamber's walls, so that dirt covers up their waste. When two weeks old the young may crawl from the nest chamber into the burrow. They leave the nest four weeks after hatching; the parents hold fish in their bills, sit on a nearby perch, and coax the young into flying from the entry. The adults feed the fledglings for about three weeks as the young learn how to take crayfish, aquatic insects, and fish. Parents may teach their offspring to dive by dropping insects into the water beneath the youngsters' perch.

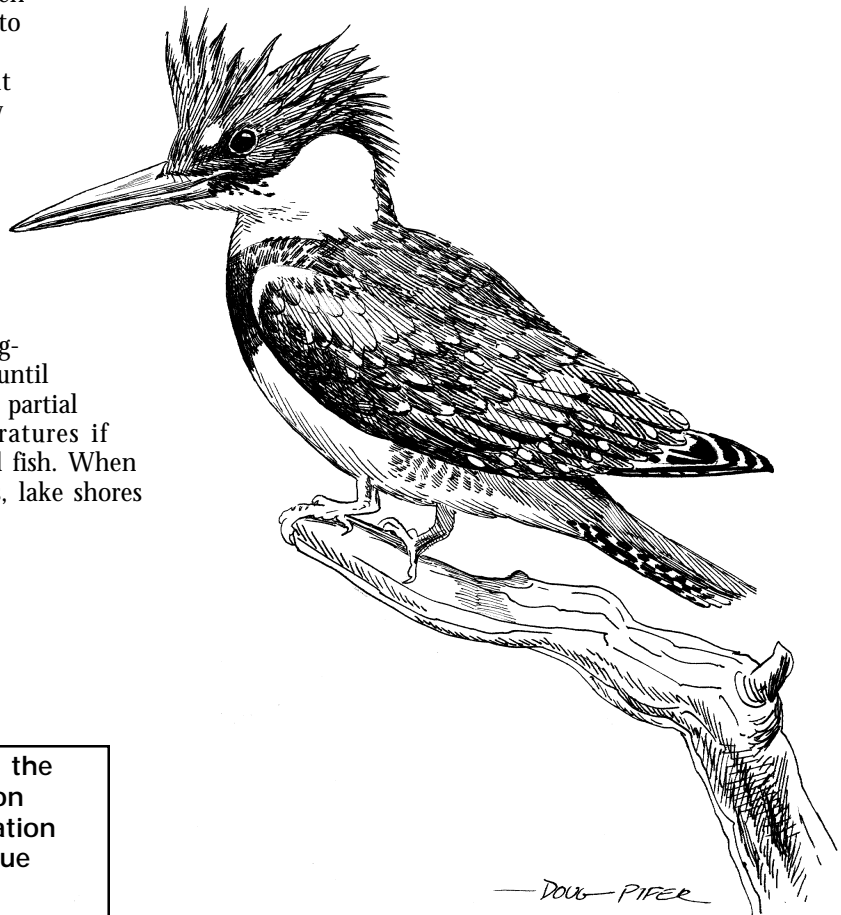
Skunks, minks, raccoons and black rat snakes kill some young in the nest; after they fledge, juveniles are vulnerable to hawks. Kingfishers escape from predators by diving into the water. Individuals breed during their first year after hatching. In the northern parts of its range, *Ceryle alcyon* raises one brood per year. After the mating season, pairs break up and individuals settle on and defend smaller territories. Kingfishers migrate south from mid-September until December. Most birds in the Northeast are partial migrants, able to survive winter temperatures if streams stay unfrozen, so the birds can find fish. When migrating, kingfishers tend to follow rivers, lake shores and coastlines.

Habitat

Kingfishers inhabit streams, rivers, ponds, lakes and estuaries. Individual territories often center on stream riffles, which are good fishing spots. Kingfishers prefer open running water that is not turbid. On lakes they use sheltered coves and shallow bays. For nesting they require earthen banks where burrows can be excavated; during breeding, kingfishers are sensitive to disturbance by humans and may desert an area if bothered too frequently. In winter they resort to rocky coastlines, swamps, brackish lagoons, oxbows, bayous, and shores of rivers and reservoirs.

Population

Pennsylvania is veined with streams, and kingfishers are widely distributed across the state. The birds are absent from places such as southern Clearfield County, where acid mine drainage has polluted long sections of waterways. Stream channelization destroys the vertical banks needed for nesting. Biologists believe that breeding densities reflect the number of suitable foraging sites, especially riffles. A study in Ohio found five pairs of kingfishers nesting along six miles of river shoreline; another study in New Brunswick documented 10 pairs in one mile.



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