



Heron Family

by Chuck Fergus

Have you ever hiked along the edge of a quiet stream or marsh and startled a big, long-legged bird that flapped slowly out of the water, leaving only a widening ripple? Chances are good that the bird was a heron.

There are about 60 species of herons distributed over most of the world, except in the extreme northern and southern regions. Herons are most common in the tropics. Herons, bitterns and egrets are closely related, belonging to the family Ardeidae of the order Ciconiiformes. Other close avian relatives include storks, ibises, spoonbills and flamingos.

Herons are wading birds with long, slender legs, long necks and long, heavy bills tapering to a sharp point. Their wings are broad and rounded, their tails short. Most herons, especially the larger ones, are graceful in form and movement.

Herons are predators, feeding on animal life (fish, frogs, crayfish, snakes, insects, invertebrates and small rodents) found in shallow water and along the shoreline. Herons swallow food whole and later regurgitate pellets of indigestible matter. They inhabit both freshwater and saltwater areas. In Pennsylvania, they're found on lakes, reservoirs, ponds, rivers, woods streams, bogs, marshes and swamps, where they typically stand at the water's edge or walk slowly through the shallows. They may also perch in trees near or over water.

Herons are shy birds. When approached by humans, they usually take off in slow flight, with head and neck drawn back in an S-shape and legs held straight to the rear. Most herons are strong fliers, propelling themselves with deep, pumping wing strokes.

Certain adaptations help a heron wade about and catch prey in shallow water. The most obvious is its legs, which elevate the bird above the water surface. The toes are long and flexible for walking or standing on soft ground. The bill is sharp-tipped, but it's used for grasping, not impaling. The long, muscular neck delivers a lightning-quick blow, with plenty of force to penetrate the water and seize a fish.

Herons have well developed "powder down," areas of feathers with tips that continually disintegrate into powder. Preening helps distribute this powder, which absorbs and removes fish oil, scum and slime, thus keeping the

rest of the plumage clean and dry. Herons preen with a serrated middle claw.

Males are aggressive and defend small territories in breeding season. They fight (although rarely causing physical damage); sound harsh calls; go through elaborate, instinctive motions such as raising their wings, stretching their necks, fluffing their feathers, or erecting their crests. Some also put on spectacular flight routines. In most species, bright colors appear on the bill, legs or in the bare skin around the eyes.

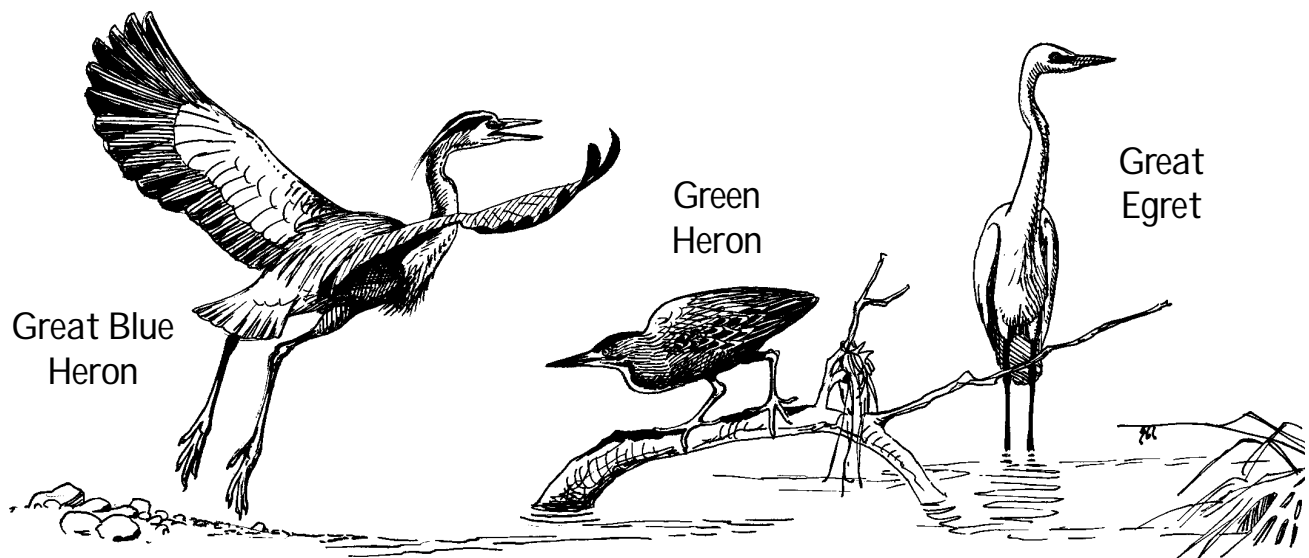
Often the male begins building a nest to attract a mate; then the female takes over construction and the male brings sticks and twigs. Mated herons defend a zone immediately around their nest against intrusion of other birds. Some species nest in colonies (sometimes called heron rookeries), while others are solitary nesters. Herons may nest in mixed colonies (great blue, black- and yellow-crowned night herons building nests in the same grove of trees). Or, in certain parts of their range, they may nest with cormorants, pelicans and ibises.

After breeding, 3 to 6 unmarked bluish, greenish, or brownish eggs are laid in a nest of sticks in a tree (herons and egrets) or a nest of grasses on the ground (bitterns). The eggs are incubated by both parents for 2½ to 4 weeks, depending on the species. Some herons begin incubating immediately after the first egg is laid, so that young hatch at intervals and differ in size. Young remain in the nest 2 to 3 weeks.

At first, parents regurgitate pre-digested liquid food to their nestlings. Later, they bring partly digested food, and finally whole fish, frogs, snakes and other items. A growing heron or bittern will grasp the base of its parent's bill in a scissors-grip and wrestle with it. This triggers an impulse in the adult either to drop or regurgitate the food.

The following herons and allies, which breed in Pennsylvania, are covered in this Wildlife Note: great blue heron, green-backed heron, great egret, black-crowned night heron, yellow-crowned night heron, least bittern and American bittern. All are migratory, generally breeding in northern areas and migrating south in autumn. Some species migrate in flocks, some in small bands, and some individually.

Other herons occasionally visit Pennsylvania. The



little blue heron is a migrant occasionally spotted in April, and later in July and August. Little blues are 22 inches in length, with brownish heads and bluish-gray bodies. The cattle egret was first observed in Pennsylvania in 1956 and is now common in some areas; its plumage is white, with brownish plumes on the back, lower breast and crown, and a reddish bill and legs. The snowy egret (white, with black legs and bright yellow feet) is seen in spring and late summer. These four species typically breed farther south or along the Atlantic coast. Snowy and cattle egrets nested in Pennsylvania during the 1970s and '80s. Their colony on the Susquehanna River's Rookery Island in Lancaster County was abandoned in 1988.

Wading birds are part of the complex web of life in the marshes and along the water's edge. When several species of herons inhabit a waterway, lake or swamp, specialized feeding patterns often develop. The great blue heron usually wades in deeper water, looking for large fish. Common egrets hunt the slightly smaller fish found closer to shore. The green-backed heron waits motionless for its prey near a log or bank; bitterns snatch frogs and tadpoles among the reeds. On dry ground, cattle egrets forage for grasshoppers and other insects stirred up by livestock, while the black- and yellow-crowned night herons patrol shallow waters in the late evening and at night.

Although mainly predators, herons are also prey for some species, including foxes, minks, hawks and especially raccoons. Crows and tree-climbing snakes may rob unguarded nests. Few predators dare tackle an adult heron, especially one of the larger species.

At one time herons were slaughtered for their plumage, which was used to decorate women's hats, but today they have little to fear from humans. They're protected by federal and state laws. However, herons are affected by loss of habitat, especially when marshy or coastal areas are developed.

Hérons, and many other species of wildlife, benefit from Pennsylvania Game Commission waterfowl projects

and habitat preservation and enhancement work on State Game Lands. Areas such as Pymatuning, Middle Creek and Shohola provide many acres of excellent marshland habitat. In propagation areas (where human visitors are not permitted to intrude), herons have ample isolated territory in which to breed and raise young.

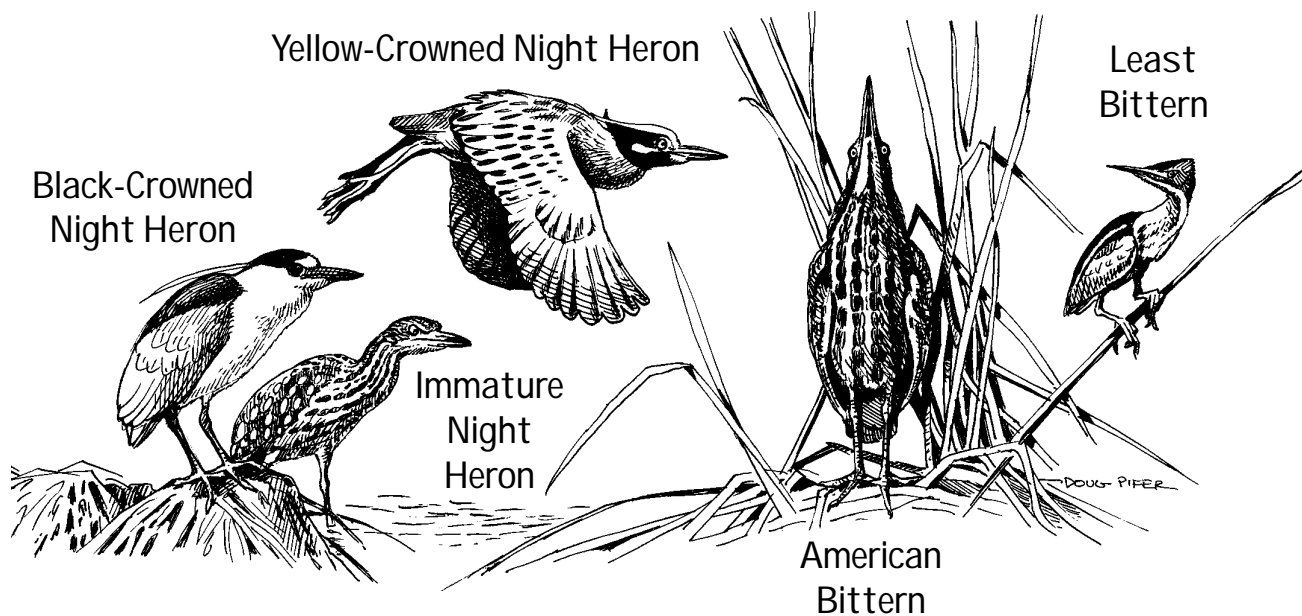
Great Blue Heron (*Ardea herodias*) — This bird probably comes to mind most when the word "heron" is mentioned. It's the largest of the dark herons, 38 inches long (as seen in the field) with a 70-inch wingspread. A great blue heron's head is largely white (with a feathery black crest), the underparts are dark gray, and the back and wings are grayish-blue. The legs are dark.

When hunting, a great blue walks slowly through the shallows or stands in wait, head hunched on its shoulders. Favorite foods include fish (up to a foot in length), water snakes, frogs, crayfish, mice, shrews and insects. Individuals are believed solitary except in breeding season. Call: three or four hoarse *squawks*.

Great blue herons inhabit saltwater or freshwater areas near trees suitable for nesting — the more remote and inaccessible, the better. They nest singly, in colonies and among the nests of other herons, often in the same tree. The nest is a platform of large sticks lined with fine twigs and leaves and built in a sturdy crotch or on a limb. Its outside diameter is 25 to 40 inches. The male brings nesting material to the female, which does most of the actual building. Nests may be used several years.

The female lays 3 to 6 (usually four) pale bluish-green, unmarked eggs. Incubation is by both sexes and takes 28 days. Both parents feed the young, which are ready to leave the nest in three weeks.

In spring, the great blue heron is a common migrant in March and April; in summer, a breeding resident, with the greatest concentrations of nests occurring in the northwestern counties. The species generally breeds across the northern United States, southern Canada and Alaska. In the fall, great blue herons pass through our state from July to October. Some remain as winter resi-



dents, hanging out along waterways and other open water. The species winters principally along the Atlantic coast, the southern states and Central and South America.

Green-Backed Heron (*Butorides striatus*) — This small heron is found in ponds and along wooded streams. Its length is 14 inches, its wingspread 25 inches. The bluish-green back and wings give the bird its name; underparts are dark, while the neck and head are reddish-brown and the crown is black. This bird may appear all dark from a distance, especially on a cloudy day. Immatures resemble American bitterns.

A green-backed heron flies with deep wingbeats. Its call is a sharp, descending *kew*. The green-backed heron feeds on fish, frogs, insects, worms, lizards and salamanders, hunting early in the morning and late in the afternoon.

Green-backed herons usually nest in shrubs or trees overhanging the water, but sometimes in orchards and groves away from any water source. A pair may nest by itself or in a loose colony of other herons (the green is not as gregarious as the great blue). The nest is a platform of twigs and sticks lined with finer material; some nests are so shallow and flimsy that the eggs can be seen through the bottom. The male selects the nesting site and starts building, and the female finishes the task. Outside nest diameter is 10 to 12 inches. Four to six oval, pale blue or green unmarked eggs are laid, which both sexes incubate for 20 days. Some pairs raise two broods.

In spring, green-backed herons are common April-May migrants. In summer, they are breeding residents (the species breeds throughout the eastern United States, Central America and in Arizona and Texas); in fall, they're common July to September migrants, with stragglers into November. Green-backed herons rarely winter as far north as Pennsylvania.

Great Egret (*Casmerodius albus*) — The great egret — also called the common or American egret — was nearly gone from the United States by the early twentieth century. For years the birds had been killed for their long,

white body plumes, used to feather women's hats. Strong conservation laws saved the species, which is repopulating its former range.

A great egret's plumage is pure white, the bill yellow, and the legs and feet glossy black. It's the largest white heron likely to be observed in Pennsylvania, with a 32-inch length (not counting tail plumes), a 55-inch wingspread, and a standing height of about two feet. Preferred foods are fish, small mammals, amphibians, and insects.

Egrets inhabit swamps, brushy lake borders, ponds, Susquehanna River shallows, islands and mudflats. Nests are in colonies, sometimes with other heron species, usually 10 to 50 feet up in trees. In forests with large trees — beech and red maples are favorites — egret nests may be 80 feet in the air, along with the nests of great blue herons. Nests are made of sticks and twigs, two feet in diameter, sometimes lined with leaves, moss and grass. Eggs: 3 to 4 oval, blue or greenish-blue, unmarked. Incubation is performed by both sexes and takes 23 to 24 days.

Breeding resident egrets arrive in April. Post-breeding dispersal occurs from July to October. Migrants also pass through the state at this time. Egrets are rare winter residents, sometimes staying on the John Heinz National Wildlife Refuge at Tinicum in Delaware and Philadelphia counties.

Black-Crowned Night Heron (*Nycticorax nycticorax*) — Night herons have heavy bodies and short, thick necks. A species of special concern in Pennsylvania, this bird is 20 inches in length, with a 44-inch wingspread. Adults have glossy greenish-black backs, pale gray or white undersides, and yellow-orange legs; three white, 6-inch plumes extend back from the black crown. Immatures are heavily streaked with brown and lack the red eye of the adult.

In flight, black-crowned night herons resemble slow, light-colored crows. They fly in loose flocks and often roost communally. Usually inactive during the day, they hunt at night. Food: mainly fish, some eaten as carrion; also dragonflies, other insects, crayfish, worms and small

rodents. Call is a single *kwawk*, most often given at night.

These herons adapt to extremely varied habitat: fresh, salt and brackish waters, forests, thickets and even city parks. They nest close together in small to large colonies — sometimes with other species — in trees, shrubs or on the ground in cattail stands. Nests are built of sticks, twigs or reeds, and sometimes are lined with finer material. Both sexes build (construction takes 2 to 5 days). Females lay 3 to 5 pale blue or green unmarked eggs, which hatch in 24 to 26 days.

In spring, black-crowned night herons occupy nest colonies in April. In summer, they are breeding residents (rare in central and northern Pennsylvania, but fairly common in the southern counties). Fall: August and September migrants. Winter: residents in the southeast and other southern counties. Most individuals, however, go farther south.

Yellow-Crowned Night Heron (*Nyctanassa violacea*) — A endangered species in Pennsylvania, this bird is similar in size and body configuration to the closely related black-crowned night heron, except that the yellow-crowned has slightly longer legs (standing height about 1½ feet). It has a yellow patch on its head, a gray body, and a black and white face. The call, a strident *kwawk*, is slightly higher-pitched than that of the black-crowned.

Yellow-crowned night herons hunt mainly at night but also at times during the day. They eat frogs, fish, salamanders, lizards and insects. Catching crayfish is their specialty. They nest singly and in small colonies, sometimes with other herons. The stick nest is built in a tree or shrub and sometimes lined with fine twigs, rootlets or leaves. Both sexes build, or they may re-use an old nest. This species is more secretive in its nesting habits than other herons, with the exception of bitterns. Eggs: 3 to 4 smooth, pale bluish-green, unmarked. Incubation is by both sexes.

In spring, yellow-crowned night herons migrate through our state in April and early May. In summer, they are breeding residents in the southeastern area: most nesting is concentrated in Cumberland, Lancaster and Montgomery counties. In fall, they are rare August to October migrants; and they winter principally in the southern United States and Central and South America.

Least Bittern (*Ixobrychus exilis*) — The least bittern, the smallest of our herons and a threatened species in Pennsylvania, is 11 to 14 inches long with a 17-inch wingspread. It has large buffy wing patches; a black crown, tail and back; and yellow legs. This shy bird is not often observed, partly because it usually hides in tall grasses and sedges at the hint of trouble, but mostly because the bird is predominantly nocturnal. A weak flier, the least bittern would rather run from danger or “freeze” by standing motionless with its long, tapered bill pointed upward (thus blending into the marsh background like a stick or reed). Food: insects, salamanders, fish, frogs and tadpoles. Their call is three or four low, soft *coos*.

Least bitterns regularly breed in emergent and brushy wetlands in the glaciated wetlands of northwestern counties and at Presque Isle. The species nests elsewhere, but

irregularly, wherever suitable habitat exists.

The species nests on the ground in marshes, bogs or brackish water areas. Nests are 6- to 10-inch wide platforms of dead plant material interwoven with living plants, often built in thick cattails, tall grass or under bushes 1 to 8 feet from the water. The female lays 4 to 5 pale bluish-green, unmarked eggs. During incubation (17 to 20 days), adults do not fly directly to their nest: they land nearby and approach quietly through the ground cover.

Least bitterns are rare April to May spring migrants. In summer, they're rare breeding residents (the species breeds throughout the East and in parts of the western United States). In fall, they are rare August to September migrants. They winter principally in Florida, Texas and Central America.

American Bittern (*Botaurus lentiginosus*) — The American bittern is 23 to 24 inches long, has a 45-inch wingspread, and a 1½-foot standing height. Plumage is dappled dark and light brown, with a black streak on each side of the upper neck, and yellow legs. In flight, which is slow and deliberate, the black flight feathers are distinctive.

This shy, elusive bird, inhabits the tall vegetation of freshwater marshes. Most active at dusk and at night, it preys on mice, snakes, lizards, salamanders, frogs, insects, etc. An individual hunts by standing motionless and waiting for prey to pass. Like the least bittern, the American bittern hides by freezing with its bill pointed up. On breeding grounds, it makes a hollow croaking or pumping sound, *oonck-a-toonck*, from which it earned the colloquial name “thunder pumper.” It can be heard for up to a mile across a marsh. The species does not flock.

Favored habitat: marshes, bogs and swamps, especially where cattails and bulrushes grow. Solitary nesters, bitterns build 10- to 16-inch platforms of dried cattails, reeds or grasses on dry ground among tall vegetation. Eggs: 3 to 7, usually 4 to 5, buffy brown to olive-buff, unmarked. Incubation, mainly by the female, lasts 24 days, beginning with the first egg.

In spring, American bitterns are uncommon migrants in April and early May. In summer, they are breeding residents, nesting across the northern United States and southern Canada. They are uncommon fall migrants from August through September. Some birds winter in our state, but the majority migrate to the southern United States and Central America.

American bitterns have declined precipitously during the twentieth century. They're now listed as a threatened species in Pennsylvania.

Wildlife Notes are available from the
Pennsylvania Game Commission
Bureau of Information and Education
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