

LOUISIANA WATERTHRUSH - SEIURUS MOTACILLA

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Parulidae Genus: Parkesia
Species: P. motacilla

Habitat:

Biomes: Louisiana Waterthrushes breed along clear, perennial streams in mature deciduous or mixed forest, usually in hilly environments. They also breed in cypress swamps and other bottomland forests but avoid clearcut areas and young forests. Wintering birds in the West Indies and in Central and South America also use fast-flowing streams in hilly areas, less often in the lowlands, and they are downright rare in the mangrove forests favored by Northern Waterthrushes, though both species may be found there during migration.

Distribution:

In US: It breeds in eastern North America from southernmost Canada and south through the eastern United States, excluding Florida and the coast. The Louisiana waterthrush is migratory, wintering in Central America and the West Indies.

In Other Countries: NONE

Holistic Description: The ringing song of the Louisiana Waterthrush, in cadence so like the rushing streams that are its home, is one of the first signs of spring in eastern North America. Its brown plumage and bold streaking help explain why this member of the warbler family has the word “thrush” in its name. At all seasons, this species stays close to moving water—especially forested streams and creeks—and bobs its rear end almost constantly. In both spring and fall, Louisiana Waterthrushes are among the earliest migrant warblers.

Species Richness: NO SUBSPECIES

Population Dynamic: Less common and widespread today than it was two centuries ago, the Louisiana waterthrush's decline is mainly due to the reduction of suitable habitat, through clearing and channelization of streams, as well as pollution, and the impounding of rivers and streams to create reservoirs. Additionally, because the Louisiana waterthrush is dependent on large areas of continuous forest, this species is likely to be threatened by increasing forest fragmentation. Timber harvesting, agriculture, urban development and gas drilling may further reduce the available habitat for this species. The population seems to be quite sensitive to changes in habitat quality and quantity.

Evolution and Systematics:

Evolution: There is a tentative identification of a waterthrush, Seiurus, from a cave deposit in Virginia

Systematics: In size or plumage color, none reported. Both Turdus ludovicianus Audubon, 1831, and Henicocichla major Cabanis, 1850, are junior synonyms of the species Seiurus motacilla.

Number of Species: NO SUBSPECIES

Number of Genera: NO SUBSPECIES

Physical Characteristics:

Size and Length: Length: 5.9-6.1 in (15-15.5 cm) Weight: 0.6-0.8 oz (18.2-22.9 g)

Wingspan: 9.4-10.6 in (24-27 cm)

Coloration: Brownish above, with a very prominent white eyebrow (supercilium); pale below, with dark streaks. The supercilium is thicker in Louisiana than in Northern, and tends to flare at the rear. The legs are bright pink.

General Body Features: A large, somewhat plump warbler, with a stout bill (bigger than Northern Waterthrush's), rather short tail, and long legs.

Special Features of the Body: NONE

Special Features of the Head and Sensory Organs: NONE

Dentition: BEAK/LAMELLAE/GIZZARD

Special Features of the Limbs and Digits: NONE

Any Special Internal Anatomy: NONE

Sexual Dimorphisms: Males have slightly larger (<5%) bill and longer tail and wings than females.

Differences Between Juvenile Stage and Adult: All plumages are similar, but young birds have buff underparts rather than white.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: Louisiana Waterthrushes hunt prey along the edges of streams, where these active birds walk briskly and agilely among sticks and stones in pursuit of aquatic insects and small vertebrates. They do not swim or immerse themselves completely, but they wade, sometimes deeply, into water to obtain food, with sharp stabs of the bill, at times recalling a small heron. Prey is usually dispatched with a few blows before being consumed. Males maintain and defend a territory along a

length of stream, but they do not guard the surrounding woodland as Northern Waterthrushes do. Territories can include as little as 295 feet of stream or up to 4,800 feet of stream. Courtship involves the male and female making short, paired flights and standing and facing one another, giving a short zizz call note. One study using banded birds found that about one-third of Louisiana Waterthrushes returned to their nesting area to breed with the same mate in consecutive years. To define their territory, males sing both a primary song and an extended song that the male uses when chasing away rival males in flight. Clashes with rivals or neighbors also include a display in which the two males face each other, open their bills to display their bright pink mouth lining, rapidly raise the wings above the back, then stiffly lower them. They use the zizz call at this time as well. Wintering birds are highly territorial. Remarkably, where their ranges overlap, Northern and Louisiana Waterthrushes feed near each other without conflict.

Locomotion: Mostly walks, occasionally hops, between perches such as rocks or sticks along ground. Wags entire back half of body and tail in a pendulous motion while walking; such teetering is executed by moving ankle joints through a 15- to 20-degree angle change. Flight is direct and bounding. During dusk Flight Song, flight is also bounding but slower than typical flight. Territorial encounters with intruding males often involve quick, swerving chases through surrounding woodland.

Communication and Perception: Males sing a primary song that commences with 2–4 sweet, clear, descending whistles; these introductory notes usually have two slurred elements. The remainder of the song is a pleasant jumble that varies between singers. An extended song, heard mostly during territorial conflicts, adds several more phrases to the primary song. Like Northern Waterthrush, Louisiana also has a flight song, sometimes delivered at dusk. In the flight song, the bird begins with a rapid series of chips, which becomes a rapid twitter before the song is given high in the air, usually a faster version of the primary song. Nesting females occasionally also sing primary song.

Home Range: Breeding and foraging areas are used by males for advertisement and are protected against intruding neighbors. Territories follow stream margins and are therefore essentially linear. Males appear to guard only the stream channels themselves and use them as primary commuting routes, except during territorial disputes when chases may take them through surrounding woodland. Near Ithaca, NY, stream territories average 400 m in length.

Degree of Sociality: Generally solitary except during breeding season when pairs often forage together or care for dependent young. Rarely congregates after breeding, even in areas where food concentration is high.

Level of Aggression: Neighboring territorial males often engage in vigorous chases and countersinging soon after arrival on breeding grounds. Counter-singing males move toward territory boundary, then 1 male often flies into neighboring territory, provoking a vigorous chase of swerving males through woodland and along stream corridors. Males sing while in pursuit, extending the complex ending of their territorial songs to last for several seconds (up to 5+ s). In some cases, males may land near each other on ground and face off in a threat display. Physical combat sometimes occurs when 2 males grapple face to face in midair, contacting each other with bills, wings, and feet.

Migration: Medium- to long-distance migrant.

Predators:

Predators: Adults are sometimes chased and captured by small raptors such as Sharp-shinned Hawk. Fledglings, attending adults, and/or nest contents are susceptible to predation by many predators, including snakes, rodents (especially chipmunks), felids, canids, mustelids, raccoon, opossum, deer, black bear, corvids, and raptors.

Anti-Predator Defenses: Adults vigorously mob potential predators by chipping frequently and flying back and forth over predator. Distraction displays are given when nest is threatened.

Diet and Nutrition:

Adult Diet: Louisiana Waterthrushes prey on a great variety of insects and small vertebrates, most found in or very close to freshwater streams. They take adults and larvae or nymphs of caddisflies, mayflies, midges, soldierflies, crane flies, lacewings, stoneflies, butterflyflies, moths, aphids, dragonflies, damselflies, beetles (of many types), along with millipedes, woodlice, cicadas, scorpions, spiders, crayfish, earthworms, minnows, frogs, and salamanders. Their larger size enables them to take larger prey than the Northern Waterthrush, a species that overlaps Louisiana Waterthrush in both breeding and wintering ranges. They take most of their prey using rapid jabs of the bill, and they also move leaves in the water and at water's edge to uncover prey. Less often, they catch flying insects on the wings or by hover-gleaning them from overhanging vegetation.

Juvenile Diet: ^^^^^^^

Special Adaptations for Getting Prey: Four foraging maneuvers used in s. Illinois along upland-forest streams: (1) Picks, defined as quick jab-like strokes at substrates or food, composed 89–98% of maneuvers; (2) Leaf-pulls, where bird grasps dead leaf that typically is submerged in water and pulls it upward, then flips it over to expose hidden prey, composed 1–10%

of maneuvers; (3) Hawks, sallying upward for flying insects and (4) Hovers, gleaning prey from vegetation too high to be reached from a standing position, were much rarer, generally composing <2% of observations.

Reproduction:

Mode of Reproduction: Mostly Monogamous

Mating System: Of 139 intensively-mapped territories in the Georgia Piedmont, the vast majority (n=123) were occupied by a single banded male who mated with a single banded female, some were occupied by an unmated male (n=18), very few (n=4) were occupied by a banded male who mated with two banded females simultaneously (i.e., polygyny), and only 2 were occupied by a banded female who mated with two different males for successive nesting attempts.

Mating Season: February to May

Courtship: Pairs sometimes engage in courtship display: 2 birds stand on ground facing each other and utter zizz call notes, sometimes simultaneously. One bird, presumably male, may make sudden, short, erratic flights lasting <1 s and land near female. If she flushes, male follows in pursuit until the 2 birds return to same general area in territory.

Territoriality: HOME RANGE

Mating: Courtship display sometimes leads to copulation. Rather than flushing when male lands near her, female may walk slowly ahead of male with vibrating wings held partly out and head thrown upward past vertical as much as 130° from horizontal, then allow male to mount her and copulate.

Nest Placement: Males and females appear to choose the nest site together. Nests are typically within recesses along a streambank, often beneath a log or within a root tangle on the southern side of the stream. Both sexes contribute to the building of the nest.

Nest Description: Both sexes build the cup nest. They make the foundation of the cup nest from plant stems, pine needles, wet leaves, and dry leaves; some pairs also build an entranceway of dead leaves to the nest. Mud, often collected from the stream bed, holds the outer portion of the nest together. They line the interior with fine plant stems, rootlets, hair, and mosses. Nests measure about 6 inches wide by 4 inches tall; the inside dimensions are about 3 inches wide by 2 inches deep. The size of each nest appears to depend upon the size of the recess in which it sits.

Egg-Laying: Clutch Size: 2-6 eggs Number of Broods: 1 brood Egg Length: 0.8-0.9 in (1.9-2.2 cm) Egg Width: 0.6-0.7 in (1.5-1.7 cm) Incubation Period: 10-14 days Egg Description: Creamy white with reddish brown splotches, usually concentrated around larger end.

Hatching and Incubation/Gestation: Helpless with tufts of dark gray down.

Development: Altricial. Average mass at hatching 2.2 g (n = 7. Linear measurements not reported. Natal down dark gray, about 10 mm in length at hatching. Small tufts are present just dorsal to orbits, in occipital region, and on dorsal, humeral, alar, and femoral tracts. No down on ventral tracts.

Parental Care: Only female broods young. Male begins delivering food to female at nest on day of hatching. Female begins to assist with feeding as soon as first young has hatched. Both adults feed young throughout nestling phase and for 3.5–4 wk after fledging. Male appears to feed young more than female does.

Lifespan: 12 years

Conservation:

Official Federal Status: Least Concern

Special Statutes in Individual States: NONE

Threats: Partners in Flight estimates Louisiana Waterthrush population has increased by 34% since 1970. The organization estimates the global breeding population of 450,000 and rates the species a 12 out of 20 on the Continental Concern Score, indicating it is a species of low conservation concern. As a bird of forested streams, Louisiana Waterthrushes are sensitive to water pollution, forest fragmentation, and losses of habitat from infestations by introduced pests such as balsam wooly adelgid. They are sensitive to poor water quality, such as streams acidified or otherwise polluted from human activities, because those streams lack sufficient insect prey.

Conservation Efforts: ^^^^

Extra Facts:

1. The specific name of Louisiana Waterthrush, *motacilla*, means “tail-wagger.” *Motacilla* is also the genus of the aptly named wagtails. But waterthrushes don’t actually wag the tail, they dip (or teeter) the entire rear of the body by moving their ankle joints. This motion is very much like the bobbing of Solitary and Spotted Sandpipers, which share their wetland habitats. It’s been suggested that this habit might either help them avoid scaring off their prey or possibly startle their prey into motion.

2. Northern and Louisiana Waterthrushes can be very hard to tell apart, but despite this superficial similarity they have never been known to hybridize. The two species have different bill sizes: the larger Louisiana takes larger prey than the smaller Northern. Louisiana favors the running water, while Northern more often uses still or stagnant water.
3. Because Louisiana Waterthrushes feed on streambed (“benthic”) invertebrates, the species is an excellent indicator of the quality and health of a stream—or “stream ecosystem integrity” as a scientist might say.
4. On their wintering grounds, Louisiana Waterthrushes share fast-flowing streams with species such as Torrent Tyrannulet, American Dipper, and Buff-rumped Warbler. Birders looking for any of these species can cue in on Louisiana Waterthrush as an indication that they’ve found the right habitat.
5. Louisiana and Northern Waterthrushes sing similar songs, but you can tell them apart using their different habitats as a mnemonic. Louisiana’s song begins with a descending phrase, like the steep streamside that it uses. The Northern Waterthrush occurs in bogs and other flat waters, and its introductory notes also stay on the same pitch.
6. The oldest recorded Louisiana Waterthrush was a male, and at least 11 years, 11 months old, when he was seen in New Jersey in the wild and identified by his band. He had been banded in the same state.

Notable Species: NONE