

LOUISIANA BREEDING WOOD

WARBLERS

Written by

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The Estuary Program would like to thank the many members of the "Protection of Habitat for Migratory and Resident Bird" Action Plan Team for their tireless support and commitment to "making things happen". It is that support and commitment that is the strength of the Estuary Program.



INTRODUCTION

imble, energetic, boldly patterned, and brightly colored, North America's wood warblers epitomize the lavish degree of biodiversity bestowed upon the New World. One can only imagine the wonder in the ocean-weary eyes of America's first European explorers when they encountered this elegant display of living jewels, for no Palearctic animal group could approach such opulence in color and variety.

Even in the New World, few animal groups can match not only the diversity in colors and patterns, but also the diversity in behavior and niche-occupation possessed by the wood warblers. Some behave as nuthatches do, scurrying flat against trunks and large branches of trees while combing bark crevices for invertebrate prey. Others act like flycatchers, adapted to catching flying insects in mid air. Some appear distinctly wren-like, replete with bobbing heads and cocked tails. Some of the ground-hugging species behave as thrushes do. But most have carved their own distinctive niches out of the wooded ecosystems of the Americas, chasing down food items in a definitively furtive style all their own.

Regardless of geographical range or niche, all

wood warblers share common characteristics. As with all animal groups, it is the foraging behavior of warblers -- the way in which they procure their food -- which ultimately dictates their

physical appearance. The overwhelming majority of wood warblers possess small bodies, averaging about five inches in length and about one-third of an ounce in weight - some 20% smaller and 35% lighter than a House Sparrow. Their bills are generally thin and needle-like, specialized for capturing small arthropods such as insects, caterpillars, insect eggs, mollusks, and spiders. Similarly, their thin, weaklooking legs are designed for maneuvering between tight, twiggy and leafy spaces.

In order to taxonomically separate them from Old World warblers (which are actually more closely related to the thrushes) of Europe, Asia, India, Africa, and Australia, New World warblers are commonly referred to as the "wood warblers." At least 115 species of wood warblers occur in the Americas, from throughout all of Canada south through all of the United States, Mexico, and Central America, and down through northern Argentina in South America. Fifty-three of these species breed in the United States.

Taxonomically, wood warblers are thought to be closely related to the tanagers; and recent DNA studies have indicated that they share many genetic affinities with the orioles. In fact, ornithologists believe that all "nine-primaried songbirds," including the tanagers, orioles and blackbirds, wood warblers, grosbeaks, sparrows, and buntings are closely related.





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As recently as 1992 all of these groups were combined into one family – the Emberizidae – but more recently each of these groups have been reassigned to individual families. Currently, all wood warblers reside within the family Parulidae.

Here in North America, wood warblers achieve their peak species diversity between the southern Great Lakes region and the Canadian maritime provinces, southward through the Appalachian Mountains.

Most North American wood warbler species are highly migratory. Considering that warblers are primarily insectivorous, most species are forced to move out of their breeding ranges each year as cool weather sets in, reducing insect activity. Along with the tanagers, grosbeaks, thrushes, and orioles, most warbler species are classified as Neotropical migrants, moving all the way south from their temperate breeding grounds down into the American tropics each fall, and returning north each spring. Several warbler species, however, have adapted more varied diets, allowing them to linger within the southern reaches of the temperate zone (i.e. extreme southern California and the U. S. Gulf Coast) for the duration of each winter. These species are referred to as Neararctic migrants – sometimes called temperate migrants – along with the more familiar species of ducks and geese that spend winter months across the vast wetland habitats of Louisiana.

Pine Warbler



WARBLERS IN LOUISIANA

At least 74 distinctive habitat types and accompanying plant communities have been identified and cataloged across Louisiana's 33 million acres. Nearly half of these habitat types are wooded, most of which are utilized by wood warblers on a seasonal or permanent basis.

Louisiana's geographical location near the center of the North American continent and on the north-central coast of the Gulf of Mexico – at the cusp of the temperate north and the tropical south – allows our state (along with Texas) to receive and conduct a much higher-than-average amount of migratory bird traffic compared to other states. Well over half of the 810 bird species living in the U.S. and Canada – nearly 460 species – have been recorded in Louisiana. To date, 46 of the 53 warbler species native to the United States and Canada – a whopping 87% – have been recorded in Louisiana.

Louisiana is a warbler-friendly state.

On a temporal scale, general warbler presence in Louisiana is dictated by season, and can be subdivided into five categories: 1) Year Round Residents, 2) Neotropical Migrant Breeders, 3) Spring and Fall Transients, 4) Winter Residents, and 5) Accidental and Casual Species Occurrences.

Year-Round Residents

As a strongly migratory group, few wood warbler species fall into this category. Moreover, the majority of U.S. warbler species breed to the north of Louisiana. Combine these two factors, and the list of potential Louisiana year-round residents is dramatically pared. Indeed, the only two species which routinely occur on a year round basis are the Pine Warbler and the Common Yellowthroat.

The Pine Warbler is among the most deliberate hunters of the wood warblers, methodically probing its relatively large bill into protected places such as pinecones, sweetgum balls, bark crevices, and the bases of pine needle clusters for insects and other arthropods which find refuge there even during the colder winter months. It will also readily seek out wild berries and selected seeds (i.e. pine and sweetgum) during the winter months, thus allowing it a comfortable year round food supply throughout the Gulf Coastal and Middle/Southern Atlantic Coastal states, including all of Louisiana. Wren-like in behavior, the Common Yellowthroat forages in dense, low vegetation, most often associated with damp or wet habitats which tend to mitigate the severity of winter temperatures, allowing arthropods to remain at least somewhat active. The Common Yellowthroat enjoys the largest North American breeding range of any warbler, absent only from the southwestern deserts and

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In the United States, the geographical focal point of this great northbound river of birds includes the Louisiana and upper Texas coasts, where inclement weather often grounds the birds at first available landfall, creating spectacular birdwatching events known as "fallouts."

extreme northern Canada. This species breeds throughout Louisiana, but becomes a bit more scarce in the northern half of the state during the winter months. According to ornithologists Dunn and Garrett (in Warblers, 1997), the bulk of northern breeding Common Yellowthroats overwinter within the coastal marshes of the southern Atlantic, southern Pacific, and Gulf of Mexico coastal plains of the United States, explaining the profusion of this species within this habitat throughout Louisiana's coastal zone each winter.

Neotropical Migrant Breeders

Neotropical Migrant Breeders describes those wood warbler species that nest in Louisiana, but migrate out of the state each fall and winter. Twelve species fall into this category: Northern Parula, Yellow-throated Warbler, Prairie Warbler, Black & White Warbler, American Redstart, Prothonotary Warbler, Worm-eating Warbler, Swainson's Warbler, Louisiana Waterthrush, Kentucky Warbler, Hooded Warbler, and Yellow-breasted Chat. Each of these species is discussed in detail in the next section of this publication.

Spring and Fall Transient Species

Spring and fall transients include those North American migratory species which do not breed in Louisiana, but pass through the state during the spring and/or fall migration periods.

Black-throated Blue Warbler



During spring migration, hormonally-induced breeding urges propel most Neotropical migrants northward directly over the Gulf of Mexico. In the United States, the geographical focal point of this great northbound river of birds includes the Louisiana



and upper Texas coasts, where inclement weather often grounds the birds at first available landfall, creating spectacular birdwatching events known as "fallouts." During such events it is not unusual for a good birder to record 15 or more warbler species in a single outing – all within a few acres of coastal forest!

In contrast, the pace of southbound migration during the fall months is far more sedate, owing primarily to the absence of the breeding urge. Still, Louisiana is a busy place, as migrants from both the eastern and western United States trek around the northwestern and western edges of the Gulf of Mexico en route to tropical wintering grounds.

In Louisiana, 20 wood warbler species fall into this category – Blue-winged Warbler, Goldenwinged Warbler, Tennessee Warbler, Nashville Warbler, Yellow Warbler, Chestnut-sided Warbler, Magnolia Warbler, Cape May Warbler, Black-throated Blue Warbler, Black-throated Green Warbler, Blackburnian Warbler, Bay-breasted Warbler, Blackpoll Warbler, Cerulean Warbler, Ovenbird, Northern Waterthrush, Mourning Warbler, Wilson's Warbler, and Canada Warbler.

In some cases, the combination of spring and fall presence of these species in Louisiana equals or occasionally surpasses the time that they spend on their breeding grounds! Those species with notably long (four months or more) "windows" of migratory









LEFT: Blackpoll Warbler RIGHT: Magnolia Warbler

presence in Louisiana include Blue-winged, Tennessee, Yellow, Magnolia, Black-throated Green, and Blackburnian Warblers, Ovenbird and Northern Waterthrush. Those with the shortest windows (two months or less) include Cape May and Blackpoll Warblers.

On average, transient warbler traffic is highest within the forests of Louisiana's coastal zone, but transient species can and do turn up in most any wooded habitat throughout the state. In fact, during periods dominated by strong southerly winds in spring, northbound migrating warblers are more likely to skip right over all of southern Louisiana, settling in for their first rest and

refueling stops well into the central and northern sections of the state.

Winter Residents

The chore of procuring adequate levels of insect and invertebrate prey in most wooded habitats within the temperate United States becomes too difficult in the winter months. Thus, only the hardiest, most resourceful wood warblers are able to routinely take advantage of this situation. The Louisiana list of winter residents is appropriately short, including the Orange-crowned Warbler, Yellow-rumped Warbler, and





Bay-breasted Warbler

Palm Warbler, which join with the year-round resident and northern migrant Pine Warblers and Common Yellowthroats here each winter.

Occupying a niche almost identical to the Common Yellowthroat, the brushland-dwelling Palm Warbler draws near to wet, dense, evergreen shrub thickets during Louisiana winters. Similarly, the thicket-loving Orange-crowned Warbler finds adequate refuge throughout the state, along woodland edges and agricultural hedgerows, as well as dense, semi-evergreen shrub and vine thickets of groundsel bush, wax myrtle, eastern red cedar, honeysuckle, crossvine, greenbriar, and Carolina moonseed.

Second perhaps only to the Pine Warbler in foraging adaptability, the Yellow-rumped Warbler possesses an impressive array of foraging strategies that include flycatching (especially in cypress-tupelo swamps), bark gleaning, ground-feeding, and berryeating. Year in and year out, this species is Louisiana's most abundant winter warbler species.

A substantial sub-category of winter resident

warblers known as "winter lingerers" includes a sizable list of Neotropical migrant species in which a few individuals of each are detected in Louisiana during the winter months. Most of these detections occur during the Christmas Bird Count season (December 19 - January 04) when habitats are most intensely birded. Most of the detections involve warbler species possessing tropical wintering ranges which extend the furtherest north, often into the subtropical zones of peninsular Florida and the Rio Grande Valley of south Texas. Among the most regularly detected winter lingerers in Louisiana are the Northern Parula, Yellow-throated Warbler, Black & White Warbler, Ovenbird, Louisiana Waterthrush, and Wilson's Warbler. Others detected somewhat more irregularly include Nashville Warbler, Yellow Warbler, Black-throated Green Warbler, Prairie Warbler, and Yellow-breasted Chat.

The majority of these winter detections occur within the Interstate-10 corridor, and especially southward in the coastal cheniere forests. Never-



Palm Warbler



Orange-crowned Warbler

theless, one of the more unusual winter lingerer records in Louisiana involved a Cape May Warbler in Shreveport, which reportedly survived off of scale insects attached to foliage in a groundsel bush (*Baccharis halimifolia*) thicket.

Accidental and Casual Species Occurrences

Species termed "accidental" are those with five or fewer all-time occurrence records in a given region. Obviously, detection of an "accidental" constitutes a high point in the career of any dedicated birder. "Casual" species are those which occur very infrequently and irregularly in a given region – perhaps no more than a few dozen all-time occurrence records.

In Louisiana, the majority of records of accidental

and casual wood warbler species occur within the coastal zone during the late fall-winter months; and most include species native to the western United States. Of this group, the most frequently reoccurring species seems to be the Black-throated Gray Warbler, a southwestern and Pacific coast species which winters as far north as southern Arizona. The "most accidental" Louisiana species include the Redfaced Warbler, Virginia's Warbler, Lucy's Warbler, and Painted Redstart, all desert-mountain dwellers with very limited western U.S. ranges. Other accidental species include Connecticut Warbler, Tropical Parula, Townsend's Warbler, Hermit Warbler, and MacGillivray's Warbler.





LEFT: Red-faced Warbler RIGHT: MacGillivray's Warbler

WARBLER CONSERVATION



Blue-winged Warbler



Of the 100 Watch List species, 19 are warblers, and include nine species which have been recorded as birds of passage through Louisiana, and another six species which actually breed or have bred in Louisiana:

Bachman's Warbler, Prairie Warbler, Prothonotary Warbler, Worm-eating Warbler, Kentucky Warbler, and Swainson's Warbler.

America, Partners in Flight (PIF) was formed in 1990 with the mission "to conserve the resident, short-distance, and Neotropical migrant landbirds that occupy every major biome and habitat on the continent." Comprised of expert ornithological researchers representing many of the major biological agencies and laboratories in the United States, Canada, and parts of Latin America, PIF has since developed an even greater network of additional planning advisors representing regional, state/provincial, and local interests.

In January 2004, PIF published its first comprehensive North American Landbird Conservation Plan, providing "a continental synthesis of priorities and objectives that will guide landbird conservation actions on national and international scales." The scope for this first document was limited to the 448 landbird species native to the United States and Canada, but coverage of another 450 Mexican breeding species is expected soon. It is hoped that states from Central America and northern South

America will follow suit, as we share many of the same migratory species with them. Indeed, numerous joint avian conservation research projects between Latin and North American scientists are already underway.

Within the North American Landbird Conservation Plan, conservation priorities involving all of our landbird species, including warblers, have been established. Basically, it has been determined that 100 of the 448 North American landbird species treated in



the publication warrant inclusion on the "PIF Watch List," stemming from a combination of threats to their breeding, wintering, and/or migration stopover habitats, declining populations, intrinsically small population sizes, and/or limited range distributions. Of the 100 Watch List species, 28 require immediate action to protect small remaining populations, and an additional 44 require management in order to reverse long-term population declines. Of the 100 Watch List species, 19 are warblers, and include nine species which have been recorded as birds of passage through Louisiana, and another six species which actually breed or have bred in Louisiana: Bachman's Warbler, Prairie Warbler, Prothonotary Warbler, Worm-eating Warbler, Kentucky Warbler, and Swainson's Warbler.



Warbler and other songbird conservation threats in Louisiana are basically no different than in other parts of North America. Topping the list is habitat loss, an issue which was once greatly exacerbated by agricultural development in Louisiana, but is presently underscored by a combination of urban/ suburban development and coastal erosion. Within Louisiana's coastal zone in particular, it has been well demonstrated that a huge percentage, perhaps even a majority, of the North American Neotropical migratory songbird population depends upon our coastal woodlands as crucial "stopover" habitat - safe places where they can rest and refuel before or after the most arduous portions of their migratory treks.

In addition to loss of breeding, wintering, and migratory habitat, fragmentation and other forms



LEFT: Swainson's Warbler RIGHT: Pronthonotary Warbler



Bachman's Warbler is most likely extinct.



Worm-eating Warbler

Black-throated Green Warbler



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of degradation to remaining habitat is a major issue. Misuse and mismanagement by private,

corporate, and governmental interests are the biggest culprits.

Additional threats include predation and displacement by invasive/exotic plants and animals, stream flow alterations, increasing off-road vehicle usage, increasing brown-headed cowbird nest parasitism, increasing pesticide use, increas-

ing predation by feral dogs, cats, and hogs, and the proliferation of communication towers, glass buildings, and wind turbines, each of which

has been shown to cause many migratory songbird

crashes. All constitute major threats to both breeding and migrating species.

In light of this rather dismal outlook, PIF has prioritized a number of remedial actions, including the promotion of sustainable natural resource planning across all of North America, developing bird-friendly guidelines for agricultural, energy, urban planning, and water management interests, developing national and international scale partnerships in accomplishing PIF objectives, and leading in the coordination and development of monitoring and research in order to provide high quality critical information that will lead to effective adaptive management.

OBSERVING & STUDYING WARBLERS

ost warblers are small, fidgety birds. Most of them live either high up in the crowns of shade trees or within dense thickets. To top it off, outside of breeding males, the females, juveniles, and non-breeding males of most species possess vague and/or confusing plumage patterns.

A painful birdwatching condition known as "warbler neck" is well-known among those who spend too many hours with binoculars lifted to raised heads in attempts to track down warblers. In most instances, successful warbler watching requires patience, endurance, and attention to detail. Good ears are helpful as well.

As with shorebirds, gulls, sparrows, and other difficult-to-identify bird groups, learning to identify warblers in the field involves a systematic process whereby potential "contender" species are gradu-

ally eliminated via the recognition of increasingly finer plumage, structural, and behavioral characteristics. First, gross fieldmarks such as the presence or absence of wingbars, "eyebrows," "masks," and dark streaking or other markings on the underparts should be determined. Next come attempts to determine more subtle characters such as bill and tail length and shape, and the presence or absence of eye rings, eye lines, and other finer facial markings. With each new piece of visual information, more species can be satisfactorily eliminated from contention.



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Golden-winged Warbler



Chesnut-Sided Warbler.





As previously mentioned, this process can become mind-numbing, especially when it involves juvenile or non-breeding adult plumages, which often bear little resemblance to adult breeding plumages.

Through much practice in examining museum study skins, ornithologists Jon Dunn and Kimble Garrett began to focus on the colors and patterns of warbler undertails as a means of confirming field identification. This makes good sense, as more often than not, warblers are viewed from below in the field. Dunn and Garrett correctly contend that if an observer gets a good look at a warbler's undertail, few additional fieldmarks are needed for identification. Highly recommended is their masterful 1997 Peterson Field Guide volume, *Warblers*, in which they include a wonderfully illustrated atlas of warbler undertails, organized for quick reference in the field.

In light of all this less-than-encouraging news regarding the field identification of warblers, it should be noted that warbler-watching within the stunted, low-slung cheniere forests of coastal Louisiana represents a unique opportunity for much easier observation and study. Consider that the trees of these forests rarely stand more than 25-feet in height. Next, consider that warblers from all over the United States and Canada focus on these forests during both spring and fall migration, offering excellent views of

both breeding and non-breeding plumages. Finally, consider that the worse the weather conditions (rain is best!), the more the warblers pour into these forests.

During periods of inclement weather along the coast during spring (late February through May) and fall (late August through October) migration periods, it is not unusual for experienced birders to record 10-20 warbler species during a single outing. For Louisiana warbler students of any skill level, such opportunities should be seized as often as possible.

In *Louisiana Birds* (1974), George Lowery, Jr. depicts just such an event, which he witnessed on April 24, 1953 in the cheniere forests of Cameron parish.

"Shortly after midday on this particular occasion the skies became heavily overcast and the southerly winds stronger and more variable. Both the temperature and the humidity were high. Since a norther was obviously in the offing, my companion and I immediately went to Willow Island - which is not really an island but a narrow [woodland] ridge paralleling the Gulf, approximately four miles southeast of Cameron - and there made a search for transients. The only migrant that we found in this small woodland covering approximately 10 acres was a single Blackpoll Warbler. A few minutes later we walked out into a clearing not far from the Gulf beach and glanced up at the black clouds rushing overhead. Suddenly one of us noticed a succession of dark specks against the clouds, moving in

the same direction as the clouds, from south to north, hence from the direction of the open Gulf, and barely in range of unaided vision. The specks, on close inspection with binoculars, proved to be hundreds of small birds.

After watching the spectacle from our clearing for 30 minutes or more, we could not resist investigating the changes that the descent of a portion of theoverhead flight had effected in the 10-acre woodland...Walking back into the wood, we discovered that the trees were teeming with birds, some trees with as many as several dozen. Despite the windy and rainy weather conditions that prevailed for the remainder of this eventful afternoon, we identified 29 species of transients, including 14 kinds of warblers."

Bear in mind that efforts to observe and study warblers should be by no means limited to a few days of inclement spring weather along the coast of Louisiana. During spring migration, and especially during fall migration, many species of warblers are relatively common throughout the forests of this

state. Additionally, one of the best times to study warblers is during the breeding season (April-June) and fledging season (June-July), when the birds are more sedentary and localized within their respective breeding habitats. During these times, especially during the nesting phase of the season, please do not use taped warbler songs or owl calls to distract the adults from their duties in hatching and rearing their young. And please maintain a respectful distance from nest sites. Be patient, wear somber-colored clothing, maintain a low profile, and remain as quiet as possible. Once you discover nesting birds, consider bringing a more powerful spotting scope so that you can safely study the birds from greater distances.

Compared with spring, summer, and fall birding, observing warblers during the winter months is a relative snap, as all deciduous vegetation disappears, and the birds seem more relaxed and curious.



TOP: Yellow-rumped Warbler male in breeding plumage.

BOTTOM: Yellow-rumped Warbler male in winter plumage.

LOUISIANA BREEDING WOOD WARBLERS

Pine Warbler Dendroica pinus



In Louisiana, breeding Pine Warblers have been recorded in every parish outside of the coastal and Mississippi River parishes, where no pine trees naturally exist.



t up to 5.5" in total length and weighing in at a hefty one-half ounce, the Pine Warbler is one of the larger wood warbler species. Long-

tailed and big-billed, this species is a methodical and deliberate forager, crawling along larger branches and trunks while sampling the bases of pine needle clusters and bark furrows for insects and spiders. The Pine Warbler also routinely takes more plant matter (berries, seeds) than most other warblers, especially during the winter months. In fact, during the cold months it can often be found foraging on the ground, particularly in close-cropped grass beneath pine trees, and in the company of Eastern Bluebirds, Yellow-rumped Warblers, Chipping Sparrows, and Dark-eyed Juncos, all searching for pine seed, insects, and grubs.

Visually, Pine Warblers are rather drab-looking, possessing yellowish to greenish-brown upperparts, yellowish breasts, throats, and eyerings, along with dingy white wingbars and underparts. Pine warbler undertails are white, bordered rather sharply in black, and appear long and thin. Females are similarly marked, but even drabber than males. Immature birds are drabbest of all, most often possessing no yellow markings at all.

As the common name implies, Pine Warblers are rarely found away from pine forests during the breeding season, where they make their deep, cup-shaped nests out toward the end of horizontal limbs or sometimes squeezed between two pine cones. The Pine Warbler is one of several warbler species which neutralize nest parasitism by Brown-headed Cowbirds by simply burying deposited cowbird eggs beneath added nest material, thereby denying adequate incubation heat.

In North America, Pine Warblers range sporadically from southern Manitoba and Quebec,

eastward through Maine, becoming more dense southward through Florida, the Gulf Coastal states, and the Bahamas. In Louisiana, breeding Pine Warblers have been recorded in every parish outside of the coastal and Mississippi River parishes, where no pine trees naturally exist.

The Pine Warbler is one of only a few North American wood warbler species capable of overwintering here in the temperate zone – birds classed as Nearctic migrants. Each winter Pine Warblers empty out of the northern half of their U.S./Canadian breeding range, joining those already present in the southern half, from eastern Texas and southern Arkansas, eastward through the Gulf Coastal and southern Atlantic Coastal states, all the way up through the southern half of the Delmarva peninsula.

During those months, Pine Warblers will readily exploit hardwood forests, including bottomland hardwoods, foraging on insect eggs, burrowing larvae, pupae, fruits, and seeds, including those of sweetgum. Pine Warblers are commonly recorded in every Louisiana parish each winter, even within the coastal parishes. At such times, they will readily come to backyard suet feeders, and especially to "peanut butter logs." Regardless of season and locale, Pine Warblers can almost always be detected via their thin but somewhat sharp "tick" call notes, which they frequently utter as they move from tree to tree.

Birds begin moving back north early each year — as early as February in most instances.

Louisiana Pine Warblers begin breeding in March, after all of the non-resident birds have departed.

In addition to the distinct call note, the loud and equally-distinct liquid trill (much like that of the Chipping Sparrow, but more musical and less mechanical) of the male Pine Warbler renders birds easy to locate.





Common Yellowthroat

Geothlypis trichas

everal species of near-ground dwelling Louisiana wood warblers exhibit wren-like characteristics in appearance and/or behavior, but none more so than the Common

Yellowthroat, a perky, inquisitive little bird common throughout the sun-washed marshes and brushlands across the state. Structurally, it is somewhat slender, horizontally-postured, and possesses relatively short wings and a long, round-tipped tail, which it frequently cocks up when hunting. In both profile and behavior, the Common Yellowthroat is very reminiscent of a Bewick's Wren. Both males and females are plain brown-olive above and yellow below; but the adult male also possesses a dashing, jet-black, Zoro-like mask across its face and down into the sides of its neck. Females and juvenals possess virtually no noteworthy field marks, and often present identification challenges when encountered by less experienced birders.

In temperament, female Common Yellowthroats seem somewhat shy. On the other hand, males of any age will readily investigate all manner of disruptions and intrusions upon their territories. The flight of the Common Yellowthroat is labored and short-distanced, exhibiting rapid, fluttering wingbeats. Its locomotion through dense bushes and reed beds, on the other hand, is deft and agile as it slips rail-like between crowded stems and twigs to chase down small insects, caterpillars, spiders, and mollusks.

The Common Yellowthroat enjoys the largest breeding range of any North American wood warbler, with no fewer than twelve(!) subspecies spread throughout almost all of the United States and Canada, from Glacier Bay, Alaska eastward through Newfoundland and southward through southern California, Arizona, and many parts of Mexico, and eastward through Florida. In all of North America, the only places that this species does not occur are

the high and low desert habitats of the western United States and Mexico, although they certainly do inhabit the wet, brushy, riparian corridors of the permanent streams within those areas.

In Louisiana, the Common Yellowthroat is one of only three wood warbler species which breeds in every single parish. A short walk into just about any fallow field, hedgerow, shrub range, or marsh in this state will probably yield Common Yellowthroats. If they are not immediately visible, just listen for their trademark, lisping, "tchemp" call note, or the rolling, slightly muted, "whichity whichity whichity which" breeding song, which – like the Carolina Wren – they sing with remarkable frequency even outside of the breeding season.

The Common Yellowthroat is a year-round resident in Louisiana. As with many other year round resident songbirds, it initiates breeding in March, prior to the onset of breeding season for the laterarriving Neotropical migrant songbirds. Its nest is a bulky, loosely-woven structure, placed on or near the ground in dense vegetation, and often located just above water when situated in wetland habitats.

During the winter months, Louisiana resident birds tend to move into the southern half of the state, where they are joined by migrant Common Yellowthroats from various northern parts of the continent. During the winter months, then, southern Louisiana is absolutely filled with Common Yellowthroats, especially within the expansive marshes, spoil banks, and along agricultural irrigation canals and hedgerows of the coastal zone. The winter range of the Common Yellowthroat does not terminate at Louisiana and other Gulf Coastal states, but extends southward far and wide, through Central America and into northern South America as well as throughout the West Indies.



In Louisiana, the Common

Yellowthroat is one of only three

wood warbler species which breeds
in every single parish.



Female Common Yellowthroat

Northern Parula

Parula americana

The Northern Parula's breeding range is substantial, stretching from southeastern Manitoba through Nova Scotia and southward through the U.S. Gulf Coast.

nly 4.5 inches long and weighing about one-third of an ounce, the Northern Parula is Louisiana's smallest warbler. And because it spends most of its time high in the canopy

of mature shade trees, it is also one of the most difficult of our warblers to observe. Adult males and females possess very similar steel-blue to slateblue upperparts, punctuated by a yellowish-green mantle, directly between the wings. "Broken" white eye-rings decorate the eyes, and the wings possess a pair of short white wingbars. From below, the belly, vent, and undertail coverts are all nearly immaculate-white, but the throat and breast are yellow, and banded across with cinnamon-orange. In males, the orange band is bordered above with black. In females and young males, there is only a suggestion of a breast band; in young females, none at all.

Short-tailed and short-necked, the Northern Parula is very similar to a chickadee in both size and profile. Moreover, it forages almost exactly like a chickadee, scurrying through twigs and foliage, and often hanging upside-down in order to inspect the undersurfaces of leaves in search of small insects, larvae, eggs, and spiders. Indeed, the genus name and the common name of this bird - Parula - is the

diminutive of Parus, the genus of chickadees

and titmice.

In the northern parts of its range, the Northern Parula often associates with hemlocks, whereas in Louisiana, it is often associated with live oaks, apparently a favored tree species, especially along woodland edges (as opposed to forest interiors), and most often found from the mid through the upper parts of the crown. Northern Parulas will also descend into shrub thickets and/or dense, tall herbaceous vegetation to feed, especially during fall migration.

Even though difficult to observe within its home breeding range due to its small size and preferred habitat high up in the crowns of densely foliated trees, the Northern Parula can almost always be detected by the song of the male, a very distinctive, buzzy, ascending, "zzzzzzzeeeeeeeeeUP" possessing the quality of a water glass being filled. Males sing rather constantly throughout the breeding, brooding, and even fledging seasons.

The Northern Parula's breeding range is substantial, stretching from southeastern Manitoba through Nova Scotia and southward through the U.S. Gulf



Coast. It winters in eastern Mexico south through Central America, and also in the West Indies northward through almost all of peninsular Florida.

In Louisiana, the Northern Parula is one of the first of the Neotropical songbirds to arrive each spring, with singing males detected in the southern third of the state by the last of February or the beginning of March. It nests in deciduous woodlands throughout most of the state, most often toward the edges, and near water if possible, especially within trees possessing Spanish moss (Tillandsia usenoides), within which it builds its hanging, oriole-like nest.

By mid-October the vast majority of Northern Parulas have departed the state for their tropical/sub-tropical wintering grounds, but a few linger here through winter. Every few years, one or two are detected during the Christmas Bird Count season.





Yellow-throated Warbler

Dendroica dominica

ike the Pine Warbler, this long-billed, medium-sized warbler (5.00-5.25") possesses a tell-tale "creeping" style of foraging, treading somewhat slowly along larger branches while

probing its bill into bark crevices and leaf bases. It also often exhibits a more kinetic foraging style more typically associated with warblers.

Four recognizable subspecies of the Yellow-throated Warbler exist, the most striking being the resident subspecies of the Bahamas, *Dendroica dominica flavescens*, which possesses an exaggeratedly long and decurved bill, resembling that of a Brown Creeper's.

All adult Yellow-throated Warblers possess bright yellow breasts and throats, handsomely bordered by black-streaked sides and cheeks. Like the Northern Parula, Yellow-throated Warblers have steely-blue upperparts, set off by white underparts, wingbars, and supercillia ("eyebrows") which extend back onto the sides of the neck. Also like the Northern Parula, the undertail of the Yellow-throated is primarily white, set off by rather vague, dark, club-shaped edges. The Yellow-throated's tail is proportionately much longer than that of the Northern Parula's.

In *The Bird Life of Louisiana* (1938), Harry Oberholser referred to the subspecies of Yellow-throated Warbler which inhabits the central states (*Dendroica dominica albilora*), including Louisiana, as the "Sycamore Warbler" due to its supposed penchant for living in sycamore trees. This, however, is only partially true, for it has been found that Yellow-throated Warblers inhabiting cypress-tupelo swamps tend to avoid sycamores, choosing baldcypress trees for nesting instead.

In Louisiana, Yellow-throateds seem to use both pine and baldcypress for nesting, although baldcypress, especially those with Spanish moss, seem to be preferred. There they build either hanging pensile nests within the moss itself, or cup-shaped nests on horizontal branches and forks.

This species likes to position its nest high in the crowns of these tall trees, and over water whenever possible. Thus, it can be quite difficult for birders to obtain satisfactory views of nesting Yellow-throateds. As with many of our breeding warbler species, the best avenue for those wishing to study this species is to learn the breeding song of the male Yellow-throated Warbler – a very recognizable, low-pitched, rolling trill – very similar to that of a Kentucky Warbler, but with a few upslurred notes at the end: "tweedy-tweedy-tweedy-tweedy-see-see-see!" Once the song is learned, then the observer should walk the edges of cypress-studded lakes, swamps, and rivers and listen for it emanating from the tops of tall trees.

In the United States, Yellow-throated Warblers range from New Jersey westward to southeastern Kansas, and southward through southern and eastern Texas through the Gulf Coast and into the Bahamas. In Louisiana, breeding Yellow-throateds have been recorded throughout most of the state, but more scarcely so in the riparian forests of the southwestern prairie parishes and the longleaf pine parishes of western and southeastern Louisiana. George Lowery, Jr. (*Louisiana Birds* 1974) mentions both dry mixed pine-oak forests and wet bottomland swamps as preferred breeding habitat in our state.

Migrating Yellow-throated Warblers can be found in most any woodland in Louisiana, including urban forests. A few overwinter here each year, primarily within urban forests in southern Louisiana, although at least one winter record (02 January 1966) comes from as far north as Natchitoches, LA. The bulk of the U.S. population overwinters in eastern and southern Mexico, southward through Costa Rica. Eastern U.S. birds tend to overwinter from extreme southeastern South Carolina southward through peninsular Florida.





In Louisiana, Yellow-throateds seem to use both pine and baldcypress for nesting, although baldcypress, especially those with Spanish moss, seem to be preferred.

Prairie Warbler

Dendoica discolor



Throughout its North American range,
the Prairie Warbler population is declining
due to a combination of habitat loss in both
its breeding and wintering grounds, and
high susceptibility to nest parasitism by the
Brown-headed Cowbird.



his active, 4.5" bird is one of the few wood warblers which habitually pumps its tail, particularly as it dashes through small trees and shrubs in

search of prey. Besides the usual warbler fare of small insects, insect eggs, and caterpillars, the Prairie Warbler also commonly takes moths and butterflies on the wing, as well as deerflies, grasshoppers, ants, and spiders.

In addition to the tail-pumping behavior, the Prairie Warbler is further distinguished from many other warbler species by its totally yellow underparts punctuated with heavily black-streaked sides and flanks. Its yellow face is also striped with black and/or olive coloration, and it possesses a telltale dark blotch at the sides of the neck near its juncture with the throat. Its two wingbars are most often tinged with yellow, and do not visually stand out. From below, even its undertail coverts are tinged with yellow, leading into a white undertail framed by dark club-shaped markings. Structurally, the Prairie Warbler appears rather short-billed and long-tailed compared to other wood warblers.

In both nesting and foraging, Prairie Warblers prefer shorter, open-canopied woodlands, such as shrubby forest edges, and most especially "cutover" pine forests in which newly regenerating pine saplings are clustered, with plenty of open spacing between the clusters. Ecologically, such habitats are classified as "early secondary successional" woodlands. Because of the temporary, fast-changing nature of these early successional woodlands, Prairie Warbler populations in any given area or region are difficult to keep tabs on, as they tend to change locations along with changing habitat conditions.

The Prairie Warbler's quiet voice further adds to the challenge of locating it in the field. Highly experienced field observers proceed very unobtrusively into likely habitat, listening intently for its weak "chip" call note and/or for the male's thin, lisping, breeding song, comprised of an ascending series of "tzee" notes.

The Prairie Warbler ranges spottily from southeastern Iowa eastward through the Great Lakes states and southern New England, then more commonly southward through the Ohio River Valley and the Atlantic Coastal and Gulf Coastal states westward through eastern Texas and eastern Oklahoma. Though difficult to track in the breeding season, Wiedenfeld and Swan's Louisiana Breeding Bird Atlas (2000) show Prairie Warbler nesting throughout the northwestern third of Louisiana, as well as within the eastern half of the Florida parishes. These authors mention that Louisiana breeders were most often detected in regenerating pine forests 3-8 years after even-aged timber harvest had occurred. Nests are most often located in the forks of shrubs or small trees, generally 1-12' above the ground, and are finely-woven deep cups.

Throughout its North American range, the Prairie Warbler population is declining due to a combination of habitat loss in both its breeding and wintering grounds, and high susceptibility to nest parasitism by the Brown-headed Cowbird.

The U.S. Prairie Warbler population winters in two geographically disparate locales: Peninsular Florida southward into the West Indies, and on islands off of Mexico and Central America. Each winter, a substantial number of birds are detected north of their wintering grounds, mostly during Christmas Bird Count seasons.





Black-and-White Warbler

Mniotilta varia

Black-and-White Warbler might easily be mistaken for a small woodpecker as it strolls up and down the trunks and larger limbs of trees in search of insects, larvae, and eggs within bark crevices and holes. Closer inspection, however, reveals a somewhat more nimble bird, less mechanical than a woodpecker in its behavior; more closely approximating that of a nuthatch or a Brown Creeper. Indeed, historical ornithologists such as John James Audubon and Alexander Wilson referred to it as the "Black-and-

o the untrained eye, the elegant

At just over 5" in total length and one-half ounce (14 grams) in weight, the Black-and-White Warbler is slightly larger than average for a wood warbler. Its unique, zebra-like, black and white striped plumage pattern sets it apart from most other warblers. As a consequence of its bark-foraging habits, it possesses shorter, stouter legs, and an extra long claw on its hind toe. It also possesses a bill that is longer and more curved compared to those of other warblers.

White Creeper."

The Black-and-White Warbler's favored breeding/summer habitat are relatively dry, hilly, mature mixed pine-hardwood woodlands. Such forest types are common throughout the northern half of Louisiana, so it is not surprising that the majority of breeding detections in Louisiana have come from there. A few notable exceptions, however, have come from the ravine forests of St. Helena and Livingston parishes in southeastern Louisiana.

Amazingly – for a bird which remains very nearly glued to trees when foraging – the Black-and-White Warbler is a dedicated ground-nester, preferring the sloped woodlands on hillsides and within ravines, where it locates its nest at the bases of trees, stumps, and fallen logs.

Though the Black-and-White Warbler most often forages on larger limbs and trunks, it has been ob-

served working through all parts of a tree, including the crown; and is occasionally observed to use shrubs as well. Its prey menu is long, and includes many small insects, insect eggs and larvae (including tent caterpillars), spiders, small snails, and some seeds.

The call note of the Black-and-White Warbler alternates between a rather sharp "pit!" and a weaker "tsip." Its breeding song is composed of a high-pitched, almost insect-like series of "weesee" notes, repeated up to six times per phrase – frequently likened to that of a squeaky wheel.

The Black-and-White Warbler ranges through much of Canada, from northeastern British Columbia and southwestern MacKenzie eastward through Newfoundland. In the United States, it is spottily distributed in the riparian forests of the Dakotas, northern Nebraska, eastern Montana, Illinois, Indiana, and Ohio. It is more heavily distributed in the Great Lakes region of northern Minnesota, Wisconsin, and Michigan, and throughout New England, the middle Atlantic Coast states, most of the mid-South, and into eastern Kansas, Oklahoma, and Texas.

Wintering occurs over an even larger region, from northern South America through Central America, Mexico, and the West Indies; and also commonly includes peninsular Florida and the entire Gulf Coast of Texas. In Louisiana, a fairly substantial number of Black-and-Whites are found each winter, especially within bottomland hardwood forests along the Interstate-10 corridor and southward toward the coast.

The bulk of the North American Black-and-White Warbler population does not arrive stateside until the beginning of April. Likewise, the majority of this population departs the United States by mid-October.





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American Redstart

Setophaga ruticilla

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rnithologist Harry Oberholser rightfully referred to the behavior of the American Redstart as "butterfly-like," as it exhibits rather weak, flitting flight characterized by slow wingbeats.

At just over 5" in length, this lithe-bodied warbler weighs only a quarter-ounce – not much more than a heavy hummingbird – only about half that of other similar sized wood warbler species.

Generally, redstarts are warblers that specialize in flycatching – that is, capturing flying insects on the wing, as true flycatchers do. Well-developed rictal bristles on the sides of the mouth, a relatively flat bill, long tail, wide wings, and low body weight are all useful redstart adaptations in their flycatching activities.

Within the United States and Canada, the American Redstart is the most widely distributed redstart species, occurring from eastern Oregon northward through northern British Columbia and southern MacKenzie, and spottily eastward through the riparian forests of the Great Basin and northern Great Plains, then more reliably through eastern Canada to Newfoundland, the Midwest, the Great Lakes, New England, the northern and middle Atlantic Coastal states, and most of the Gulf Coast.

In Louisiana, breeding American Redstarts are somewhat lightly distributed through the northern third of the state, the Florida parishes, and the middle Atchafalaya Basin, where they show a

predilection for mature sycamore and cottonwood trees. Nesting occurs in both upland and bottomland forests, and occasionally in urban and suburban settings. Their compact, cupped nests are always located in broad-leaved deciduous trees, and range 2-40' in above-ground height.

The plumage of adult male American Redstarts is jet-black, and handsomely accented with salmonorange panels on the wings and tail. Females and immature males are gray, with yellow wing and tail panels. Like all redstarts, the American Redstart habitually flicks its wings and tail open and closed when foraging along the trunks and branches of trees. This habit, coupled with distinctive plumage patterns in all sexes and ages, renders the American Redstart instantly recognizable in the field.

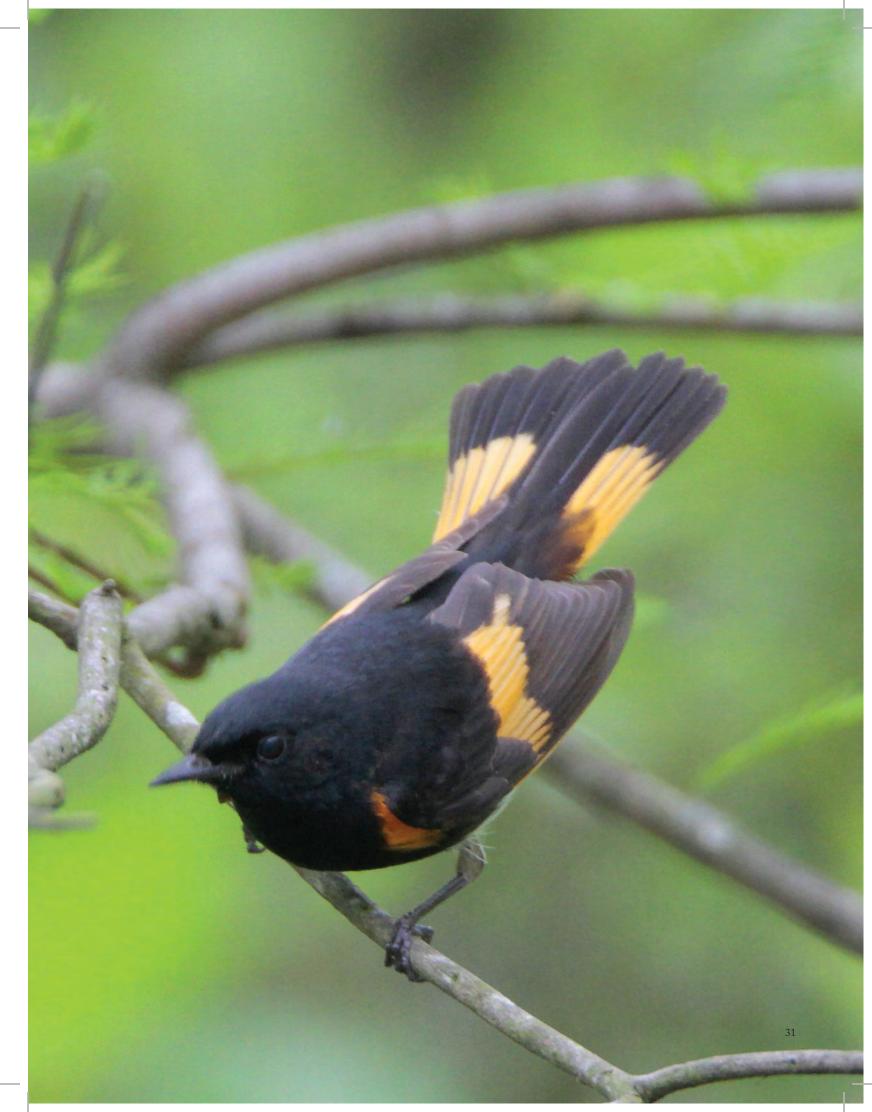
In addition to flycatching, American Redstarts seem to move perpetually through all types of vegetation, and at all levels – even occasionally on the ground – in a constant search for food. Often, they creep along tree trunks and larger limbs much like Black-and-White Warblers, Pine Warblers, and Yellow-throated Warblers, inspecting nooks and crannies for insects, eggs, larvae, and the like. They also include berries in their diet.

American Redstarts can be rather easily detected by their high-pitched, squeaky, "tseet!" call note, especially during spring and fall migration periods. The male's breeding song, on the other hand, is notoriously variable, but comprised of several renditions, combinations, and phrasings of buzzy "tseet" notes.

The American Redstart winters in the lowland forests of Mexico southward through Central America and northern South America, as well as in the West Indies. Modest numbers also regularly winter in southeastern California and southern Florida. A few lingering birds are also detected annually in southern Arizona, the Rio Grande Valley of Texas, and in south Louisiana.

The American Redstart winters in the lowland forests of Mexico southward through Central America and northern South America, as well as in the West Indies.

Female American Redstart





Prothonotary Warbler

Prothonotaria citrea

obust, flashy, loud, and curious, the Prothonotary Warbler is probably the most commonly observed breeding wood warbler species in Louisiana.

According to ornithologist

George Lowery, Jr. (*Louisiana Birds* 1974), this bright yellow bird was said to be named "by the Creoles of Louisiana," after the legal advisor to the pope – the prothonotary – who wore yellow vestments. It has also been nicknamed the "Golden Swamp Canary" by Louisiana trappers and fishermen who encounter it daily during the summer months.

Large-billed, with prominent black eyes set off by a clear yellow face, the Prothonotary Warbler is a husky 5.5" bird, larger than average for a wood warbler. Yellow covers its entire head, breast, and belly, leaving only immaculate-white vent and undertail. Its plain (non-barred) wings and back are bluishgray. Indeed, the Prothonotary Warbler is by far the brightest thing going within the somber swamp habitats in which it lives.

In the United States, the Prothonotary Warbler breeding range includes the southern Great Lakes region eastward through New Jersey, and southward through the entire Gulf Coast. Here in Louisiana, it probably breeds in every parish, and always near water, whether it be wooded lake shores, swamps, riverbanks, bayous, or sloughs. To the delight of many, it is one of the only Louisiana warblers that will nest near human habitation – again, so long as those habitations are at least a stone's throw from permanent water.

Unfortunately, Prothonotary Warbler populations are declining throughout most of the country due to habitat losses in both breeding and wintering grounds. In Louisiana, however, it seems that the opposite may be true, particularly within the confines of the Atchafalaya Basin and other large river swamps. Presently, for example, a six-hour birding

trip through the middle of the Atchafalaya Basin (using either LA 105 or LA 975 along the western and eastern banks of the Atchafalaya River, respectively) during the late spring or early summer months will easily yield over 100 individual observations.

Prothonotaries forage close to the ground, spending lots of time poking around large tree limbs and trunks, and on driftwood. Primary prey items include small snails and crustaceans, caterpillars, beetles, bees, ants, most aquatic insects, spiders, and some seeds.

One of the few cavity-nesting wood warbler species, the Prothonotary Warbler nests in the 2-15' height range, often in abandoned woodpecker holes. It will also readily occupy artificial nest boxes and bird houses. In Louisiana, the onset of breeding season is around mid-April. At that time, male birds can be seen flitting in exaggerated poses – usually with wings and tails spread wide to reveal the white inner webbing of those feathers – in attempts to attract females. The loudest songster of all wood warblers, the male Prothonotary utters its cheerful and penetrating "sweet-

Prothonotary Warblers depart from their nesting locales rather early, often by early July, and gather in communal roosting sites. Similarly, fall migration begins early, with the bulk of the population gone by mid-September. So attached are they to wet woodland habitats that they cling to swamps and river floodplains even during migration. Wintering grounds include the swamps associated with the Yucatan Peninsula, Central America, and northern South America, particularly northern Columbia and Venezuela.



Here in Louisiana, Prothonotary

Warblers breed in every parish, and
always near water, whether it be
wooded lake shores, swamps, riverbanks, bayous, or sloughs.

Worm-eating Warbler

Helmitheros vermivorus



warbler species.

In Louisiana, the
Worm-eating Warbler is the least
common of our 14 breeding wood

elatively long-billed, short-legged, short-tailed, and husky for a wood warbler, the structural characteristics of this 5.25-5.50" bird are similar to those of the better-known

Prothonotary Warbler. In contrast to the inquisitive, brightly-colored Prothonotary, the Worm-eating Warbler is a recluse, and drab in appearance, at least to the untrained eye. A close-up view, however, reveals that the cryptic plumage colors and patterns of this species are somewhat reminiscent of our native sparrow species – boldly patterned, but with rich and tawny browns, buffs, and other subtle colors.

Male and female Worm-eating Warblers share identical plumages: brown-olive upperparts, and buffy underparts intensifying to a warm, orange-suffused buff on the breast. The most striking feature is the head plumage, comprised of relatively wide, alternating stripes of buff and black. It is this feature that allows for almost instant identification of this species in the field.

The Worm-eating Warbler is a bird of upland hardwood forests, woodlands dominated by steep ravines, dark hollows, bogs, and small streams. This species prefers the lower, moister niches within this habitat type, and spends most of its time very near to the ground. There it forages through dead leaf clusters, and on occasion, leaf-litter on the ground, probing with its bill, and even bobbing its head and cocking its short tail the way that wrens do. Prey species include caterpillars/worms, moths, beetles/ weevils, dragonflies, walking-sticks, cicadas, ants, bees, and spiders.

The Worm-eating Warbler's flight is rather weak and flitting, again somewhat like that of the wrens. Its call is a dull "chip" note, and it often gives a "dzzt-dzzt" traveling call. The breeding song of the male is twittering and mechanical "chee-ee-ee-ee-ee", very suggestive of a Chipping Sparrow's.

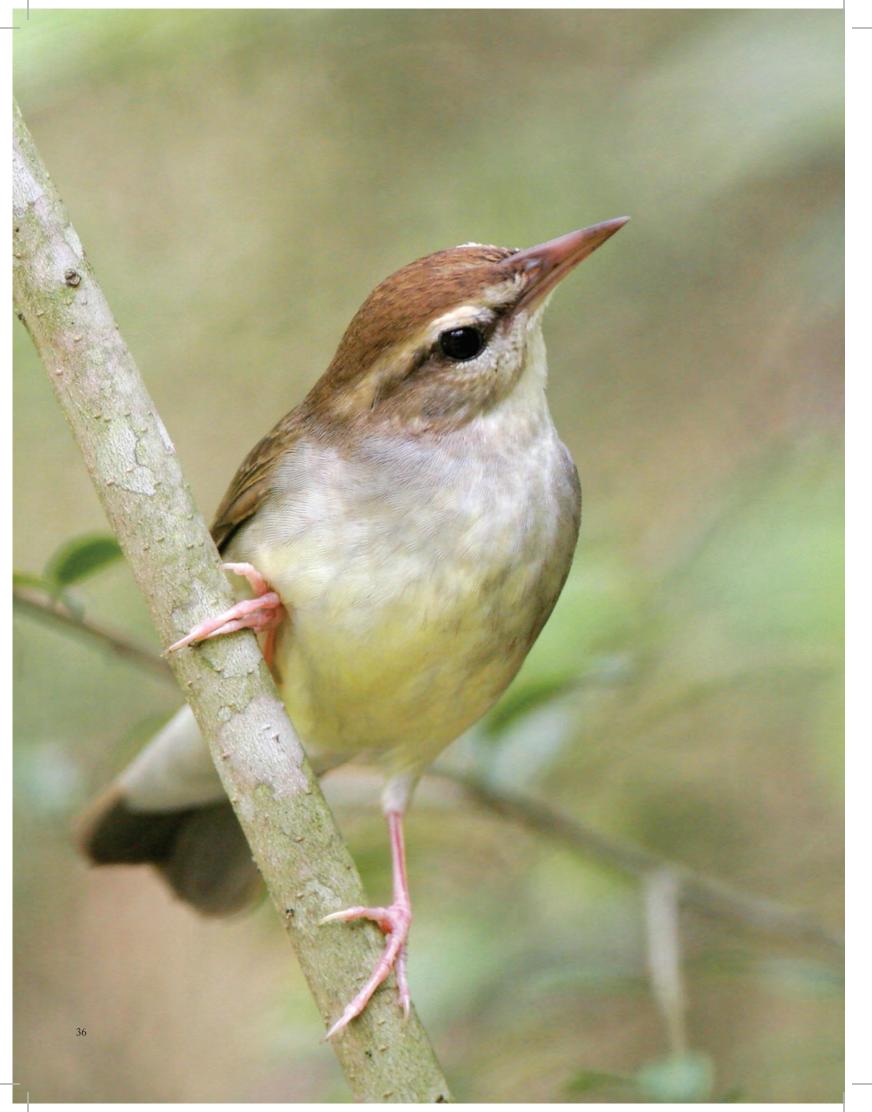
Throughout its U.S. range, which once extended from southern Wisconsin eastward through southern New England, and south to eastern Texas eastward through northern Florida, upland hardwood forest habitat has been destroyed and/or degraded at a steady rate, particularly over the past 50 years. Populations of deep woods and upland hardwood specialists such as the Worm-eating Warbler, Black-and-White Warbler, Wood Thrush, and many others have correspondingly declined. Presently, Worm-eating Warbler breeding is a mere shadow of what it once was in states such as Illinois, Indiana, Ohio, and New York, all once rich in upland hardwood forest habitat.

Today, the Worm-eating Warbler's most contiguous and dependable range is restricted to Massachusetts, small portions of southeastern New York and northern New Jersey, southern Pennsylvania, the Appalachian states, the Ozark states, and the northern portions of the Gulf Coastal states. In Louisiana, the Worm-eating Warbler is the least common of our 14 breeding wood warbler species, and is confined mostly to the patches of remaining upland hardwoods dotted along the bluffs of our larger rivers, in West Feliciana parish, and more locally in the lower elevations of mixed pine-hardwood forests in the form of beech-magnolia transition forests.

The Worm-eating Warbler makes its nest in small depressions on the ground, such as at the bases of stumps and fallen logs or beneath shrubs, and usually well concealed by leaf litter. Some authors mention a predilection for locating its nest near permanent water such as brooks or springs.

In Louisiana, Worm-eating Warblers begin arriving in mid-March from their wintering grounds in southern Mexico, Panama, and the West Indies. Louisiana birds depart early, generally by the end of August, although fall transients from other parts of the country are observed here through late October.





Swainson's Warbler

Limnothlypis swainsonii

ike the Worm-eating Warbler,
Swainson's Warbler is a husky,
drab-colored wood warbler of
moist understory thickets, but
prefers bottomland hardwood
and low pine forests rather

than upland hardwoods. The combination of plain brown upperparts, dingy white underparts, a broad, whitish supercillium ("eyebrow"), short tail, and a relatively long, heavy bill cause Swainson's Warbler to superficially resemble a Carolina Wren. And like the Carolina Wren, Swainson's Warbler is a near-ground dweller, foraging through leaf litter, suspended leaf clusters, and other nooks and crannies in search of insects, larvae, spiders, centipedes, and the like. Observers have also noted Swainson's Warblers walking on the ground, flipping leaf litter over with their bills, as thrushes and thrashers do.

Swainson's Warbler is uniquely southern in its U.S. distribution, confined primarily to the southern Atlantic and Gulf Coastal states. It has also been recorded breeding in southern Illinois, eastern Kentucky, southwestern West Virginia, and even on the Delmarva Peninsula, hinting that its breeding range was once substantially larger than it is today. Within the northern reaches of its U.S. breeding range, Swainson's Warbler shows a strong predilection for occupying streamside rhododendron thickets in montane regions. In Louisiana, breeding Swainson's Warblers have been recorded in nearly every parish north of the coastal zone, save for a few northern tier parishes and the southwestern prairie parishes.

Swainson's Warbler nests are bulky, often roofed affairs, almost always located within large clusters of dead leaves that accumulate on the tops of low, understory shrubs. Bottomland hardwood forests and canebrakes are the nesting habitat of choice, but in a situation similar to that of the Worm-eating Warbler, Tulane researcher Donata Roome Henry found Swainson's Warblers utilizing young/regenerating,

dense pine forests for breeding habitat in Louisiana as well.

Spring-migrating Swainson's Warblers turn up in Louisiana by late March. Local breeders are instantly detected, as they immediately initiate their penetrating "wheat-ee wheat-ee wheat-ee tweedle-Dee-oh!" breeding song, which is very similar to that of the Hooded Warbler, but with a more complex ending. Ornithologist Harry Oberholser (*The Bird Life of Texas*, 1974) rates the Swainson's song as "among the best of the American warblers." Singing bouts are frequent, and occur throughout different times of the day. The "chip" call note of Swainson's Warbler is quite loud, somewhat like that of the Prothonotary Warbler, but a bit more musical and not quite as grating.

Swainson's Warblers seek out similarly moist, densely-vegetated, bottomland understories on their wintering grounds, which include most all of the West Indies, especially the Greater Antilles and Jamaica, as well as on the Yucatan Peninsula and Belize. It also makes use of mangrove swamps in these regions.



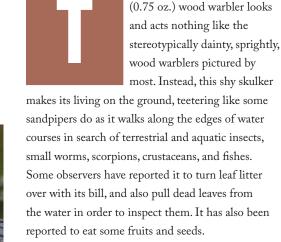
Swainson's Warblers remain rather late on their breeding territories, with some birds still singing well into August or even September in some parts of the breeding range. In Louisiana, most of our birds depart by the end of September.



Swainson's Warbler is uniquely southern in its U.S. distribution, confined primarily to the southern Atlantic and Gulf Coastal states.

Louisiana Waterthrush

Seiurus motacilla



his large (6"), heavy-bodied

Though it behaves more like a thrush, and possesses the plain brownish upperparts and whitish, brown-streaked underparts of a New World thrush, structurally the Louisiana Waterthrush is more wren-like in appearance. Its grayish-brown face is marked by a prominent white supercillium ("eyebrow") line, and the combination of its short tail and long, stout, pale bill renders it wren-like indeed in profile. Its flesh-pink legs, however, are relatively long and sandpiper-like.

All things considered, it would be difficult to confuse the Louisiana Waterthrush with any other wood warbler - except for its close cousin, the Northern Waterthrush (Seiurus noveboracensis), a far-northern breeder with plumage and structural characteristics very similar to the Louisiana Waterthrush. Here in Louisiana, we see the somewhat duller, smaller-billed, Northern Waterthrush only during migration periods (March-May and August-October), and tell it from the Louisiana by the narrowness of the supercilliary stripe as it passess behind the Northern's eye, and the fine brown streaking present on the throat and chin of the Northern, as opposed to an actual widening of the supercillium behind the eye of the Louisiana, and no streaking whatsoever on its throat and chin. Also, Northern Waterthrushes are on average dingier below, often with yellow-washed underparts and supercillium.

Very specific in its habitat requirements, the Louisiana Waterthrush selects deep, secluded woodland thickets, always adjacent to small, clear-running streams – the faster the better. In locales such as these, it builds its bulky, cupped nest, often secreted within the streambank, the roots of wind-thrown trees, or at the bases of stumps.

If not for its loud voice, the Louisiana Waterthrush would be detected far less often than it is – which, outside of migration, is not very often. Its call note is an emphatic, penetrating, metallic, "Chink!" Its breeding song is a clear, enthusiastically whistled, "Teacher teacher TEA-ee-cher!"

The breeding range of the Louisiana Waterthrush extends from the upper reaches of the Mississippi River Valley in Minnesota and Wisconsin, eastward sporadically through central New England, and southward through all of the Atlantic and Gulf Coastal states, into eastern Kansas, Oklahoma, and Texas. In Louisiana, its breeding range is predictably restricted to the northern parishes where sandy, spring-fed, clear-running streams occur. It has also been recorded nesting in similar habitats within the Florida parishes of St. Helena and Washington. Louisiana Waterthrushes appear in Louisiana in early to mid-March, as they filter back northward from wintering grounds in Mexico, Central America, and parts of the West Indies. Sporadic winter sightings of "lingering" birds occur on an irregular basis in southern states, including Louisiana.

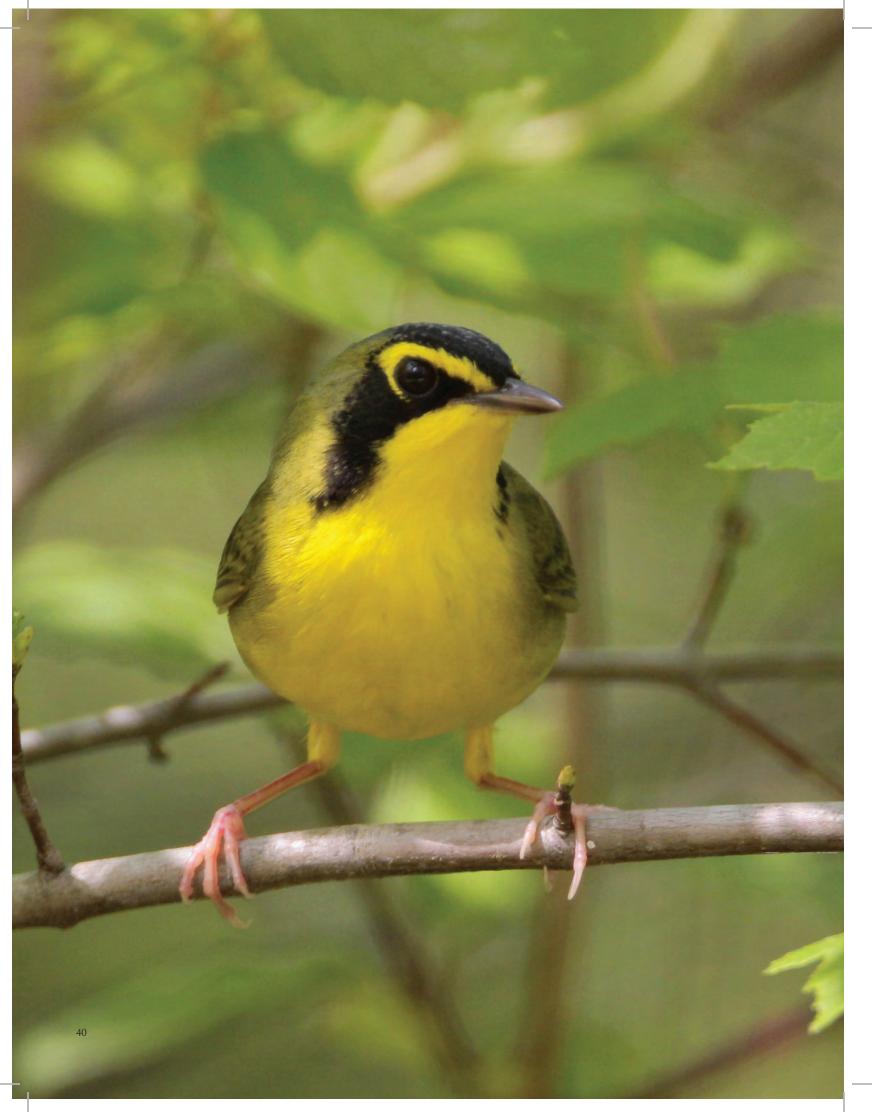
In Louisiana, Louisiana Waterthrush nesting begins in early April. Birds apparently waste little time in completing their reproduction duties and departing from their breeding grounds, for the first "fall" migrants begin appearing in south Louisiana by the first of July! The fall migration period is a long one, extending into the last week of October.





Though it behaves more like a thrush, and possesses the plain brownish upperparts and whitish, brown-streaked underparts of a New World thrush, structurally the Louisiana Waterthrush is more wren-like in appearance.





Kentucky Warbler

Oporornis formosus



elatively stout-bodied, thickbilled, and short-tailed, the 5.25" Kentucky Warbler is a denizen of moist, expansive, bottomland forests with lots of dense undergrowth and vine

tangles - one of the most common forested habitat types in Louisiana. Unmarked olive-green above and bright canary-yellow below, this warbler sports yellow "spectacles" (supercillary or "eyebrow" lines which curl around the back of the eyes) and jet-black "moustacial"stripes which curve beneath the eyes and broaden into "sideburns" along the sides of the face and neck. Its legs are bright flesh-pink in color.

Kentucky Warblers require fairly large unbroken blocks of bottomland hardwood forest, and live in dense, deeply-shaded, shrub and vine thickets within the forest interior. This particular niche is becoming less common with each passing year, and the Kentucky Warbler's breeding range is shrinking accordingly. Presently, it breeds spottily from the upper Mississippi River Valley and the Great Lakes eastward through Pennsylvania, New Jersey, and Long Island, and southward through the Ohio River Valley and most of the southeastern United States, excluding peninsular Florida and the coastal woodlands along the Gulf Rim itself. In Louisiana, the Kentucky Warbler is still quite common, and has been recorded breeding in all parishes north of the coastal zone.

Like most of Louisiana's breeding wood warbler species, the Kentucky Warbler is a ground and/or near-ground dweller, stalking prey secreted within shrubs, and on the ground itself. Its foraging style is slow and deliberate, especially for a wood warbler. On occasion it flits up into low-hanging tree limbs to snatch small insects from the undersurfaces of leaves. Typical prey items include all manner of small flying or crawling insects and spiders, as well as a substantial amount of berries, including those of

pokeweed (Phytolacca americana), hackberry (Celtis laevigata), and honeysuckle (Lonicera spp.).

Kentucky Warblers possess rather subdued voices, including a very throaty, low-pitched "chunk" call note, and an equally low-pitched, but melodic, rolling, "cheedle cheedle cheedle cheedle" breeding song, somewhat reminiscent of a Carolina Wren's, only less penetrating and exuberant.

The Kentucky Warbler's nest is bulky, looselycupped, and often roofed with an entrance on the side; and is usually placed either on the ground or at the low forks of shrub stems.

This species winters in shrubby thickets within lowland forests, from southern Mexico down through Central America and into northern South



America. In migration, it uses most any wooded habitat, but still skulks within dense shrubbery as near to the ground as possible.

Spring migrating Kentucky Warblers first show up in Louisiana by mid-March, with the bulk of the population not arriving until the first of April. During the fall migration period, they linger here until the end of September, and a small number continue to be detected through the middle of October. Stateside, "lingering" winter records for this species are uncommon, but every few winters one or more are detected somewhere on the Gulf Coast.



In Louisiana, the Kentucky Warbler is still quite common, and has been recorded breeding in all parishes north of the coastal zone.



Hooded Warbler

Wilsonia citrina

songbird – all other wood warblers included – is so dramatically ornamented in color and pattern as the male Hooded Warbler, with its brilliant yellow face and underparts, plain yellow-olive upperparts, prominent black eyes (among the largest of all U.S. wood warblers), and jet-black crown, neck, and throat, all neatly truncated across the nape and upper breast. In essence then, the male Hooded Warbler is a black-headed bird with a wide, canary-yellow mask across its face. Females are somewhat plainer,

erhaps no other Louisiana

Like the Kentucky Warbler, the Hooded Warbler is a chunky, mid-sized wood warbler that lives down amongst dense shrub thickets in mature, bottomland hardwood habitats. Interestingly, females tend to remain on or very close to the ground, whereas males flit about more actively, often ascending into the lower parts of trees to chase down small flying insects. Males also tend to spread their tails in flicking fashion (like redstarts do), exposing the white webbing of their tail feathers.

exhibiting varying intensities of the black hood.

Prey items include all manner of small crawling and flying insects, spiders, and some berries.

As with the Kentucky Warbler, the North American breeding range of the Hooded Warbler was once probably more extensive, possibly covering all of the eastern United States. Presently, however, it is re-

stricted to tiny, residual patches in the Midwest and Great Lakes States, becoming more contiguous into Pennsylvania, New Jersey, and southward through the Atlantic and Gulf Coastal states. In Louisiana, the Hooded Warbler remains a common nesting species in forested bottomland habitats throughout all of our 64 parishes.

Hooded Warblers are dedicated Neotropical migrants, with the overwhelming majority of birds wintering from eastern Mexico down through parts of Central America and eastward through the Yucatan Peninsula and most of the Caribbean. Interestingly, male and female birds maintain their segregated foraging behavior even on their wintering grounds, with females using dense, sunny, brushlands, and males confined to mature semi-evergreen forests.

Stateside, "lingering" winter birds are few and far between, with occasional records from southern Texas, Louisiana, Florida, and South Carolina.

Spring migrating Hooded Warblers usually begin to reach Louisiana by early March, about the same time that Northern Parulas do. Unlike Northern Parulas, however, male Hooded Warblers tend to remain quiet until the end of that month. Their ringing, far-carrying, "wheat-ee wheat-ee wheat-ee-OH!" breeding song is unmistakable as it bubbles forth from deep forests, most often at all hours of the day. Male Hooded Warblers are among the most persistent songsters of the wood warbler clan. The call note of the Hooded Warbler is a rather sharp, metallic, "chirp!" or "chink!" similar to that of the Louisiana Waterthrush.

Hooded Warbler nests are compact cups with dead leaves woven into their exteriors, and are located no higher than 5' off of the ground, most often within shrubs. Nest parasitism by the Brown-headed Cowbird is a conservation concern, but overall populations of Hooded Warblers seem to be more stable than populations of other species that have exhibited susceptibility to cowbird nest parasitism.



Perhaps no other Louisiana songbird

– all other wood warblers included

 is so dramatically ornamented in color and pattern as the male Hooded Warbler.

Female Hooded Warbler





Yellow-breasted Chat

Icteria virens

t seven inches in total length and nearly one ounce in weight, the Yellow-breasted Chat is by far the largest of the North American wood warblers. It is also the least warbler-like

in appearance, behavior, and habitat preference – so much so that the debate as to its relationship with the wood warbler clan raged on and off for many years. Most recently, DNA studies have confirmed that it is indeed a wood warbler, seeming to have settled the controversy once and for all.

Structurally, the Yellow-breasted Chat is reminiscent of the mimic thrushes (mockingbirds, thrashers, catbirds), possessing a somewhat large but streamlined body, a stout, slightly curved bill, and long legs and tail. Its unmarked upperparts range from olive to olive-gray, depending on geographical range, and its underparts are mostly a rich, saturated, lemon-yellow. Its belly and undertail are white, and thick, bright white "spectacles" and moustacial stripes boldly frame its face.

Habitat-wise, Yellow-breasted Chats require exceedingly dense shrub thickets, and are especially fond of thorny brier thickets for nesting purposes. Within the North American wood warbler family, this preference for open, sunny, but dense shrublands is shared only by the Common Yellowthroat.

Chats are shy and skulking birds, emerging from the thickets only to sing, and perhaps to dry the dew off their feathers just after sunrise. Otherwise, a clear view of a Yellow-breasted Chat is a rare event indeed.

Once you hear the raucous, unmusical, nonsensical voice of the Yellow-breasted Chat, the mystery of its shy behavior grows even larger. Ornithological writers have provided numerous interpretations of the strange complexities associated with this bird's voice. In *The Bird Life of Texas* (1974), Harry C. Oberholser put it most succinctly: "Regular vocalization consists of one or two harsh notes followed by clear, whis-

tling calls, cackles, rattles, squawks, and pops; these are on the same or different pitches and intermingled in almost endless variety." Such vocal performances may not be exceptionally odd for a mimic thrush; but strange indeed for a warbler!

Yellow-breasted Chats are widely distributed through the United States and southwestern Canada. In the eastern United States, they range contiguously from the southern Great Lakes through western New York and Long Island, Pennsylvania, and New Jersey, southward through the Ohio River Valley, the eastern edge of the Midwestern states, and down through the Atlantic and Gulf Coastal states. In Louisiana, the Yellow-breasted Chat has been recorded nesting in every parish.

Spring migrating Yellow-breasted Chats do not begin arriving in Louisiana until April, and are not abundantly detected until the end of that month. Settling into their dense, thorny, territories, they construct well concealed, but ill-constructed cuplike nests no more than a few feet above ground level. They forage low to the ground as well, taking small insects, spiders, and crustaceans, as well as a moderate amount of fruit, including blackberry, elderberry, huckleberry, wild strawberry, and wild grape.

The bulk of the Yellow-breasted Chat population departs the United States by the end of September, wintering in the lowlands of Mexico and Central America. Interestingly, this species is regularly recorded, at least in the early winter months, all the way up the Atlantic coastal zone through southern New England, and even up into the Maritime Provinces of Canada. By late December, however, it is difficult to find a chat anywhere in the United States outside of southern Arizona and the coastal zones of the Gulf Coastal states. Here in Louisiana, a few chats are detected almost annually each winter within our coastal zone.



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BIRDS IN TROUBLE: DO YOUR PART TO HELP

Here in Louisiana, the onset of spring brings with it many changes. One of these changes and perhaps one of our best kept secrets involves the abundance of migratory songbirds that can be found here. This includes hundreds of different species, many of which are considered part of the warbler family.

For anyone interested in seeing many of these colorful songbirds, visit the coastal cheniere forests or spend time in the swamps and bottomland hardwoods found across the state. Beginning in late February and extending till late May, millions of warblers are funneling through Louisiana, traveling northward from South and Central America. At times, hordes of these birds will be concentrated along Louisiana's coastal cheniere forests. A number of these forests have been acquired by conservation organizations and are open to the public year round and local landowners sometimes give permission for visitors to explore small patches of coastal woodlands. These areas are often prime locations allowing

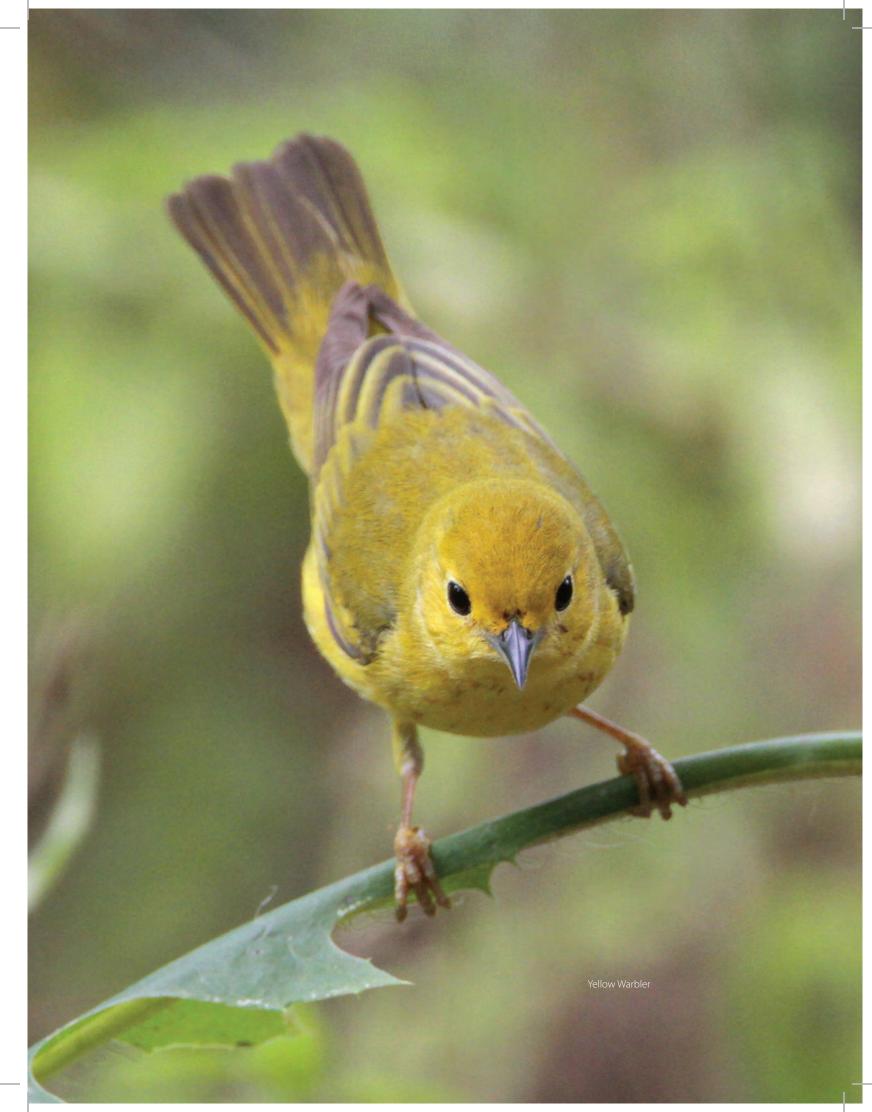
Black-throated Green Warbler



for the close study of these birds, particularly in the spring during and just after periods of inclement weather.

As the spring season progresses, those considered transient species of warblers continue their journey northward, leaving the state for their breeding grounds, but others will stay here in the state, inhabiting many of the forest ecosystems to nest and raise young.

Like many species of songbirds, a significant number of warbler species are in trouble - their populations are declining. There are many suggested causes for these declines, the most significant of which seems to be habitat loss both in the breeding and wintering grounds. However, much more attention is now being given to habitat loss along migration routes. Universities, through the support of the U.S. Fish and Wildlife Service, the state departments of Wildlife and Fisheries, and non-governmental organizations are conducting research on the life histories of many species of songbirds. Student biologists at universities across the country are conducting research that have more clearly defined the ranges of these birds, the habitat conditions needed during the breeding season, the factors impacting nesting productivity and nesting success, and many other factors that are important in the survival of these birds. But many questions still exist and further work is warranted.



WHAT CAN YOU DO?



Yellow-rumped (Myrtle) Warbler

Educate yourself! Become aware of the efforts of conservation organizations that help protect and manage Louisiana's wild habitats and the songbirds that rely on them.

Keep your cats indoors and make sure that they are spayed or neutered! Each year it is estimated that cats kill hundreds of millions of birds.

Apply affective techniques that prevent birds from flying into your glass windows both at home and at work. It is estimated that hundreds of millions of birds die annually by flying into plate glass windows. This is particularly the case when habitat is reflected by large panes of glass, or when transparent glass allows views of habitat on the other side of a building or home.

Participate in local Christmas Bird Counts! Each year around Christmas, many small groups of people at the local level join in the counting of birds over a one day period. Much of our understanding about bird distribution particularly in winter comes from these efforts.

Help with habitat restoration! Several of the organizations below have volunteer corps that help make the numerous projects initiated each year a success. These organizations are always looking for new volunteers.

For more information on what conservation organization and government agencies are doing to protect birds or how you might get involved, visit the following websites:

Barataria-Terrebonne National Estuary Program www.btnep.org 800 259-0869

Louisiana Ornithological Society www.losbird.org

Louisiana Bird Resource Center www.lsu.edu/biirdcenter

Louisiana Dept. of Wildlife and Fisheries http://www.wlf.state.la.us

The Louisiana Nature Conservancy www.natture.org/Louisiana 225 338-1040

Louisiana Wildlife Federation www.lawildlife.org

Gulf Coast Bird Observatory www.gcbo.org 979 480-0999

American Bird Conservancy www.abcbirds.org 888 247-3624

U.S. Fish and Wildlife Service www.fws.gov/birds 1-337-291-3114

 It is illegal to harass or kill any species of warbler. Report violations to the appropriate agencies.
 Louisiana Department of Wildlife and Fisheries 1-800-442-2511
 U.S. Fish and Wildlife Service 1-337-291-3114

Become a volunteer and help with coastal restoration. The Barataria-Terrebonne National Estuary Program maintains a volunteer program and is always looking for new members. Call us at 800 259-0869 or visit the web site http://volunteer.btnep.org/