

Virginia Hospitality



*Sharing the natural bounty of Virginia's Eastern Shore
with hosts of fall migrants*



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Cover: Fall fruits of Virginia's Eastern Shore: *photo by Bryan Watts.*

Cover inset: Male Black-and-white warbler, one of the more common neotropical migrants that pass through the Delmarva Peninsula in the early fall: *photo by Rob Simpson.*

Above: Red-tailed Hawk, one of the late migrants on the Eastern Shore. This species passes through in late October and November: *photo by William S. Portlock.*

Left: Eastern Kingbird, one of the early neotropical migrants that feed on late summer fruits: *photo by Tom Armour.*



Virginia Hospitality

Sharing the natural bounty of Virginia's Eastern Shore with hosts of migrants



Each fall, as the days begin to shorten and cold fronts begin to move through from the northwest, the Eastern Shore of Virginia becomes host to millions of landbirds on their journey south for the winter. From August through mid-December this narrow peninsula that forms the mouth of the Chesapeake Bay is witness to a spectacular drama that has played out each fall for thousands of years. Tree Swallows, American Redstarts, Common Yellowthroats, Black-throated-blue Warblers, Sharp-shinned Hawks, Peregrine Falcons, and dozens of other species funnel through the Eastern Shore before crossing the mouth of the Bay. In all, the tip of the peninsula supports one of the largest concentrations of landbirds found anywhere along the Atlantic Coast and is an important link in a much longer chain of habitats stretching from the northern latitudes of Canada to Central and South America.

For birds, the migratory habit is extremely widespread. Each year billions of landbirds migrate between the northern and southern hemispheres of the New World. Over two-thirds of all birds that breed in the northern United States migrate south for the winter. Migration affords birds the opportunity to exploit seasonal feeding opportunities while living in favorable climates throughout the year. Summers are spent nesting in the rich habitats of the temperate zone while winters are spent in more moderate climates to the south. For these fairweather travelers, partaking in the best that both hemispheres have to offer comes with a considerable cost. Fully one-half of all migrants flying south for the winter will not return to breed in the spring. High mortality rates are the result of the extreme energetic demands of migration, the hazards of long flights over water, and high predation pressures confronted en route.

The physical demands of migrating between summer and winter quarters are extreme. Most passerines cover a one-way distance of one to three thousand kilometers but distances of twice that amount are not uncommon. Migration over these distances requires a great deal of physical preparation. As the breeding season draws to a close, birds may build up as much as fifty percent of their normal body weight in fat reserves before departing. Even so, for many species, energy requirements needed to reach their destination will exceed this amount several times over. For this reason, distances are typically covered during several nonstop, long-distance flights that are separated by one to three days of rest and refueling. Many of the passerine species migrate at night, taking off an hour or so after sunset and flying continuously throughout the night. These birds may cover from three to six hundred kilometers per night, and use one to four percent of their body weight per hour of flight. Daylight hours are spent resting and foraging to replenish energy stores.

During the spring and fall, migrants may be seen over most of North America. However, particularly in the fall, a large

number of landbirds follow traditional routes. Within these routes, significant physical barriers such as mountain ridges, deserts, large bodies of water, and similar obstacles may act as migration bottlenecks concentrating large numbers of birds within relatively small land masses. These "stopover" or "concentration" areas may have tremendous conservation significance to bird populations that depend on



Above: Although removing understory vegetation gives an inviting park-like appearance, this practice strips the forest of plants that provide critical food and protective cover for migrant songbirds: *photo by Rob Simpson*

them for refueling before leaving on the next leg of their journey.

For southbound migrants, the Chesapeake Bay is one of the largest physical barriers along the east coast of North America. Migrants that reach the mouth of the Bay in the hours just before dawn settle out near the tip of the Delmarva Peninsula. On mornings following strong cold fronts, millions of birds may be concentrated

in the lower ten kilometers of the peninsula. The sheer number of these birds gives some indication of the volume of fruits, insects, and other foods that must be consumed during the course of a fall season. Providing for the needs of these birds means conserving the native vegetation that provides both the food needed for refueling and protection from predators. Because birds passing through the Eastern Shore are members of breeding communities throughout northeastern North America and winter communities throughout Central and South America, local land use decisions may have far-reaching consequences.

The Eastern Shore remains today one of the best locations within the mid-Atlantic region to observe one of the greatest natural spectacles on the Atlantic Coast. Following is a brief overview of some of the bird groups that migrate through the Eastern Shore in the fall, the timing of their passage, their habitat requirements, and some of the many opportunities to observe them. This information is provided in the hope that readers will come to the Eastern Shore to experience migration first hand and by doing so join in local initiatives to conserve important stopover habitats.

Birds that Migrate to the Tropics

Neotropical migratory birds are those species that breed in North America and winter in Mexico, Central America, the Caribbean, and South America. This diverse group of birds includes most warblers, vireos, thrushes, and flycatchers. These are some of the most colorful and recognizable species of summer. Sixty-five to eighty-five percent of the birds that nest in forested habitats of eastern North America are included in this group. Many of these species for one reason or another have experienced dramatic population declines over the last two decades. The majority of these species pass through the Eastern Shore early during the fall season and take advantage of the rich flush of insects and early crops of native fruits.

Each year the beginning of the migratory season is marked by the appearance of Eastern Kingbirds, Northern Orioles, Northern Waterthrushes, and Black-and-white Warblers. These species begin to trickle in as early as late July, but by mid August, orioles may be seen foraging in groups of a dozen or more and kingbirds may be observed by the hundreds. American Redstarts, Ovenbirds, Black-throated-blue War-



Left: Ovenbird. Ovenbirds are common migrants on the Eastern Shore, particularly during August and September. These birds are most frequently observed walking along the ground in forested habitats. This species forages in the leaf litter for insect larvae: *photo by Rob Simpson.*

Neotropical Migrants

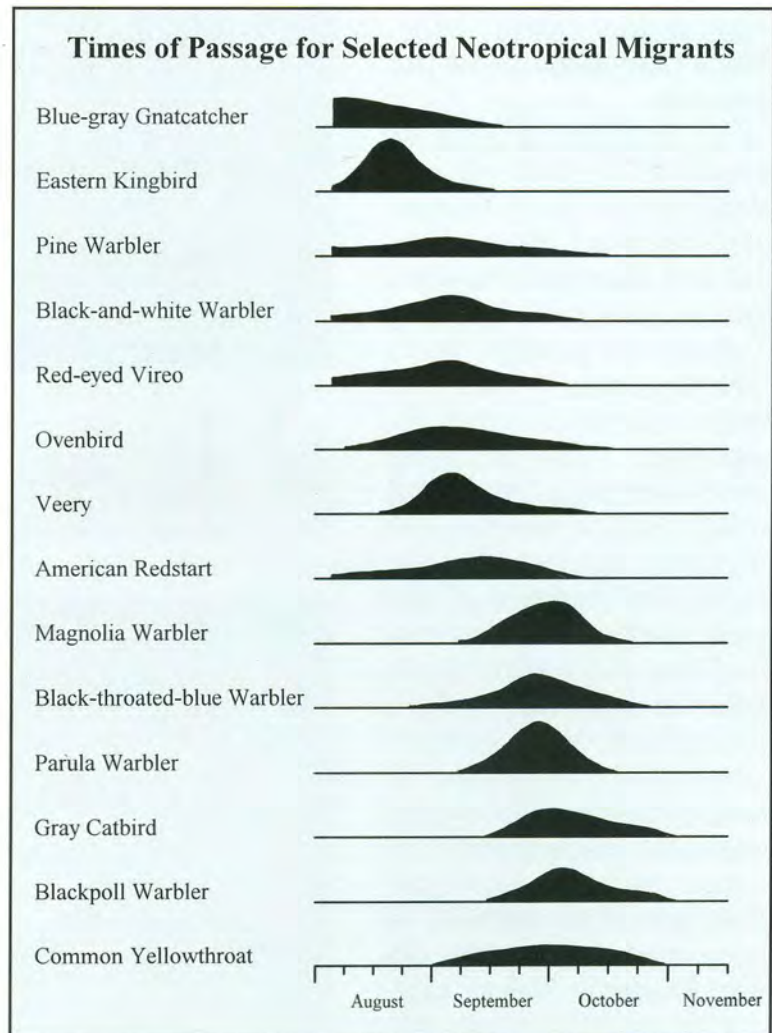


Above: Male Black-throated-blue Warbler. This species has a relatively long passage time in September and October when it is one of the most abundant migrants on the Eastern Shore. Individuals glean insects and larvae from the outer twigs and foliage of understory shrubs and trees: *photo by Rob Simpson.*

Right: Prairie Warbler. Prairie Warblers pass through the Delmarva in August and September. During this time they may be seen in fallow fields, along hedgerows, and along forest edges: *Photo by Rob Simpson.*



blers and many other species follow with redstarts being the most abundant neotropical migrant passing through the mid-Atlantic region. By late September it is not uncommon to see fifteen or more species of warblers during the course of a morning. As the fronts turn decidedly cooler through October, insect populations dwindle and neotropical migrants disappear from the shore. These birds are mostly gone by mid to late October with Gray Catbirds and Common Yellowthroats holding on until the last.



Upper Right: Seasonality patterns for selected neotropical migrants. Data compiled from Watts and Mabey 1992-1993.

Lower Right: Common Yellowthroat (adult male). Yellowthroats pass through the Eastern Shore during September and October when they are one of the most abundant migrants in fallow fields, shrublands, and forest edges. This species is typically observed on or near the ground where it forages on a mixture of insects and fruits: *photo by Rob Simpson*



Temperate Migrants

Temperate or "short-distance" migrants are those species that breed in the northern United States and Canada and fly relatively short distances to winter quarters in the mid to lower latitudes of North America. Like neotropical migrants this is a diverse group including some of our most well known birds of winter. In fact, nearly fifty percent of the landbirds that winter in Virginia are temperate migrants. In the mid-Atlantic region, temperate migrants include those species that breed far to the north and only appear in the region during the winter months, as well as other species that breed in Virginia but move further south for the winter, only to be replaced by birds from further north. With regard to temperate migrants, the Delmarva Peninsula appears to be unique when compared to other significant stopover areas in eastern North America. Tremendous numbers of these birds move through the Eastern Shore between late October and mid-December, so many that their numbers overshadow those of the neotropical migrants that move through earlier in the season.

Temperate migrants typically pass through the



Temperate Migrants



Above: American Robin. Robins migrate through the peninsula in late October and early November. During this time they may be observed in enormous flocks feeding on dogwood berries, wild grapes, and other fruits: *photo by Rob Simpson.*

Upper Left: Male Common Flicker. In early October, flickers may be seen moving south in large numbers. Several hundred may be counted on a good morning at Kiptopeke State Park moving south along the bayside: *photo by Rob Simpson.*



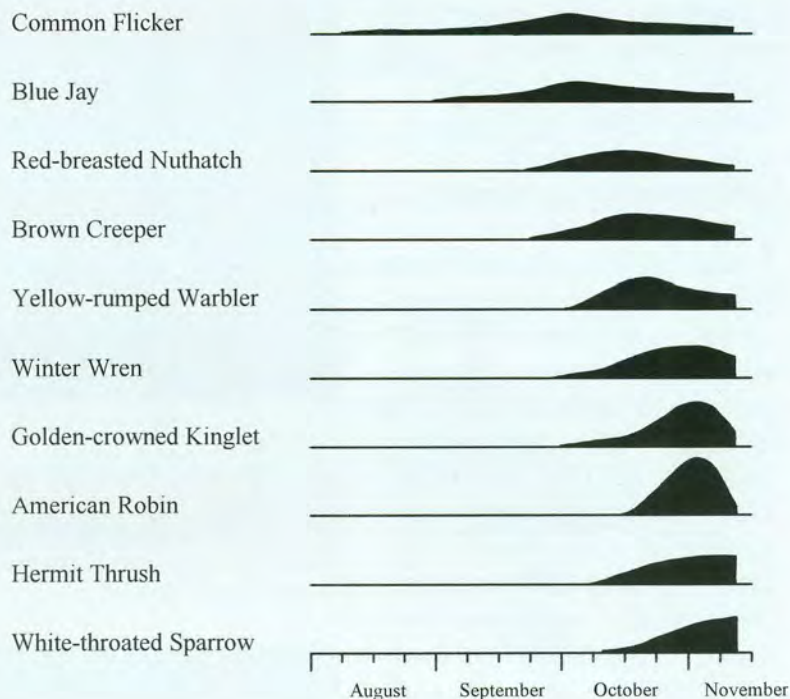
Lower Left: Red-breasted Nuthatch. Nuthatches move through the Eastern Shore in October along with numerous other temperate migrants. This species may be heard giving their nasal calls high in pine trees where they forage on the outer branches for insect larvae: *photo by Rob Simpson.*

Eastern Shore late in the fall and depend on seeds, nuts, and late fruit crops. Just as the neotropical migrants are beginning to disappear in early to mid-October, they are replaced by scores of Yellow-rumped Warblers, Winter Wrens, and Golden-crowned Kinglets. Yellow-rumped Warblers pass through in the largest numbers of any other migrant and gorge themselves on the wax myrtle and poison ivy berries that are so abundant on the Delmarva. By late October, American Robins may be seen in groups of hundreds following strong cold fronts. These birds move systematically around the bayside devouring dogwood berries (one of the most abundant and important understory trees on the peninsula). At this same time, many species of sparrows and finches begin to appear in open fields to feed on the seeds of common grasses and weeds. By mid-December, the sparrows, kinglets, sapsuckers and other birds that will spend the winter on the Peninsula have arrived, bringing with

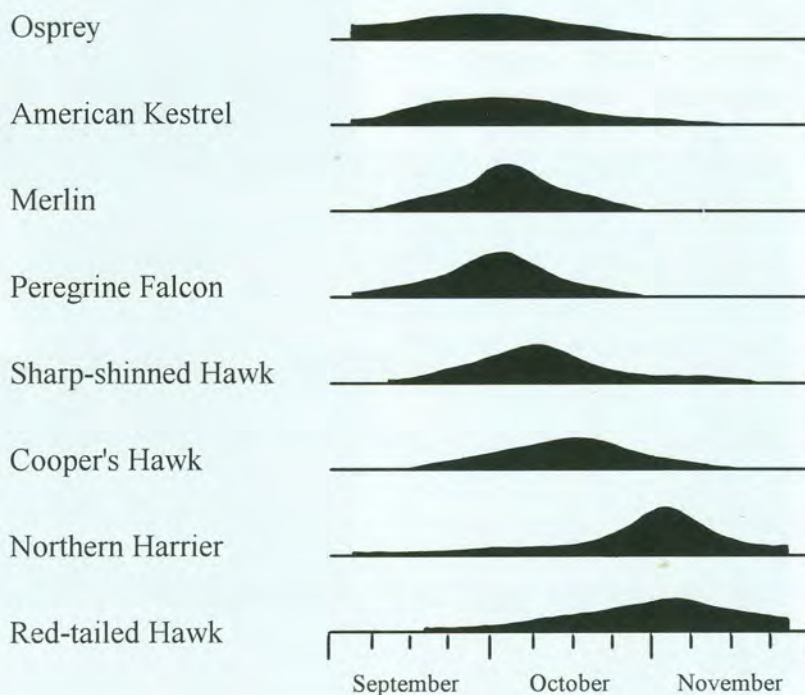
Upper Right: Seasonality patterns for selected temperate migrants. Data compiled from Watts and Mabey 1992-1993.

Lower Right: Seasonality patterns for selected raptors. Data compiled from Williams et al. (Kiptopeke Beach Hawkwatch).

Times of Passage for Selected Temperate Migrants



Times of Passage for Selected Raptors



them the end of migration for another year.

Birds of Prey

Birds of prey, or "raptors", are an exciting component of each year's migration. Although three or four owl species are believed to migrate through the Eastern Shore, little information is currently available on their abundance or times of passage. The more visible diurnal raptors (those species that hunt during the daylight hours) move through the Delmarva in large numbers, often traveling with waves of the migrant passerines they depend on for food. Included in this group are the royalty of the bird world such as the Bald Eagle, Peregrine Falcon, Merlin and others. These species may be neotropical or temperate migrants. Regardless of their destination, when these birds move into the lower Delmarva in large numbers they bring with them an electricity unlike any other group of migrants.

Hawk migration continues throughout the entire fall season. However, species appear at different times depending on the availability of their preferred prey. For example, the American Kestrel begins to appear in the area from mid to late August following some of the earliest cold fronts. This species feeds primarily on large grasshoppers that are



Raptors

abundant along open roadsides during September and early October. Kestrels are followed by Merlins, Peregrine Falcons, Sharpshinned Hawks, and Cooper's Hawks. All of these predators feed on migrant passerines with Cooper's Hawks specializing on the large groups of jays and flickers that become concentrated near the tip of the peninsula. Red-tailed Hawks and Northern Harriers are some of the last raptors to pass through in late fall. These two species hunt the open fields and take advantage of the small mammals that are more accessible after



Upper Right: Male American Kestrel. Kestrels are the smallest falcons that pass through the Delmarva. They typically hunt insects and small mammals in fallow fields and grasslands: *photo by Reese Lukei, Jr.*

Above: Cooper's Hawk (2nd year bird). Cooper's Hawks may be seen flying or gliding high overhead when migrating but typically hunt medium sized birds along hedgerows, forest edges, and shrublands: *photo by Reese Lukei, Jr.*

summer vegetation has begun to die back.

Studies conducted on the Eastern Shore during the early 1990's indicate that the majority of these birds utilize forest patches on the bayside of the peninsula that contain dense understory vegetation. Areas with dense vegetation often provide greater quantities of natural foods and also afford songbirds some measure of protection against predators. The combined food requirements of the millions of songbirds that pass through the lower peninsula must be tremendous. Providing for these requirements is an essential step in protecting migrants and should form the cornerstone of conservation initiatives on the lower Delmarva.

In recognition of the role that the Delmarva

Habitat Conservation

Peninsula plays in the conservation of birds, Northampton County (with funding from the National Oceanic and Atmospheric Administration's Office of Coastal Resource Management) has embarked on a conservation experiment. The County has adopted a comprehensive plan committed to managed growth and the protection of vegetative cover for wildlife habitat. By doing so, the County has acknowledged migratory landbirds and their habitat to be of significant conservation value. This action represents a progressive first step toward protecting a critical stopover area for future generations of migrants and the people who enjoy them.

As part of the plan,

the County seeks to increase public access and encourage tourism focused specifically on the area's ecological resources. Integral components of this effort are the Eastern Shore of Virginia National Wildlife Refuge and Kiptopeke State Park. These two locations provide public lands where interested people may observe migration as well as other natural events throughout the year. Another important component of this initiative is the Eastern Shore Birding Festival. Held during the second weekend of October, the festival attempts to attract nature enthusiasts throughout the region to experience fall migration first hand and to support conservation initiatives by contributing to the local economy.

Places to Go

Songbird Watching

Migrant songbirds may be observed virtually anywhere on the Eastern Shore. However, forested habitats along the bayside of the peninsula typically support the greatest densities during migration. Kiptopeke State Park and the Eastern Shore of Virginia National Wildlife Refuge both have trails open to the public for bird watching.

Hawk Watching

Like songbirds, raptors may be observed migrating anywhere on the Eastern Shore. Raptors may be seen in high numbers on the Eastern Shore of Virginia Wildlife Refuge and other areas with open fields. The Kiptopeke Beach Hawkwatch is conducted most days of the week from early September through October and takes place at the newly constructed platform at Kiptopeke State Park. In addition to the formal hawkwatch, this platform serves as a gathering place for the exchange of birdwatching information on the lower peninsula. Over 200,000 hawks have been counted here since 1977.



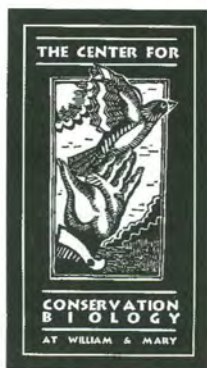
Bird Banding on the Eastern Shore

Bird banding has been a part of fall migration on the Eastern Shore since the early 1960's. Begun by several members of the Virginia Society of Ornithology, the Kiptopeke Banding Station (located on the property now designated as Kiptopeke State Park) is one of the longest running migration banding operations in eastern North America. Over its thirty year history, volunteer banders have processed over 225,000 songbirds. Beyond adding new information to our growing understanding of migratory birds, the station has provided thousands of visitors the joy of observing these birds "in the hand". In addition to the songbird banding, raptor banding has been conducted continuously on the lower peninsula since the late 1970's. Permanent trapping stations are located on both the Fisherman's Island and Eastern Shore of Virginia National Wildlife Refuges as well as Kiptopeke State Park. In all, these stations typically band approximately 1500 raptors each year.



Above Left: Field Sparrow caught in mist net. Long nylon nets are used to capture songbird migrants for banding at Kiptopeke State Park: *photo by Bryan Watts.*

Above Right: Paul Baker holds a Northern Harrier caught on Fisherman's Island. This bird is one of thousands that have been trapped and banded on the Eastern Shore since the late 1970's: *photo by Tom Armour.*



The Center for Conservation Biology is a non-profit organization dedicated to finding practical solutions to current environmental problems by integrating research, education and management. Only through the exchange of information and ideas may we hope to maintain the rich diversity of the mid-Atlantic region.



