



Historically, hordes of migrating Bobolinks descended on area rice plantations, earning them the name “rice bird”



This Pectoral Sandpiper is one of many fall migrant shorebirds refueling on earthworms on Ft. Caswell’s lawns

**Brunswick Wildlife
Bird Migration Basics (and Miracles)
(Part 1 of 2 Parts)**

Many avian species are only seen in the Lower Cape Fear during migration including these fall migration “poster birds” in the grass at Ft. Caswell. Shorebirds like the Pectoral Sandpiper and Black-bellied Plover and seed-eating species like the Bobolink stop to feed on the lawns, refueling for the next leg of their journey.

The ongoing fall migration provides a great time to look at migration basics and miracles. Seasonal migration is the movement of birds between breeding and overwintering grounds. Greater than 500 species that breed in North America migrate and of those over 200 travel as far as Central and South America.

Why migrate? Migratory behavior is mostly about food and a weather-sensitive food supply. The amount of available sunlight for foraging is part of the equation, since it varies by latitude and date. Alaska is an incredible breeding ground because of vast numbers of insects and almost twenty-four hours of daylight to compensate for a short breeding season. The same can be said for migrating birds overwintering in southernmost South America.

Long distance migration from the Nearctic to Neotropical zoogeographic regions may be the best known migration pattern. Of shorter distance are regional migrations and sporadic irruptions where birds stop at some point unless conditions deteriorate. Also, in

mountainous regions, altitudinal migrations may be down in winter and up in summer or vice versa depending on species.

The relationship between migration strategy and food resources concerns the predictability and seasonal variation of food. Some of our residents stay in place because there is low variability in food sources and it is highly predictable. Examples include Northern Cardinal, Downy Woodpecker, and Carolina Chickadee.

Birds that live with medium predictability and medium variability may be partial migrants like the American Robin, Belted Kingfisher, and House Finch. Brunswick County partial migrants may stay put because they have an adequate food supply; however, they will be joined by many from the north.

Neotropical migrants are faced with high predictability (of low supply) and high variability. Birds such as flycatchers, warblers, and hummingbirds must replace the caterpillars, insects, and nectar that nature takes away from them by going to the Caribbean, Central America, and South America.

The start of migration is based on the length of daylight...the photoperiod. Its effect on the pituitary gland stimulates migratory behavior. The start, however, may be slightly modified by current weather conditions. For example, birds may wait a day or two for more favorable winds.

The annual cycle of a bird is a continuum controlled by circannual rhythms. High levels of energy needed for breeding, molting, and migration determines the timing of these events. Energy wise and risk wise, migration is the most demanding event on a bird's annual schedule. Risks include exposure to predators, exhaustion, adverse weather conditions, etc.

A bird's daily activities and rest change as migration nears. For example, night migrants become more active at night. Also, most birds increasing exhibit migratory restlessness.

Birds use the "Anti-Adkins Diet" to store fat to fuel migration. They change their feeding behavior by increasing the volume consumed by up to thirty percent and shift to carbohydrates to produce fat. Also, metabolic changes promote efficiency in absorbing nutrients.

During their trip a migrant depletes stores of fat; however, the loss may be replenished at stopovers. A migrant may hang around one to three days for rest and refueling after flying several hundred miles.

Daytime (diurnal) migrants may use thermals (e.g. hawks, cranes, and storks) or eat on the wing (e.g. swifts and swallows). Some regional migrants like woodpeckers, robins, and blackbirds are also diurnal migrants.

A majority of species, especially passerines, are nocturnal migrants. Waterfowl and shorebirds migrate at day or night depending on weather conditions.

Nocturnal migration was naturally selected to avoid overheating and dehydration, to give more time during the day for foraging, and to allow birds to fly in an atmosphere that is more stable and has less turbulence.

This story will be continued next week but for now, let's turn to our Ft. Caswell poster birds as migration examples. Pectoral Sandpipers breed on wet tundra terrain in North America and mostly overwinter in the pampas of south-central and southern South America. Birds occupying distant ends of this range may make a roundtrip of more than 18,000 miles, a distance close to that of the Arctic Tern which is widely considered the migratory champion.

Bobolinks are also long distance migrants, flying round trips of up to 12,000 miles and they generally winter in northern Argentina. Their magnetic compass appears to be well developed and primary; however, after flight begins, they orient using their stellar compass.

Black-bellied Plovers are wide-ranging and also long-distance migrants. In North America they breed from Alaska through the Canadian Arctic and overwinter from British Columbia and Massachusetts south along the Atlantic, Pacific, and Gulf coasts. Smaller numbers overwinter in the interior of North, Central, and South America. A few may be found in our area during winter.

John Ennis



Migrating Black-bellied Plovers may be in mid-molt like this one, molting into a winter plumage without a black belly