

Changing Face of Spring

Birds on the wing are learning to live with man's expanding cities and industries, and his protection of nesting trees and flyways.

By BARBARA TUFTY

► Now that winter snows are thawing and spring buds are starting to unfold, man doffs his heavy overcoat, sniffs the warming air and looks to the sky for signs of spring—the flash of a bluebird or the soft trill of an evening robin.

But what is happening to these annual spirited sounds and sights that throughout man's history have symbolized the demise of winter, the return of spring?

Where are the birds?

Actually the birds are still with us, but the varieties are changing. There are fewer numbers of songbirds and more of the aggressive, annoying birds around man's habitations.

Instead of the bright finery of a red-bird in the bush, there are the saucy brown feathers of an English sparrow. Instead of the whistle of a thrush, the raucous tones of the grackle burst through the spring air. Where once the warbler dipped its yellow wings, the pigeon-toed pigeon lays a careless egg in a corner niche of a house.

Forests Become Cities

As man increases his numbers, he exchanges forests for cities, marshes for highways, woodlands for suburbia. He sends smoking chemicals into the air, drops waste materials into rivers and spews tons of pesticides over his farmlands and woods.

Hardy, adaptable birds survive and even thrive in this corrosive onslaught of man's civilization, but the more sensitive fragile birds are driven back to other regions, or remain to die.

Several bird species are actually increasing around man's habitations, ornithologists agree. Starlings, blackbirds, sparrows, pigeons and sea gulls—these are birds with strong adaptive characteristics that can cope with changing times. They take man and his cities in stride, perch on his concrete buildings, build nests in his drainpipes—and generally are quite at home with the trappings and wastes of man.

Other birds that cannot survive amid civilization's confusion and noise are on the decrease. Freedom-loving eagles, shy condors, Florida everglade kites, ivory-billed woodpeckers, possibly even robins and bluebirds—these are the birds that cannot cope with drained marshes, pesticides and shooting, burned underbrush, concrete buildings and asphalt roads.

Some bird species, once close to the dark edge of extinction, have been making a slow comeback in numbers. The red-crowned whooping cranes, the

trumpeter swans, herons, Hudsonian godwits, golden plovers and Aleutian Canada geese—these splendid beloved birds have been helped by protective laws regulating shooting and molesting. Public interest in saving these beautiful creatures is growing and has greatly contributed to efforts of Federal, state and private institutions.

Some birds have become extinct altogether, overpowered by man's guns and ruthless hunting. Passenger pigeons, once the most numerous birds on the continent, heath hens, the last of which died a lonely death in Martha's Vineyard, Mass., in 1932; great auks, clubbed to death by unthinking sailors—these and others have been so persistently killed that now no member lives in the world. Only a few stuffed, glassy-eyed carcasses, encased in museums, remind us of what they once were like.

Birds are some of the most highly specialized of the backbone animals. These beautiful, melodious creatures far outnumber all other vertebrates except fish and can be found throughout the world from polar icecaps and snow-bound mountains to dense jungles and barren deserts, from crowded cities to lonely ocean stretches.

Birds evolved from reptilian creatures some 150 million years ago. As

the long eons of time unfolded, the creatures changed and evolved into the intricate species we see today. In the age of dinosaurs, certain reptiles were starting to run around on two feet. Then they grew leathery flaps between the forearms and body for faster running or even short glides. Feather-like structures grew on their tails and wings that sometimes stretched 25 feet from tip to tip. Gradually some creatures lost their sharp teeth and grew a more streamlined body until today they are highly efficient flying machines. The only evidences that remain of their reptilian ancestors are the scaly legs, the horny beaks and the "egg tooth" on the upper jaw at hatching time.

Today there are 8,600 species of birds, divided into 27 basic groups or orders. Ornithologists estimate the world bird population to be 100 billion individuals, each with different highly specialized genes to determine its size, color, markings, choice of habitat, food, and ability to withstand change.

Members of the lower order of birds cannot fly—the ostriches, rheas, kiwis and penguins. The highest orders are the perching birds—finches and sparrows, according to some bird specialists; crows and jays according to others. The more highly evolved birds are able to spend most of their time off the ground in trees where they can feed, and rest and sing relatively safe from predators.

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Fremont Davis

PIGEON FEET ON CONCRETE—The ubiquitous pigeon, with population on the increase, is one of the few birds that have adapted readily to man and his civilization, replacing thrushes, robins and song sparrows.

Pigeons are remarkably plastic or successful in adapting to man, ornithologists point out. These stout-bodied, small-headed birds are found in the harsh climate of Death Valley as well as in the urbanized, sophisticated streets of New York City. The aggressive, extremely adaptable starling has pushed and bullied his way into being North America's most numerous bird. In his scramble for top place billing, he has often evicted the less militant blue-birds, flickers or red-headed woodpeckers from their nesting holes and caused a serious decline in these birds.

The English sparrow was introduced into America in 1852 and within less than a century became one of the most familiar inhabitants in every state.

White Cattle Egret

The white cattle egret has been expanding his range explosively during the past half century. A native of Eurasia and Africa, this white insect-eater appeared in South America sometime between World War I and II. Blown by some tropical storm, it landed in Florida and had established a small colony by the early 1950s. Since then egret numbers have been expanding and they can be found in Canada today. Sleek sea gulls are another species that has been increasing, thriving on the tons of garbage tossed into the oceans.

Man, creator and destroyer, has long devised methods of destroying or controlling those birds he considers pests. Primitive methods of driving the feathered raiders away from precious fields of grain were simple and direct—shoo them away, holler, throw stones, train birds of prey to catch the thieves. Then someone thought up the scarecrow, and swinging mirrors that flashed reflected light across the fields, to startle the birds.

Man has thrown protective netting over his coveted plants, set traps, destroyed nests and eggs, used gunfire and grenades, sent electrical impulses tingling through birds' feet, flown light planes over fields. Latest devices use more subtle methods to keep birds away. Psychological warfare now includes tape recordings of a wounded pest bird, broadcast over the area to keep his relatives away.

During the inaugural parade of President Lyndon B. Johnson, a sticky harmless chemical spread over trees and buildings was so annoying to the local starlings that they abandoned their favorite downtown roosts and fled to other areas. Agricultural researchers have developed a strain of corn that is resistant to birds, and last autumn a birth-control chemical was soaked into grains which were then strewn on the sidewalks of New York in a humane effort to limit the population of pigeons.

Man's discovery of pesticides to kill insects and other crop destroyers has been a boon to farmers but has endangered wildlife to a yet unknown degree. These lethal chemicals have washed into the soil, drained into rivers, lakes and oceans, and accumulated

in wild creatures throughout the world. Powerful chemical industries are trying to soft-pedal the effects, but bird and wildlife lovers are continuing to amass facts that give undeniable evidence of harmful traces. The use of two widely used chemicals, dieldrin and aldrin, has been recently curbed by the Federal Government because of harmful residues. New methods of controlling insects by radiation and biological factors are being studied in the hope of replacing harmful chemicals.

Once man's benevolent conscience has been awakened, he devises new methods to protect those same creatures he has so sorely punished. Recently the Secretary of the Interior asked that a square mile zone of no-trespassing be set off around each nesting tree of the rare, endangered bald eagle, symbol of America.

Each year, a fascinating 2,500-mile-long alert system has kept America's tallest birds, the whooping cranes, from dying out. Each spring and again in autumn, radio and television programs, newspapers and magazines alert people not to shoot or molest the tall birds as they journey along their route from the Gulf of Mexico up through the Mississippi Valley into Canada where they build nests and produce young each summer. The tiny band of protected wild voyagers has slowly increased its numbers from the all-time low of 14 in 1939 to the latest figure of 52 at the time of the last count.

Game birds such as ducks, geese and coots are probably the most carefully protected of all migratory birds. Each year hunting restrictions place definite limits upon definite species, depending on the estimated number of birds that year. As individual hunters begin to understand that the idea behind these restrictions is to control the surplus but not to depopulate the species, they cooperate in observing the restrictions, safeguarding the enjoyment and food for another year. It is the old story of not killing the goose that lays the golden egg, but protecting him and enjoying the benefit.

More farms and fields, wetlands and waters throughout the nation are being managed or cared for in order to offer great flocks of migrating birds the food and rest they need for their voyages north in spring, and south in autumn.

Many airplanes are now equipped with radar for monitoring bird flights so that collisions can be avoided, and bulletins are sent out along the great migratory flyways for pilots to beware of flocks at certain times of the year.

For the first time in 20 years, slaughter of the great horned owl in Pennsylvania was abated by canceling the reward of \$4.00 offered for each owl carcass.

As people are beginning to understand more about bird habits and to be interested in protecting the bright feathered creatures, industries are manufacturing items to help suburbanites lure songbirds to their windows and gardens.

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The growing interest of individual people in birds is also reflected in the annual Christmas Bird Count, an exciting project whereby bird lovers count all the birds they can see and hear in a certain area within the week between Christmas and New Year's Day. Managed jointly by the National Audubon Society and the U.S. Fish and Wildlife Service of the Interior Department, the Christmas Count gives a general indication of the approximate numbers of America's birds.

This year, the 65th year since the idea started, more people than ever before put on their boots before dawn and walked through the parks to count their feathered friends. A more accurate scientific method is being devised at the Patuxent Wildlife Service in Laurel, Md., whereby the numbers of breeding birds during the months of mid-April through July will be counted and tabulated by computers.

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MEDICINE

Birds Bring Disease

➤ A SECOND attempt to clear a starling roost in the center of town by the local Park Clinic of Mason City, Iowa, and the Communicable Disease Center station of Kansas City, Kans., resulted in a second outbreak of acute pulmonary histoplasmosis, which developed in 87 persons. Acute inflammation with skin disease and inflammation of the nodes of the legs also affected 30 of Mason City's population.

As many as 500,000 new infections are estimated to occur annually in the United States, the Mason City report stated in the New England Journal of Medicine, 274:415, 1966.



Fish and Wildlife Service

BLACK STARLING—Starlings, as well as pigeons and chickens, are held responsible for the spread of an infectious disease known as pulmonary histoplasmosis. As many as 500,000 new cases occur annually in the United States.

Other locations in which starlings as well as pigeons and chickens have been blamed for soil contamination include Washington, D.C., where in the summer of 1961 two parks were reported having soil producing the fungus, *Histoplasma capsulatum*.

The fungus had previously been found in nearby Maryland and Virginia, where 85% of the population in some communities showed incidence of exposure. A survey in Frederick County, Md., reported in the fall of 1962, showed that of 1,924 school children, 35% showed positive reactions to tests.

In one instance, a three-month-old boy got histoplasmosis from sleeping on a 30-year-old pillow stuffed with chicken feathers from Hungary—a prized heirloom.

One doctor went so far as to advise rural children to leave egg-gathering to older persons, who probably are already infected from clearing the debris from chicken houses. However, wetting or

disinfecting the debris could help alleviate the problem.

A Public Health Service report from Communicable Disease Center investigators stated that an average follow-up of less than five years showed that one-third of histoplasmosis patients either have died or show progression of the disease.

Results of the infection can vary from a relatively harmless condition to incapacitation that could be fatal because of chronic lesions in various internal organs.

Treatment is possible, and doctors are advised to make skin and blood tests in cases of undiagnosed lung disease.

More than 8,000 histoplasmosis patients have been sent to tuberculosis hospitals with wrong diagnoses.

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Nature Note

Wolf Spider

➤ KEEN-EYED, swift-moving and brave, the wolf spiders do not build a web to catch their prey as other spiders do. They simply stalk the prey, run after them and pounce upon them in true wolf-like fashion.

Wolf spiders, also called hunting spiders, have a thick velvety coat of hair that varies in color from black to gray or brown, with dark stripes or patches. They have eight bright beady eyes arranged in three rows—four small eyes in the front row and two large eyes each in the second and third rows.

The active, strong-legged members of the family Lycosa, which comes from the Greek work for wolf, are found throughout the world in many kinds of surroundings—pasture lands, fields, edges of woods.

The spiders are usually more active at night, when the insects they feed upon are moving about, and the wasps that prey upon the spiders are asleep. By day the spiders hide under stones, wood or matted grass.

The mother wolf spider lays about 200 eggs, which she carefully encases with silk and carries with her wherever she goes, attached to the underside of her body by spinnerets. Like many animal mothers, she will fight to the death to protect this case of eggs.

When the baby spiders emerge, about several weeks later, they swarm over her back covering her completely except for her head, hanging on as best they can as she continues to run, leap and pounce in her hunting activities. After several days, they are ready to slip off her back and start hunting on their own.

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