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MICHIGAN'S RARE SONGBIRD

"Leaving the river bottom I climbed to the top of the first plain and walked slowly along . . . suddenly I heard a new song, so rich, loud, and clear, I knew it must be the one I was in search of. I followed it around and heard it sing many times . . . After a long time I saw him alight in a low bush and sing . . . I shall be disappointed if I do not find the nest low down (in a jack pine) or maybe on the ground. Its song, the most beautiful of any warbler, is so wild and clear and has such a ringing, liquid quality, I feel well repaid for my trip by this one experience. I had hoped by watching the birds to find the nest, but found it hard even to see the bird after locating it by the song . . . I have just found a pair of Kirtland's Warblers and, as I write, the female is 3 feet away, fluttering her wings, and seems very anxious. I am near a small heap of brush and logs and maybe the nest is here . . . As I go around on my hands and knees, I see she keeps very near . . . The male is on top of a dead stub 20 feet high . . . Near the top of the stub is a small hole, and it may be the nest is there, although I have not seen the female go there . . . Then, at the moment of discovery I saw him go down and went over there. I saw him come to the stub, and he had a worm in his mouth . . . Down into the jack pine he went . . . No bird and no nest! I watched a few minutes longer and saw the female in the low jack pines. I watched her and she seemed very uneasy. I began looking carefully on the ground, as I had made up my mind it would be found there. Suddenly I saw the nest! . . . In the nest were 2 young birds a few days old, and, as luck would have it, one beautiful egg . . . pinkish white, thinly sprinkled with chocolate brown spots gathered in a wreath at the larger end."

These field notes were written on July 8, 1903 by Norman A. Wood, then curator of birds at the University of Michigan. His discovery of the breeding grounds of the Kirtland's Warbler, in the north of Michigan's Lower Peninsula, was the culmination of searching and guessing by a large number of ornithologists for over a half a century. Some speculated that the bird nested in Alaska, others thought that Labrador was the area, and still others maintained that this small, colorful bird bred on the tundras in northern Canada. The first Kirtland's Warbler known to science was a bird shot near Cleveland, Ohio on May 13, 1851 by Charles Pease, who gave it to his father-in-law, Dr. Jared P. Kirtland, a wellknown and highly respected scientist. Dr. Kirtland, in turn, presented the specimen

to Spencer F. Baird, of the Smithsonian Institute, who published a description of the bird and named it in honor of his friend. Then, in 1865 Baird made an astonishing discovery. In checking over specimens collected by Samuel Cabot, Jr., on a voyage to Yucatan, he came across a perfect skin of a male Kirtland's Warbler. The bird had been shot at sea, near the island of Abaco in the Bahamas, in October, 1841, a full decade before the Cleveland specimen had been obtained. Thus, a clue that the bird winters in the Bahamas was completely substantiated in 1879 when a bird was collected on Andros Island.

Speculations and theories as to the nesting ground of the bird continued during ensuing years. Then, on June 13, 1903, E. H. Frothingham, of the University of Michigan Museum of Zoology, and his friend, T. G. Gale, were trout fishing on the Au Sable river in western Oscoda county. They heard an unfamiliar song, shot one of the several birds that they heard singing, and took the bird to Norman Wood who identified it as the rare Kirtland's Warbler. Wood immediately set out to find a nest. He took a train to the town of Roscommon, hired a rowboat at that point, and spent two long days rowing down the Au Sable until he reached his destination, Parmalee Bridge, near the village of Red Oak. A week later, after intensive search, he was able to write his description of the first nest. Of the many nests discovered since, not a single one has been found more than sixty miles from that spot in western Oscoda county. The warbler has been observed nesting in twelve Michigan counties, in a strip roughly ~~more~~ ^{one} hundred miles east and west and sixty miles north and south, ^{but in no more} than nine counties of the twelve during a single breeding season. In addition, the bird does not nest throughout this area, but only in a comparatively few highly-selective regions where conditions are ideally suited to its taste.

There is good reason to refer to the bird by its popular name, the "Jack Pine Warbler," for it is indelibly associated with this tree. The Jack Pine followed the retreating Wisconsin glacier from the south, about six to eight thousand years ago, and now stretches in a broad belt from northwestern Canada, southeasterly to the Great Lakes region, and then across the northern border of the United States into Quebec province. In the so-called "Pine Barrens" of the northern Lower Peninsula the Jack Pine attains its greatest density and here, apparently, the Kirtland's Warbler has established its last stronghold. During the great logging operations in the last quarter of the previous century, the state of Michigan was practically denuded of its immense stands of white and red pine, but the jack pine was considered worthless and was left standing or in "slashes" to feed the fires which invariably followed logging operations. The jack pine method of reproduction is rather unique in that the cones, encased in tight, resinous jackets, require intense heat to open and scatter the thousands of seeds inside the cone. In the heart of the Michigan jack pine country, there are few large bodies of water to impede fires, few marshes to confine them, and few large blocks of hardwood forests to isolate them. Consequently, both before and during the logging era, forest fires swept the area and the jack pine reproduced itself abundantly, to the consequent benefit of the Kirtland's Warbler and its unique nesting requirements.

And unique they certainly are! The bird will nest only in large thickets of young pines, roughly between five and twelve to fifteen feet in height, with scattered openings between the groves. The trees must be old and tall enough for the lower limbs of adjacent trees to touch one another so that the bird, always building its nest on the ground underneath,

has overhead cover. When the trees reach a height of twelve or more feet, the lower branches die, removing that cover, and the bird will desert the area. Thus, in a sense, the Kirtland's Warbler is one of the few forms of wildlife that is dependent upon fire for its continued survival. In its "islands" of jackpine thickets, nesting in scattered colonies, it faces minimum competition from other birds which nest in areas of better soil and conditions. It is seldom confronted with the problem of most ground-nesting birds - that of having the nest inundated during heavy rains and floods - because ~~of~~ the extremely porous nature of the leached, sandy soil drains all surface water rapidly. Again, because of the submarginal nature of the territory, it faces relatively few large predators, including man. This may explain its relative tameness in the presence of human beings, a fact I was not aware of when, after a long search for my first warbler, I took movies of him when he was too far away to be seen in the developed picture. Perhaps it was the whirring noise of the camera, ^{which attracted} but he came closer and closer until he was a scant dozen feet away. Still not realizing that probably I could have moved to a better vantage point without frightening him away, I continued to film him directly into the sun, with the result that my first movies of the bird are probably the best collection of bleached-out Kirtland's Warblers and Kirtland Warbler silhouettes on film!

The Kirtland's Warbler itself is an attractive member of the family of Wood Warblers, a large family of small, usually brightly-colored songbirds found only in the Western Hemisphere, and a group of birds which Roger Tory Peterson has aptly called the "Butterflies of the Bird World." Larger than most other warblers, it measures about five and three-quarter inches from beak to tail - a bit smaller than an English Sparrow, for example - has a

clear, lemon-yellow breast and throat, a bluish-gray back with black streaks extending into the yellow breast, and a white eye ring. In addition, the male has a black mask running through either eye and both male and female have a habit of pumping their tails up and down when they are perching. The song of the male, given constantly during the breeding season at certain times of the day, is quite unusual. It is rather low-pitched for a warbler, short in duration (the entire song takes less than two seconds), and is unusually loud. Explosive in nature, it sounds a little bit like the song of the House Wren, and can easily be heard a good quarter of a mile away on a windless day. Consequently, many more Kirtland's Warblers are heard than are seen.

As might be suspected, nests are extremely difficult to locate. The best method, I have found, is to locate a singing male, preferably in the month of June during the height of the nesting season. If he is a mated bird, if he is gathering food for his wife who is incubating the clutch of eggs or for the fledglings after the eggs have hatched, and especially if you have unlimited patience to remain quiet in spite of black flies, hot sun, and gnats, he may lead you to the general area of the nest. The chances of accidentally coming across a nest are too remote, I believe, to be considered. After locating the general area, the task becomes a matter of slowly and carefully exploring literally every inch of ground on one's hands and knees, sometimes over a fairly wide area. Sometimes the brooding female, like most birds which nest on the ground when you are some distance away, ^{will feign illness or disability, fluttering over the ground} trailing an apparently-broken wing behind her until you are lured a respectable distance from the nest, whereupon she suddenly becomes completely cured and flies away. At other times, she will sit tightly, depending upon protective coloring and the cleverly-hidden nest until you may be inches away or perhaps even touch

her before she leaves. The nest is usually hollowed out in the ground, under low-sweeping jack pine branches, arched over with sedge grass, blueberry or bear-berry growth, and made of pine needles, fine rootlets, grass, and lined with feathers, fine vegetable matter, and deer hair. I have found six nests in four consecutive summers, spending one or two days in the area each summer. Two nests contained six warbler eggs each (although the average is four to five eggs per nest); one nest contained four warbler eggs; one contained two young warblers almost ready to leave the nest; one contained two warbler and two cowbird eggs; and one contained two large young cowbirds and two dead baby warblers. In all these cases, the parent birds did not seem nearly as agitated or troubled as in the case with most other birds when a nest is discovered, although it would be foolhardy to spend much time at the nest (without a blind) or to revisit it frequently.

The future of the Kirtland's Warbler is impossible to predict at this time. Until recent years, ornithologists were predicting that it would eventually join the ranks of the Passenger Pigeon, the Ivory-billed Woodpecker, and other North American birds that have become extinct during the last half century. In 1951 and again in 1961 Harold Mayfield, who with the late Dr. Josselyn VanTyne, Curator of Birds at the University of Michigan, studied the bird every summer for many years, enlisted the help of several dozen highly-qualified ornithologists in obtaining a census of the entire population of Kirtland Warblers. In both cases, the figure turned out to be slightly less than one thousand birds, every one of which was born in the state of Michigan. Since the average weight of an adult Kirtland's Warbler is a bit under fourteen grams, the entire world's population of this bird would weigh about thirty pounds! ^R Coupled with man's efficiency in controlling forest fires and thereby decreasing the

amount of jack pine thickets available to insure the warbler's survival, is an even greater threat to the continued existence of the bird, the Cowbird. This bird, the only one in North America to habitually lay its eggs in other birds' nests, has become Public Enemy Number One to the warbler's survival. The female Cowbird, never building a nest of her own, waits until the nest-building of other species is completed and then stealthily lays a single egg, repeating this process often several times, usually in the early morning hours before the rightful owner returns from roosting to begin incubating for the day. Since the incubation period of the cowbird egg is two day's less than that of the warbler, the young Cowbird (or Cowbirds) hatches earlier, is much larger than the warbler young, and gets the lion's share of the food brought by its foster parents. Thus, the young warblers are usually either smothered to death by their larger nestmates or die of starvation. In addition, the female Cowbird frequently removes a warbler egg from the nest when she lays one of her own, subsequent to the first. Mayfield, through intensive study, estimates that sixty percent more warbler young would be raised if there were no parasitism from the Cowbird.

The Cowbird parasitizes many other species of small song birds, notably the Chipping Sparrow, Vireos, and several other species of Warblers, but in all these cases the birds are numerous enough and widespread enough to counteract the parasitism. Indeed, some of the species are able to detect the foreign egg and either throw it out of the nest or build a new nest over it. Yellow Warblers, for example, have been known to build three and even four-story nests to negate Cowbird parasitism. It is rather galling to see a pair of warblers busily feeding a squawking interloper that is at least twice as large as its foster parents, especially when one realizes that one or more baby warblers have been sacrificed earlier.

In an almost-unprecedented effort to insure the survival of a rare songbird, the Michigan Department of Conservation, in cooperation with the Michigan Audubon Society, in 1958 reserved three separate forest tracts in three separate counties - a total of eleven square miles - as management areas for the Kirtland's Warbler. In June of 1963 the U. S. Forest Service dedicated over four thousand acres of the Huron National Forest to the same end. The program has received additional support, chiefly in the form of financial contributions, from four sources since these dates: The Michigan Audubon Society, the Pontiac Audubon Club, the Detroit Audubon Society, and the Michigan Natural Areas Council. Free permits are now required to enter or to use the management areas during the nesting season, from May 1 to August 15. The U. S. Forestry Service follows a system of rotation in the cutting and planting of trees, and the jack pine has been found to be completely usable for pulpwood. In addition, the first of carefully-supervised planned "burns" was initiated in 1964, when a-mile-square area within the management area was burned over. About every five years a similar square mile will be burned, so that the warbler will be sure of having some suitable nesting areas available. One year after this first "Operation Popcone," as it was called, the first jack pine seedlings were pushing their way upward through the charred ground. There is a good chance that Kirtland's Warblers will be nesting in this area within the next half-dozen years, at which time another area will be burned.

In July of 1963 a four-foot high replica of the Kirtland's Warbler, carved from Fiberglass and plastic, and housed in a stone cairn on the courthouse lawn of Mio, county seat of Oscoda County, was dedicated by Roger Tory Peterson, probably the best-known of American ornithologists. At the same time, a campaign was launched to make the Kirtland's Warbler the state of

Michigan's official bird. Although the Robin has long been considered the state bird of Michigan, the legality of the choice was never completed, and the warbler's proponents pushed their request to the state legislature, where the battle raged for four months. The resolution was finally returned to the committee for burial, but many people think that it is only a matter of time before the Kirtland's Warbler will become the official state bird of Michigan.

Now that one of the two major threats facing the warbler's future has been minimized through the establishment of management areas, with logging and seeding combined with controlled burning, attention has been focused on the other and probably more dangerous enemy, the parasitism of the Cowbird. Several of the leading biologists in the state, under the direction of Dr. Nicholas Cuthbert of Central Michigan University, had limited success in 1965 in shooting Cowbirds, removing eggs and young from parasitized warbler nests, and in using other laborious and time-consuming methods. In the spring and summer of 1966, however, success has been much greater through the employment of large baited traps. Two traps, about two miles apart in the Mack Lake Management Area, were constructed of wire mesh and lumber, each about twenty feet square and six feet high. The birds enter through a small, hanging entrance at the top of the cage and, once inside, are unable to find the small opening through which they entered. Trapped birds encourage other Cowbirds to enter, with the result that several hundred Cowbirds had been destroyed by the first of June. With true scientific conservatism, Dr. Cuthbert reports that it will take several years before progress can be certain, but success in raising young Kirtland's Warblers in the controlled area (where the traps are located) has been eighty percent greater than in a similar area where nothing is done deliberately to control

the Cowbird. It is difficult, then, to refrain from becoming enthusiastic about the ability of the warbler to at least "hold its own" in the future, barring other unforeseen difficulties.

Inevitably one must face the question as to whether so much attention, time, and money should be spent on a small bird which has practically no economic value, which lives in an area that is generally unattractive to humans, and which, if left to its own resources, would probably become extinct in a short time. It can be said, I suppose, that most people couldn't care less about this specific question but it is undeniably true, that the American public is gradually becoming aware of its shameful history of spoiling the water, air, trees, soil, marshes, plains, wildlife, and scenic wonders in general. Many people are beginning to appreciate the fast-dwindling, once-abundant natural wonders of the land, and to cherish them for their children and grandchildren, perhaps, tragically, too late. Some see the truth in "I think that I shall never see a billboard lovely as a tree", and are becoming increasingly aware of the fact that man cannot continually despoil his natural environment without eventually despoiling himself.

I am sure that I share with many of you the excitement, the wonder, the sheer, soul-filling enjoyment of discovering ^{something for the first time, perhaps} a little, yellow-gray bird ~~for~~ ^{and} ~~the first time,~~ of hearing it sing its loud, ringing song, of being rewarded after an hour's painstaking search with the sight of a nest, or simply wandering alone through the jack pine plains. One may wander, ~~As~~ I have, a full day through the area without seeing another human being, realizing that this small part of the earth is much as it was before the white man landed on this continent. Or, if you do meet other people, it is soon evident that they are there for the very same reason. One afternoon I met three other people, singly, and enjoyed comparing "notes" with them.

One was a retired public school teacher from New Hampshire who spent his summers touring through the United States observing wildlife; another was the president of the New Jersey Audubon Society; the third was a mink rancher from Ontario who spent his spare time travelling all over the earth, adding to his "life list," the number of different species of birds he could find in his life time. I remember how my own life list of about two hundred and thirty dwindled when he told me that his, after a trip to Africa, had passed the fourteen-hundred mark!

There are still areas in Michigan where one can truly "get away from it all." Oscoda and Crawford counties, for example, in the heart of the Kirtland's Warbler country, are both relatively large counties, about thirty miles square each. Yet only Keewenaw County, at the northern tip of the Upper Peninsula, has fewer people. There are five villages in Oscoda County, the largest of which is Mio, the county seat, with a population of about five hundred people. No railroad runs through ~~the~~ the county, there is very little industry since logging days, and except for the seasonal influx of canoeists and trout fishermen on the Au Sable River and the deer, bobcat, and snowshoe rabbit hunters during the hunting season, the whole area remains quite remote and untouched. Sometimes I wonder, selfishly, if the Kirtland's Warbler should become the state bird. Perhaps it would bring too many curiosity-seekers, publicity hunters, paved highways, billboards, neon-lighted roadside hotdog stands, beer cans, *discarded* rubber tires, and all the other usual accompaniments to civilization. This civilization would, then, I am sure, accomplish what the lowly Cowbird has thus far failed to do - wipe out the Kirtland's Warbler for all time. And we - all of us - would be the losers.