

The Elusive Ivory-billed Woodpecker: Its Past . . . and Hopeful Future

by
George Heinrich and Charles Welch
Memphis Zoo and Aquarium
Memphis, Tennessee

Somewhere in the deep, remote areas of the southeast where few men have ever gone, an extremely rare and endangered bird may still exist. Probably no other bird has caused more concern or accounted for more total manhours spent than the elusive ivory-billed woodpecker, *Campephilus principalis principalis*, the largest woodpecker on the North American continent. With an average length of 20 inches, it is the second largest in the world, exceeded only by the imperial woodpecker, *Campephilus imperialis* of Mexico. The plumage of the ivory-bill, as it is more commonly called, is glossy black. A white stripe begins on each cheek and continues down each side of the neck where the two stripes curve in to meet in the middle of the back. The outer half of the secondary feathers and the inner ends of the primaries are white. When the wings are folded against the body the white appears as a triangle on the lower back. The male has a red crest and the female a black one. The bill, as the name indicates, is ivory white.

The ivory-bill's call sounds like that of a toy tin horn. This call is repeated as it feeds. Its hammering is sometimes a single resonant beat, but more often it is a series of double beats (Tanner, 1942).

The nearly extinct ivory-bill formerly resided in large overmature forests of river swamps of the southern and eastern United States from southeastern Oklahoma, northeastern Arkansas, southeastern Missouri, southeastern Illinois, and southeastern North Carolina, southward to the Gulf Coast of eastern Texas, eastward to southern Florida (Tanner, 1942).

Allen and Kellogg (1937) found ivory-bills digging trenches in rotted wood. They more often scaled off bark from

recently dead trees to get at the insects and larvae hidden beneath. It was found that most feeding was done in dead pines near the edges of swamps. Occasional feeding was noted on the ground. Tanner (1942) found the most common feeding behavior is to knock the bark off recently dead trees with a sidewise blow or a quick flick of the bill. They also chisel into the tree making somewhat conical holes. They most often feed in areas with large sized dead or dying trees that contain an abundance of wood boring beetles. With a maximum range of up to 6 square miles of suitable habitat per pair, some have appeared to wander considerable distances, probably due to the availability of food.



Drawing by Charles Alexander

A native American wearing a necklace made of bills of the ivory-billed woodpecker. Unfortunately, both the bird and the Indian share the same fate.

Studies in the past have shown their diet to consist of both animal and plant matter (Bendire, 1894; Cottam and Knappen, 1939; Tanner, 1942; Wilson, 1811). Cottam and Knappen (1939) found in 3 ivory-billed woodpecker stomach analyses the following: 46% of the combined content was of animal origin and 54% was of vegetable origin. A majority of the animal matter eaten is long horned beetles, *Cerambycidae*, though a small amount of other beetles were found. Some of the vegetable matter eaten is as follows: seeds of both magnolia and poison ivy and berries from both Tupelo and Black Gum.

Nest holes were located between extremes of 25 to 70 feet above the

ground. Tanner (1942) stated that most nest holes in the Singer Tract near Tallulah, Louisiana were located above grounds that were at least partly covered by water during the nesting season. Both male and female work together on digging out the nest (Audubon, 1831). Nest hole openings described by several other writers and Tanner (1942) are described as being oval or irregular. The nest hole opening averages 5.4 inches tall by 4.3 inches wide. The nest cavity has an average depth of 20.6 inches and an inside diameter of 9.5 inches from side to side by 6.8 inches from front to back (Tanner, 1942).

The breeding season runs from late winter to early spring. Anywhere from 1 to 5 eggs are laid between January and May. Early nests had fewer eggs and young than did later nests. Schmaus (1938) stated that the egg clutches of some bird species may vary with the abundance of food and there may have been a seasonal increase in the food supply of the ivory-billed woodpecker in April and May that resulted in the birds laying more eggs then. The male does the majority of the brooding while both the male and the female share the responsibility of feeding the young. No ivory-bill nest has ever been observed through the entire incubation period. Therefore, no exact length of the period is known. Tanner (1942) gives a probable average of 20 days. The young stay in the nest approximately 5 weeks. When the young birds are out of the nest they accompany the parents on feeding trips for another 2 months. During this time they are fed by the parents. After approximately 2 to 3 months they become independent (Tanner, 1942).

The most important reason for the species' decline was the cutting back and lumbering of overmature forests which contain dead and dying trees that house the wood boring beetle larvae that form the staple of their diet. In the past, illegal shooting may have been a factor. The ivory-billed woodpeckers began to disappear when the loggers invaded the southern swamps. During 1885 to 1900, the logging industries' greatest growth period, the largest decline of the bird's numbers occurred.

The first serious study of the ivory-billed woodpecker was conducted by a team from Cornell University headed by Drs. Arthur A. Allen and P. Paul Kellogg in 1935. Continuous observations of the nesting birds were done at that time. Allen and Kellogg's pictures and recordings are still the standard today. On that team was a young Cor-

nell graduate student named James T. Tanner. Tanner was later chosen by the National Audubon Society to conduct a complete study. He worked on this project for 3 years, earning his doctorate in 1939 and writing the book, *The Ivory-billed Woodpecker*, published in 1942. This monograph remains the definitive work today.

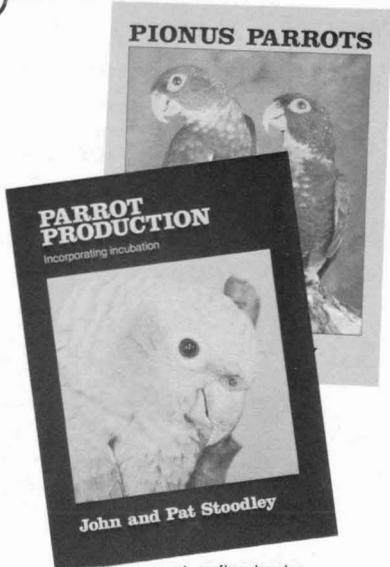
In recent history there have been several sightings of ivory-billed woodpeckers; however, most of them have been unconfirmed. In March of 1950, Whitney Eastman and party made the rediscovery of the ivory-bill near the Chipola River in northwestern Florida. In the same area in April of 1951 John V. Dennis, now one of the most active and enthusiastic of the ivory-bill searchers, heard the bird's call. In approximately 1958 Herbert L. Stoddard, a well-known ornithologist, and a fellow passenger in a small plane flying over the Altamaha River in Georgia sighted an ivory-billed woodpecker in flight at a distance of approximately 148 feet. In 1958 Stoddard again sighted a pair in a beetle-killed spruce tree near Thomasville, Georgia. Around 1965 a feather from a cavity of a wind-blown tree northwest of Lake Okeechobee, Florida was found in an area where two searchers, Agey and Heinzmann, had caught fleeting glimpses of two large woodpeckers.

The feather was stained brown, indicating it had been in the tree hole a long time. On 28 August, 1966, Brown and Sanders, two Chicago birdwatchers, heard the call notes and saw 2 female ivory-bills near Elgin Air Force Base in Pensacola, Florida. On 10 December, 1966, near the Neches River north of Beaumont, Texas one was sighted by John V. Dennis. Then on 25 February, 1968, Dennis made a recording in the Big Thicket area of Texas. The recording was sent to Dr. John Hardy of the University of Florida's Bioacoustics Laboratory. Hardy's analysis, based on audio-spectrograph studies, was the calls in question were either an ivory-billed woodpecker or blue jay, *Cyanocitta cristata*, mimicry. His ear lent him towards the calls of an ivory-billed woodpecker. In 1971 a group consisting mostly of National Audubon Society members and officers heard the call of the bird in the Santee Swamp in South Carolina. Though it was unconfirmed and there were no sightings, the call of the ivory-billed woodpecker was once again heard throughout the ornithological world. In recent years several sightings have been made in the Atchafalaya Swamp, west of Baton

Rouge, Louisiana. Bruce Crider working with Drs. John Maroney and Robert Hamilton of Louisiana State University's museum have spent time in this area attempting to make a sighting and verify reported sightings. On 22 May, 1971, a pair of ivory-billed woodpeckers were sighted and the male was photographed by a dog trainer working his dogs in the area. Authenticity of the photograph was never proven. Crider (pers. comm.), after close examination of the photograph, felt it was authentic. On 11 November, 1974, Robert Bean, Director of the Louisville Zoo, driving eastward on a bridge over the Atchafalaya Swamp, spotted an ivory-bill flying at car top level. He was unable to stop due to traffic and having a cargo of zoo animals. Bean said he had identified the bird on the basis of its characteristic wing pattern. What is significant about this sighting was that it was made in the same general area of the swamp that the photographs had been taken 3-1/2 years earlier.

One of the problems with some sightings is the misidentification of pileated woodpeckers, *Dryocopus pileatus*, as ivory-billed woodpeckers. Both are large woodpeckers; however, the pileated is somewhat smaller at 17 inches. When at rest, the ivory-bill shows much white on the lower back. The pileated shows none. In flight, the white on the ivory-bill is conspicuous on the trailing edge of the wings. The white on the pileated is on the front half of the wings. Both species are crested. However, where in the ivory-bill the male has a red crest and the female a black one, both sexes of the pileated have red crests.

Though we both have been interested in this rare species for some time, our project did not officially begin until the fall of 1980. Much research in both libraries and museums and correspondence with conservationists and ornithologists was necessary before any field work could be undertaken. In March of 1981 we were able to make our first trip to the Atchafalaya Swamp, west of Baton Rouge, Louisiana. Since that time we have made eight trips into the field. Up to the present all of our field work has been in Louisiana. We are now wanting to expand our search to key ivory-bill areas in other states. The main problem, as in most research projects, is the lack of funding. In the past, we have been fortunate to receive a pilot grant from Exxon Company, U.S.A. and a small check from Getty Oil Company. In addition, we have received assistance in the form of boats



two fine books . . .

PIONUS PARROTS
104 pages 8 1/4" x 11 1/4" / 31 full color plates

PARROT PRODUCTION
108 pages 8 1/4" x 11 1/4" / 42 full color plates

by JOHN and PAT STOODLEY

\$29.95 ea. + \$1.50 shipping
(Calif. residents add 6 1/2 % sales tax)

Dale R. Thompson
P.O. Box 1122, Dept. AF85
Canyon Country, CA 91351

If you love parrots ...
You'll love Parrot World!



Join us and receive a year's subscription to our fact-filled bi-monthly magazine. All about Parrots, Macaws, Cockatoos, Conures and more. Expert tips on breeding, nutrition, taming training, health care, Q's & A's, classifieds, D.V.M. and bird-boarding referrals, shows, book reviews. DISCOUNT BOOK CLUB. annual photo contest. Much more. Only \$16 yearly (U.S. and Canada.) Foreign \$26. (U.S. funds only.)

National Parrot Association

8 No. Hoffman, Dept. W, Hauppauge, N.Y. 11788

FINEST BIRD FARM



Cockatiels • Canaries • Finches
Lovebirds • Australian Parakeets
Australian Finches • Rosellas
Grass Keets • Budgies
Diamond Doves

(714)

524-9653

4271 Aspenglow Circle
Yorba Linda, Ca. 92686
Shipped Anywhere in the U.S.

AVIARY WEST

Bird Nets

Call or write
us for pricing
information.



No. AW-36	11"
Diameter	16"
Bag Depth	36"
Handle	
No. AW-18	11"
Diameter	16"
Bag Depth	18"
Handle	
No. AW-12	8"
Diameter	11"
Bag Depth	12"
Handle	

Our nets feature
100% nylon netting,
hardwood handles, and
spring steel hoops.

2042 Atlantida Dr.
Hacienda Heights, CA 91745

(818) 330-8700

Krish's Aviary

17971 Sun Knoll Drive
Yorba Linda, California 92686

(714) 961-1971 or 681-6097

COCKATIELS

Babies, Yearlings, Breeders
Normals
Lutinos
Pieds
Cinnamons
Pearls
Splits

FINCHES

• Zebras
• Societies
• Gouldians
• Rares

LOVEBIRDS

• Peachface & Mutations
• Fishers
• Blue Masks
• Black Masks

SHIPPED ANYWHERE
IN THE UNITED STATES
From L.A. International

GUARANTEED QUALITY

BUDGIES CANARIES
INDIAN RINGNECKS
GOLDEN MANTLE ROSELLAS

Visitors Welcome
By Prior Appointment Only



and all-terrain vehicles from both state and federal agencies. Both have been extremely helpful in obtaining clearance into restricted areas.

On 19 November, 1981, at approximately 11:00 a.m. in the Singer Tract, south of Tallulah, Louisiana we heard the calls of what we believe to be two ivory-bills in flight. They were a good distance apart and sounded as if they were calling to each other. No sighting was made. We returned to this area in mid-April of 1982. Then on 15 April, after 3 days of searching, a call was heard again. We were in the same area of the Singer Tract and once again it was approximately 11:00 a.m. Both times due to insufficient recording equipment we were unable to tape the calls. A subsequent trip in June of the same year we returned to the area with borrowed recording equipment. The calls were not heard.

Both of us feel that the ivory-billed woodpecker still exists, but in small numbers in extremely remote areas. If we or others can prove beyond any doubt through still photographs, movie films, or tape recordings that they still exist, then the Federal government may acquire the land and preserve it as ivory-bill sanctuaries.

They are presently fully protected by the Endangered Species Act of 1973. All likely sightings are being checked by the federal government. Two timber management areas at the St. Mark's National Wildlife Refuge in Florida have been selected for management in an effort to provide suitable habitat for any ivory-bills which may still exist in the area.

The two of us believe that the ivory-billed woodpecker may still exist in the following key areas: The Singer Tract (part of which is now called the Tensas River National Wildlife Refuge) south of Tallulah, Louisiana; the Atchafalaya Swamp, west of Baton Rouge, Louisiana; the Neches River Valley, near Beaumont, Texas; the Santee Swamp of South Carolina; an area north of Lake Okeechobee in southern Florida; and an area on the Yellow River in northwestern Florida.

We feel that if the ivory-bill has been able to continue its existence, then it would have had to adapt to a wider range than the 6 square miles of its past.

A program (Dennis, 1967; Tanner, 1942) for the conservation and management of the ivory-billed woodpecker should be:

1. Determination of its existence and the location and range of any surviving individuals.
2. Protection of these individuals

from hunters.

3. Educate the public as to the birds' needs in order to exist. Public sympathy is needed to help in halting habitat destruction such as wholesale clearing of timber, dam construction and drainage of favorable habitat.

4. Management of forests so as to maintain an abundant food supply for woodpeckers. This can be done in different ways. It would depend on whether the area must be used for timber yield or strictly as an ivory-bill sanctuary. The latter is more desirable. The quantity of food may be increased by progressively killing enough trees at a time to supply a large number of wood boring beetle larvae. This can be done by girdling trees or by flooding areas.

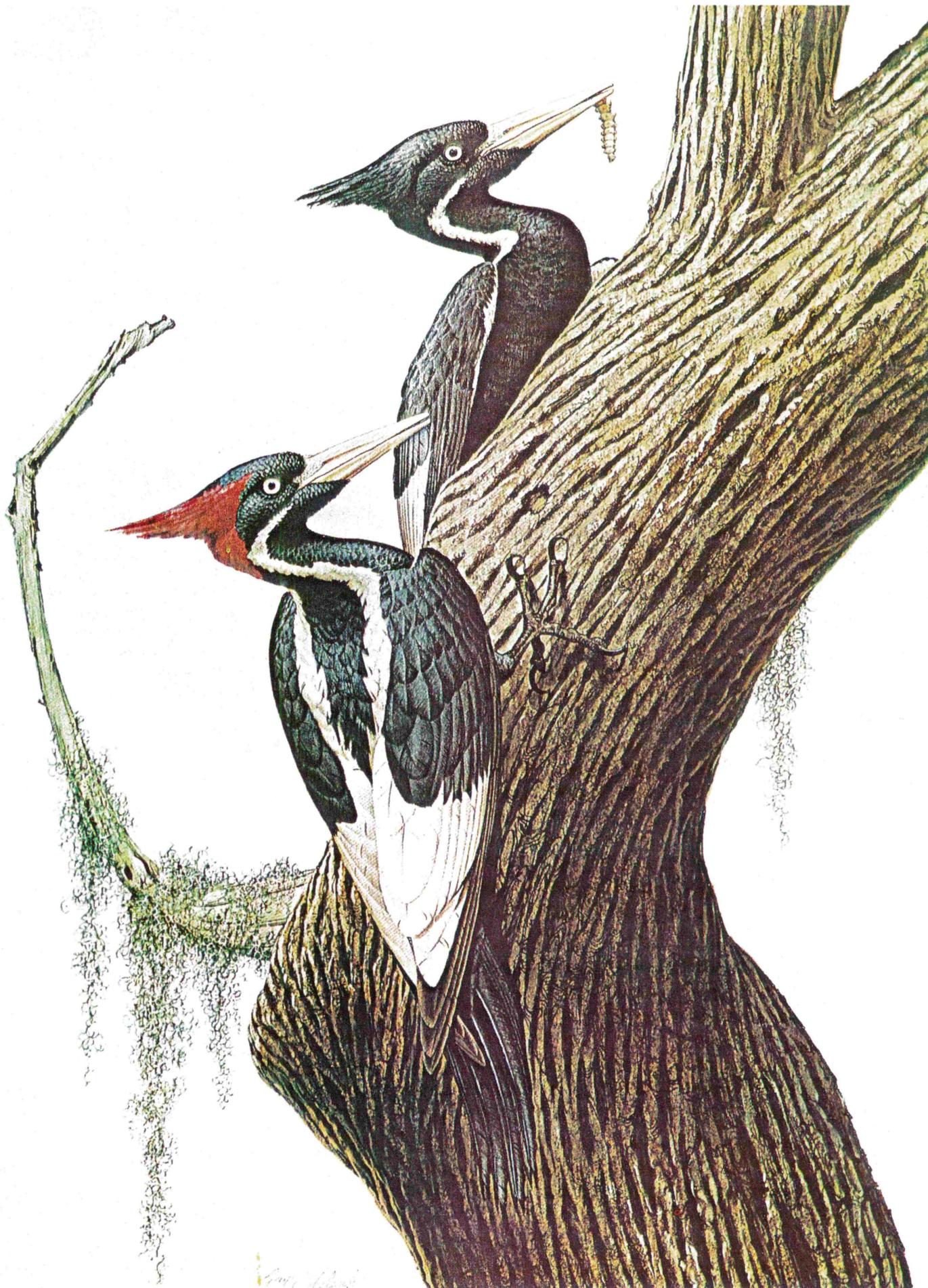
We should not and cannot let the ivory-billed woodpecker go the way of the great auk, the Carolina parakeet, and the passenger pigeon. It is extremely necessary that evidence be found that this magnificent bird still exists. In addition, corporative and public funding is extremely necessary as only then can an all out effort be made to save the ivory-bill.

John Dennis received a letter from an avid birdwatcher who reported a sighting in Texas. The birdwatcher was upset by the skepticism of a museum curator. The birdwatcher left the official with this question: "If the ivory-bill does exist, who do you think has a better chance of seeing it — one who goes into the swamps and looks, or one who searches in a museum office?"

If the ivory-billed woodpecker passes into oblivion it will only be man who is responsible, just as it is only man who can save them. Ivory-billed woodpeckers may still have a chance if we give them one.

Acknowledgements

We would like to express our heartfelt thanks to Exxon Company, U.S.A. for their financial support and sincere interest in this project. Also to Getty Oil Company and all the general public who donated money to this project through the Memphis Zoological Society. We are grateful to the fine staff of the Louisiana Department of Wildlife and Fisheries and U.S. Fish and Wildlife Service for their cooperation and assistance. Much thanks goes to Bruce Crider formerly of the Baton Rouge Zoo, for assistance both in and out of the field, and last but not least to Dr. James Tanner for taking the time to meet and discuss the project. The two of us are extremely grateful to all of the above, for without their combined interest this project would not be possible. ●



Painting of pair of ivory-billed woodpeckers by famous naturalist painter Guy Cobeleach.