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ADAPTATIONS OF BIRD BILLS

SOIL PROBER - SNIPES, WOODCOCK AND SANDPIPERS HAVE SLIMMER, LONG BILLS FOR POKING IN WET SOIL IN SEARCH OF WORMS AND INSECTS

INSECT EATER
BIRDS WITH SLIMMER, POINTED BILLS PICK OUT INSECTS FROM HARD TO GET AT HIDDEN PLACES IN TREES AND ON THE GROUND

FISH EATER
HERONS HAVE LONG SHARP, POINTED BILLS FOR SPEARING THEIR FAVORITE FOOD - FISH

SEED EATER
GROSSEANS AND SWARNS HAVE SHORT, STOUT BILLS FOR CRACKING OR CRUSHING SEEDS

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Wood Cutter
WOODPECKERS HAVE CHARL-SHAPED BILLS FOR DRILLING AND CHIPPING WOOD TO BUILD NESTS & TO DIG OUT WOOD-BORING WORMS

Red-Tailed Hawk

Florida Wildlife Scrapbook

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**Found in Florida**

**an exotic squirrel**

If you were asked to name the different kinds of squirrels that occur in Florida, could you do it? A knowledgeable outdoorsman would quickly supply the answer—two that there are three species found in the state. These are the eastern fox squirrel, the eastern gray (or cat) squirrel, and the southern flying squirrel. Furthermore, you would probably know that the fox squirrels are sizable game animals, active during the daytime, while the flying squirrel is very small and ventures forth only at twilight or later. However, it would be a rare sportsman and naturalist who knew that there is yet a fourth species of tree squirrel living within the boundaries of the great state of Florida.

This observance occurs in a small portion of the Florida Keys and represents yet another addition to the rather long list of non-native animals introduced to and successfully established in Florida. This squirrel is called the red-bellied or Mexican gray squirrel (Sciurus aureogaster), and originates from the coastal jungles of central Mexico. Mexican gray or red-bellied squirrels can be found in Florida only on Elliott Key, which is one approximately eight miles long and one-half mile wide, and is reached by boat since no road connects Elliott Key to the mainland.

The general appearance and body size of the Mexican gray squirrel is very similar to the native gray or cat squirrel (Sciurus carolinensis), a species to which it is closely related. However, the pelage of the tropical species is much more colorful and exotic in appearance. Normally the fur is a vivid combination of salt and pepper gray on the back and tail, with a bright reddish-chestnut belly and flank. Also, a certain percentage of the exotic squirrels, instead of being gray-chestnut, are entirely melanistic, i.e. they are entirely glossy black from nose to tip of tail.

The author became interested in these introduced squirrels in March 1969, and initiated a study of their natural history and biology on Elliott Key. As a result of several exploratory visits to the island, it was discovered that the Mexican gray squirrel is rather abundant in the dense jungle-like forest which covers most of Elliott.

This hammock-type forest is characteristic of the islands of the West Indies, but restricted exclusively to the southern tip of Florida in the continental United States. The squirrels were observed to make extensive use of leaf nests placed near the tops of a variety of trees. Nests were usually located in specimens of Florida poisonwood, West Indies mahogany, Bahama lythracea, and rum palm (Corypha umbraculifera), but were rarely noted in gumbo limbo which is one of the most abundant trees on the island.

Young squirrels were present in the nests in late spring, and usually number only two or three per litter. This is a lower litter size than is usually seen in our native species, but the red-bellied squirrel may make up for this deficiency by producing a second or third litter each year. Additional research is needed before this possibility can be clarified. Both the black and gray-red phases have been found together in the same litter, so the two color forms are quite compatible and probably result from only slight genetic differences in parents.

During the course of the current field study of the red-bellied squirrel, it has been noted that approximately three-fourths of the squirrels observed or collected are melanistic, and the remain­der exhibit the normal coloration. This may suggest that the dark jungle-like forest present on Elliott may favor the survival of black squirrels over gray-red ones.

For food, the red-bellied squirrel utilizes the fruit, seeds, or buds of a variety of tropical plants and the usage changes seasonally. For example, in March the species makes heavy use of the fleshy yellow fruit of the mastic tree, while later in the year the seeds of mahogany trees appear to serve as a staple dietary item.

The story of how red-bellied squirrels came to be living in Florida is of interest due to the obvious distance from its natural haunts in Mexico. As a result of interviewing a number of residents and ex-residents of Elliott Key, the events can be reconstructed. As late as the middle 1960's no squirrels of any type occurred on the island, and the only species of mammals present were raccoons (Procyos lotor), marsh rabbits (Sylvilagus palustris), and black rats (Rattus rattus).

About this time a wealthy and prominent hotel owner on Miami Beach, J. Arthur Pancoast, bought property in the middle of Elliott Key and established a thriving papaya plantation. Mr. Pancoast, being somewhat of a naturalist and fancier of interesting mammals and birds, decided that Elliott Key needed additional wildlife to add to the de­pauperate fauna. He took a fancy to the beautifully colored red-bellied squirrel, which were occasionally imported from Mexico by pet dealers, and ordered four from a dealer in 1968.

These arrived by boat a few weeks later, and were taken to Elliott Key for release by a close friend, Charles M. Brookfield, who lived at Petrel Point near the south end of Elliott Key. Mr. Brook­field released one pair on his own land at Petrel Point and released the second pair about two miles north on Mr. Pancoast's papaya plantation. It is not known whether all four animals survived to establish the present population, but Mr. Brook­field (who now lives in Miami) does recall that one of the original four was black, and the others gray-red in color.

The course of the subsequent spread of squirrels on Elliott Key was not charted because World War II broke out shortly after their introduction, and the people involved moved away, joined the military, or were otherwise diverted by the war effort. We do know that by the early 1950’s this species was present on most parts of the entire island.

Generally in Florida introduced species of animals have a history of competing with and even replacing native species. Such is the problem currently, for example, with the introduced walking catfish spreading in the Miami area. However, in the case of the red-bellied squirrel, no native species of squirrel was present on Elliott, thus none was eliminated.

A second problem encountered with exotic spe­cies is that they often adversely affect or damage the vegetation of the new habitat if no natural enemies or predators are present, and the popula­tion grows to plague proportions. There appears to be no problem of this on Elliott Key, however, because of the presence of numerous hawks and larger snakes (such as the indigo and rat snakes) which can eat squirrels.

In general, it appears that in this one case the introduced species is in balance with its environment and is a rather harmless, yet aesthetically pleasing addition to a depauperate fauna. Also, because of the wide salt-water barrier there is no danger that the species will ever escape to the mainland to compete with gray or fox squirrels. Furthermore, since this is essentially a jungle species there are probably few forested areas on the mainland of South Florida that would even offer suitable habitat.

Congress and the President approved a bill in 1968 authorizing the Creation of Biscayne Bay Na­tional Monument which will include Elliott Key and several adjacent islands. Assuming the National Park Service concurs, Florida’s newest squirrel would thus be assured of future protection within the Monument. Several naturalists feel they de­serve such protection because they are an eye­pleasing and innocuous addition to the wildlife of the Florida Keys.

By DE. LARRY N. BROWN

Assistant Professor of Zoology

University of South Florida

Photo by Dr. Larry Brown

Florida’s exotic Elliott Key squirrel compared to common native species. From top—a fox squirrel; red-bellied or Mexican gray; a native gray, and small flying squirrel.
**Grindle Gripes**

*as rough as any "rough" fish can get, the bowfin—an ancient leftover from prehistoric days—requires handling with care when hooked*

By CHARLES WATERMAN

**SPEAKING of "rough" fish, the mudfish, or grindle (bowfin), is about as rough as they get. Generally they’re caught by accident when something else is the target, but I once knew a guide who used some especially big ones to fill in on slow days. This impresario would bank on big mudfish biting the line and he’d get his customer to place a shiner in just the right place. After a long, fishless day, the client would be ready to accept almost any large swirl or splash as a bass and the mudfish generally provided. After the holocaust, the fisherman would happily conjecture about the weight of the lost monster, never dreaming it was anything but a bass.

There are slight differences in the way a mudfish takes a lure or shiner as compared to a bass strike, but I’m never quite sure. After catching a bunch of mudfish, I think I can detect their take, but by the time I get around to mudfish again, I’ve either forgotten their striking characteristics, or they’ve changed their approach and I mistake one for a big bass.

I don’t know just how big the blamed things get, but the biggest I’ve seen were in a deep, clear lake, quite different from the mudholes they’re supposed to occupy. They get to weigh more than twenty pounds (no one seems to care just how big), and I’ve broken off quite a number. If you change your approach and I mistake one for a big bass.

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* (Continued on next page)

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**The Hooded Merganser**

*by GENE SMITH*

There is a fatheaded, but good-looking, duck with a resplendent black-banded white crest and a short, black stick for a bill. He’s called the Hooded Merganser. He and his less conspicuously adorned mate are master swimmers, divers and aerialists. They nest in trees, shun their kin, and live with a bad name.

Hooded Mergansers are not popular with duck hunters—thanks to a good supply of more “conventional” ducks, to their own small size, and to their partly-deserved reputation for tasting strong. (This is all just as well, since the bag limit on mergansers is five daily in the aggregate, only one of which may be a Hooded.)

There are three mergansers in this subfamily of ducks: the Common Merganser and the Red-breasted Merganser in addition to our star, who is smaller than the other two. In duck hunting jargon, all three are lumped together as “sawbills” or “fish ducks.” They do, after all, have serrated bills.

“Fish duck” or not, the Hooded Merganser doesn’t deserve to be relegated to the same low status of his two cousins. The Hooded is not always fish-tasting. His diet includes insects, tadpoles, frogs, crayfish, salamanders, and some vegetable matter, in addition to small fishes. He takes them from the fresh water ponds, lakes, rivers and streams of the interior, where this duck prefers to live. Rarely do they come into coastal waters, where both the Common and Red-breasted Mergansers spend their time—gorging on seafood.

Both male and female Hooded Mergansers have white wing patches and bellies. Except for their short little bills, here their similarity ends, however. The hen is redibiled and ragged, a far cry from the fastidiously coiffured look of the male, whose head is his dominate identifying feature.

Hooded Mergansers nest from coast to coast and spend their summers across the northern states and the Canadian Provinces, often sharing nesting areas—even nesting holes—with Wood Ducks.

Ornithologists have reported both Woody and Hooded eggs in the same tree hollow, with the hens alternating on incubation duty! (Most often, however, they scrap over a disputed claim, and the Wood Duck normally will prevail, according to observers.)

Incubation of the Hooded Merganser’s clutch of 6 to 18 eggs requires about 31 days, all handled by the hen alone. The ducklings eventually tumble to the ground, also in Wood Duck fashion, and follow their solicitous mother to the nearby water, where they immediately begin to feed.

Florida Wildlife

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places but they were simply near the surface there and most of the stuff I threw goes pretty shallow.

Get a poor view of a mudfish from above while he's in the water and his silhouette is remarkably like a bass. He may even move off in bassy fashion and his rounded tail doesn't show from above.

About the only chances of being sure is to strain your eyes for his long dorsal fin that often waves snakily, even when he's at rest.

A young fellow named Pat Berry of DeLand came up with an albino mudfish (archic back. I would be willing to accept a white specimen of almost any other kind of fish, but a mudfish with baby blue eyes was almost too much to be real).

Berry kept him in a small pond and would use a big landing net to take him out for inspection. The dogfished thing would bury pretty well down into the bottom while resting and Berry would simply look for a light streak on the mud, then deftly scoop up his pet with one long sweep.

Yep! It was white all right.

I have had some inquiries about conversion of outboard motors to topside exhaust for fishing. Although a number of Floridians have done this for their own use, there are no commercial revisions available as far as I know. It is true that the below-surface exhaust is detrimental when trolling or shoreline casting with the motor running. The electric motor is satisfactory for the smaller boats; for something bigger, I don't know what to recommend unless you can design and build your own topside exhaust.

I have repeatedly admonished fishermen who are planning out-of-state trips to consult fish and game officials in the area to be fished. Many mature anglers have some misguided notion that the fish and game folks are somehow strictly law enforcement officials bent on preventing visitors from enjoying themselves.

Now this public information business is handled very differently in the different states, and I confess that these same departments that won't officially give you the time of day about hunting or fishing.

Please don't hesitate to run down local fish and game officers. One state that wouldn't even answer my inquiries in any way contained some of the nicest fish and game people I've ever met—once I was on the scene. Don't ask me who got the letters to begin with.

Freshwater spin fishermen seldom use two-handed casting but those wanting a little extra snap, or who suffer from tired arms after fishing a while, can learn from the users of medium salt water tackle who are not above taking hold of the rod butt with a second hand.

As executed with a light rod, the two-handed cast has little relation to the full-arm swing of the surf cast. The cast's direction is still guided with the right hand (for right-handed people) and the motion is almost the same as with one hand—except that the second hand, located near the butt, gives a little extra authority in the snap.

I watched George Radel, formerly of Coral Gables, use this system with great accuracy. He is a modern instructor of the Orvis school of fly casting has made a point of doing the job with the right hand after several days of fishing and sometimes that spot would become sore before the callous formed. I have also acquired blisters on my fingers. This is not a matter of magic techniques, but simply learning to do it the easy ways for.

Twenty years ago, I had a custom rifle built for a very good friend. He had a military action and barrel and wanted a nice stock and scope put on it at the same time, so I designed a new one. I was flattered that my friend trusted my judgment, so I helped him with the measurements and handled the whole thing.

"Get me a case for it, too," my pal said in parting.

Well, when the rifle was finished and I brought it home, I had it tucked in a nice sheepskin-lined case that caused it to sweat and rust within a couple of days. There was some harmful chemical in the sheepskin (tanning by-product). Talk about embarrassment! Storage of equipment is a complex thing. More recently built gun cases aren't likely to cause trouble, but a similar thing has come up with fishing reels.

To show how stupid I've been on that score, I got a fine reel with a leather case and put it away, but the full-arm swing is considered better form with the flyrod and more restful.

I go ahead with this reservation with one reservation (which I'm sure he'd agree with). The restful way is to use all of the methods, and I have found myself getting some forearm rest by throwing entirely with the wrist from time to time. This same principle goes for sideswiping, backhanding and all of the other casting moves. Learn to do all of them, and the situation may not demand a change. Then, on a long day's fishing you have a variety of moves instead of the same tiresome routine in the same rut, the thing that tires more than anything else.

I say these things from experience, for although the world is full of better casters than I am, I find myself able to cast for a very long time without appreciable fatigue. My feet, or seat, gets tired long before my arm or hand does, and I'm certainly no endurance-type athlete any more.

You should be suspicious when sitters or sord spots show up after a day's fishing. Not always, but usually, you are doing something the hard way. Fly casting, generally considered pretty hard work with heavy tackle, doesn't tire me. As recently as ten years ago, I developed a fly-casting callous on the heel of my hand after several days of fishing and sometimes that spot would become sore before the callous formed. I have also acquired blisters on my palm. At present, the only result of long sessions of casting is normal callouses on my fingers. This is not a matter of magic techniques, but simply learning to do it the easy ways for.

The two-handed method as used with a medium-action spinning outfit. Second hand is just for little added snap in the cast.
I've been face-to-face with a Florida softshell turtle, you've realized, I'm sure, that there are more pleasant and prettier creatures in the animal world.

Take the matter of disposition, for example. Orneriness, vicious, stubborn, aggressive, an angered softshell will dig in with powerful legs to lunge at a tormentor, long neck darting out with the swiftness of a rattler's strike. If the blade-like teeth connect, there's bound to be some blood drawn—and it won't be the softshell's. I've even read that a large softshell's carapace can navigate. They're an aid in perpetuating only the fittest of the fish species, as any wounded, sick, or slow fish is an easy prey for these fast swimmers.

With a cane pole, my youngster once hooked a small bass. While dallying with it at the surface, there was a sudden commotion and the handicapped bass, in a frenzy, figure-eighting through the water with a hungry and determined softshell in swift pursuit, matching every move. The game of life and death was fascinating to watch. We marveled at the turtle's maneuverability, thinking its actions compared favorably (in agility, speed, and persistence) to those of a hungry blood-aroused shark. Finally, my son pulled the bass to safety and released it.

The head of a softshell ends in a double-barreled snout through which it breathes. If this turtle has a favorite pasttime, it would be squirming into the mud or sand in shallow water, then extending its neck to poke the nostrils just above the surface of the water. One authority states that in deep water, a softshell draws in water through its nostrils, and runs this water over oxygen-absorbing structures located in the pharynx for a secondary source of air. (Continued on next page)

The southern softshell turtle, appears in Georgia and Florida. A somewhat similar reptile, the eastern spiny softshell turtle, inhabits the Florida panhandle area but can easily be kept separate by the sawtoothed projections on the leading edge of its carapace, contrasting with the flattened round bumps that adorn the front area of the Florida softshell's carapace. Because of their flattened appearance, this group of turtles are often referred to as "pancake" or "flipjack" turtles. It comes by the moniker "snapper" very naturally.

When young, the Florida softshell has mottilled black markings on its yellow- or orange-rimmed carapace. As age increases, the markings fades. An adult has dark brown, leathery looking appearance. On thin or very old specimens, you can often see the rib and spinal column outlined since, like all turtles, these parts are fused to the upper shell. Viewed from underneath, the turtle is white.

Watching these widely webbed-footed turtles glide through the water, one can hardly fail to acknowledge and to respect the ballerina-like grace and speed with which these clumsy-on-land critters can navigate. They're an aid in perpetuating only long neck, short temper—that's the Florida Softshell Turtle

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Most Florida softshells for the market are caught by commercial catfishermen. One central Florida dealer, Stokan Fish Market of Leesburg, ships most of these to freeze to midwestern markets where the meat sells for about $5.25 a pound.

Often termed the "most vicious of cold-blooded animals," viewing these turtles when they are swimming or suspended in clear water over a white sand bottom in full sunlight, one cannot deny this reptile's seal-like grace.

We've been intrigued by the way they'd respond to an offering of stale bread, too. When we swim, we take along several slices of bread for assorted bluegills and bass, mallard ducks, and anything that passes by. Three softshells have expressed an interest in the goings on and now come in for their share. The biggest will even accept a scrap of bread (a long one) from my boy's hand. Normally they'll keep a respectful distance but once in awhile they'll come scurrying around our legs searching for an overlooked tidbit—at which time I'm not ashamed to admit that we instinctively make our toes less conspicuous by digging them into the sand out of sight.

By the way, if you ever must carry one of these animated pancakes, hold it by the back of the shell and well out from your legs. Its neck is extremely long and flexible, darn near reaching anywhere around its body except at the very rear.

Old ugly is a mean customer when cornered. Avoid that situation and the Florida softshell won't bother you.

The other species is the White Pelican, a somewhat larger bird which breeds mostly inland in the northwestern states and Canada. White Pelicans are seen in Florida primarily during the winter months. As with anyone, you know they are not sharing the unlucky fate of the Brown Pelican—yet.

Research findings in Britain and, more recently, in the U.S.—by the Department of Wildlife Ecology at the University of Wisconsin and the Bureau of Sport Fisheries and Wildlife at Laurel, Maryland—have shown that DDT and other "hard" pesticides are responsible for declines in the populations of several species of birds, especially hawks, eagles and waterbirds, which live on the flesh of fish and other animals.

"It is becoming increasingly more evident," says Williams, "that DDT and other such poisons are responsible for the extermination of the Brown Pelican from much of its former range." But biologists are unable to explain why the species still survives in Florida. It is possible that Florida's ocean waters, where pelicans feed, aren't as contaminated with pesticides as waters in other areas due to the large coastal water exchanges daily between the bays and the oceans which surround the state.

It is known that high concentrations of poisons in water or on land are not necessary to do harm to wildlife. There is a "magnifying effect" associated with the food chain. It amounts to slow poisoning and eventually leads to reproductive failure.

DURING their lifelong migrations each year, white pelicans eat nearly 12,000 pounds of fish, mostly bluegills and bass, as they pass over Florida. But now they are slowly dying out because their feeding grounds are being contaminated by DDT and other pesticides.

"We're the Mockingbird to disappear from Florida, it would be equivalent to the Brown Pelican's disappearance from Louisiana," says wildlife biologist Laura Martin of Ocala, Florida, in reference to the fact that when the Brown Pelican is gone, the Brown Pelican is gone. Martin assisted with the pelican censuses conducted in Florida the past three years.

The Brown Pelican is one of two pelican species seen in Florida and the United States. It is a coastal resident which formerly nested on Atlantic, Gulf and Pacific shores. It is the still-familiar bird of Florida wharfs, piling and beaches, and is probably the most photographed bird in the state.

When "hard" pesticides like DDT and other chlorinated hydrocarbons are washed into the land by the streams and rivers after rains, they are absorbed in small quantities by many aquatic organisms.

In the scheme of life, the smaller of these organisms—called zooplankton—are eaten by larger animals. During a lifetime of feeding on slightly contaminated smaller organisms, some of the middle-sized ones accumulate progressively higher levels of poisons in their own tissues. Then they are eaten by still larger animals, mainly fish, and so on up the food chain. The final result is that some of the fish consumed by pelicans, in this case, contain relatively large amounts of poison.

During their long lives, pelicans eat many fish. If the fish are poison, the pelican itself finally accumulates too much poison. These sublethal levels in the bodies of pelicans may not noticeably effect the health of the birds, but they are known to cause reproductive failure by interfering with the complex physiology of egg production. When an animal species cannot reproduce fast enough to replace those of its number which die, it becomes extinct.

Although the Commission research biologists intend to continue the annual censusing of Brown Pelican colonies in Florida, they readily admit that until the heavy use of DDT and other persistent pesticides is stopped—and there are no signs of a slowdown—the big birds are in danger in Florida, too, whether there are 20 or 20,000 of them.

Still familiar along Florida coasts, the Brown Pelican is gone from other parts of its range—probably in trouble everywhere.
M ost hunters concede that the sporting quest for wild turkey is the ultimate in game bird hunting in North America. Some call it the ultimate in hunting—period.

Volumes have been written on the varying philosophies and individual styles of hunting this great, bronze-colored wildfowl, and on the hows and supposed whys of wild turkey behavior. In recent history, still more treaties have been appearing dealing with the scientific aspects of wild turkey management and restoration in these United States.

It is a fact that the noble bird has responded most favorably to modern wildlife management techniques—habitat improvement, disease control, protection, and the reformation of breeding stock. Enlightened management has ushered in an era of renewed interest in turkey hunting. On ranges where turkeys were once plentiful, and where they later were nonexistent, reintroduced flocks have successfully re-established themselves. In fact, there are even areas of the country with wild turkeys today where none ranged naturally during historic times!

Perhaps Florida's topnotch wild turkey hunting and her recognized leadership in turkey research and management best illustrate how the two—harvest and husbandry—go hand-in-hand.

It is a fact that the noble bird has responded most favorably to modern wildlife management techniques—habitat improvement, disease control, protection, and the reformation of breeding stock. Enlightened management has ushered in an era of renewed interest in turkey hunting. On ranges where turkeys were once plentiful, and where they later were nonexistent, reintroduced flocks have successfully re-established themselves. In fact, there are even areas of the country with wild turkeys today where none ranged naturally during historic times!

Perhaps Florida's topnotch wild turkey hunting and her recognized leadership in turkey research and management best illustrate how the two—harvest and husbandry—go hand-in-hand.

A 20-year program of capturing and relocating pure wild birds within the state has paid off big. From a puny population of only about 36,000 wild turkeys in 1947-48, Florida presently boasts an estimated 80,000. This is the third highest turkey population in the country, according to the Big Game Inventory for 1967, a leaflet published last year by the U.S. Department of the Interior, Bureau of Sport Fisheries and Wildlife.

But while Texas and Alabama have more turkeys, Florida's annual harvest by hunters is tops in the nation—about 31,000 birds! (The 1966-67 turkey harvest in the state was off drastically—to the tune of about 12,500 birds—because of spring and summer flooding over much of south Florida and the inevitable nesting failure and poult mortality that resulted.)

Hunting the wild turkey is a strictly American sport. Its history far predates Thanksgiving and all the traditional "stuffing" associated therewith (—of both the turkey and the thanksgiving).

Fossil records from 3,000 n.c., pieces of aboriginal art, and ample turkey remains prove that wild turkeys were hunted—even caught live, penned up and domesticated—by the ancient peoples and the Indians of pre-Columbian times. Turkey flesh was used for food, turkey bones became tools, their spurs made clothing, fans, fletching for arrows, and, quite naturally, they adorned the Redman and his weapons as a sort of badge to denote that the wearer or bearer was a good turkey hunter.

That was the beginning of the cult that has grown up around modern turkey hunting—an exclusive order one doesn't join merely by wearing a turkey feather in his hair, or even by bagging some stray bird, perhaps a reckless young tom, encountered by chance.

To be acknowledged as a full-fledged brother of that greatly respected fraternity of sportsmen, the expert turkey hunters, one must know turkeys. He must be able to "speak" and understand their language, to read their peculiar "writing" on the forest floor, and to think like turkeys think. Too, he will have actually run with them for several seasons, year-round, studying their movements, their roosting and eating habits, and their social life, including their love lives. That's how the Indians did it.

When and if a person masters all this, and if he has patience—the turkey hunter's greatest single virtue—he can kill turkeys almost at will, fairly and squarely, in any tract where turkeys are found! Then he is a real turkey hunter. Not before.

Thus prepared—and with the advantage afforded by today's efficient firearms and ammunition—the accomplished hunter can make a clean kill nearly every time he commits himself to taking a shot.

But even when he cripples a turkey, it is not necessarily lost and wasted, for such a man will be woodsman enough to find it, if humanly possible. At least, he will be sportsman enough to honestly report it.

We haven't said killing wild turkeys is easy. It is not. There are hundreds and hundreds of good hunters who aren't good turkey hunters. Yet, there are quite a number of men, and a few boys, who make it seem easy, so consistently do they fill their bag limits.

How do you hunt turkeys?

There are only three really distinct methods (assuming, of course, you're not a crook): (1) "roosting" a flock in the late evening and hunting them then and there or early the next morning; (2) still hunting from a blind or other decent concealment, calling, or "yelping," to bring the wary quarry moving cautiously, of course, not a crook: (1) "roosting" a flock in the late evening and hunting them then and there or early the next morning; (2) still hunting from a blind or other decent concealment, calling, or "yelping," to bring the wary quarry moving cautiously, of course, not a crook.

Roosting is probably the most productive hunting method for the fall. It certainly is the recommended method for the beginning turkey hunter.

The prime requisite, naturally, is to find a roosting place, and in order to do this one must have knowledge of where some turkeys are ranging. The best source by far—and the most confidential—is

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soil, droppings, watering places, dropped feathers, roosting place nightly, roosting, instead, wherever not only for turkeys but for turkey sign-dusting places, tracks in roadside ditches and sandy woods evenings in the same woods prior to the season and scratching in the leaves and grass. Successive opening might even reveal an actual roosting place. They fly up to roost. Times in the same trees they've used before. (Although wild turkeys do not return to the same roosting place nightly, roosting, instead, wherever nightfall catches them on their range, they do often rest in the same vicinity every few days—sometimes in the same trees they’ve used before.) The idea is to be within earshot of the birds around sundown, or very shortly thereafter, when they fly up to roost.

On still evenings—particularly on still, damp evenings—the muffled boom of the great wings can be heard for half a mile or so as each turkey ascends to its chosen branch (pine, cypress and live oaks are commonly used; often cypresses over a pond for added security). If the turkeys fly up close by, you're in real luck. You might kill one then and there! You'll have to be extremely careful. If you succeed in positioning yourself in sight and range of the roosting turkeys (no easy trick in total darkness), and if you care to, you may lawfully choose your turkey and shoot him before he flies down. Legal shooting hours begin one-half hour before official sunrise wherever you are hunting in Florida.

Barring a sitting shot, you may have to settle for a shot at a flying turkey flushed from a perch, or that is put to flight by himself or someone else. If you fail to get off a shot by calling him back. As a rule the big birds don't travel very far by air. It is most likely to happen in thick underbrush where the turkey's keen eyesight is not best used to its advantage. (That's why these great game birds prefer open woods and brush, farm fields, and similar terrain, where visibility is good and running room is handy.)

As for hunting turkeys from a blind, it's fine but it takes a special breed of super-patient hunter—and an experienced one. He must be even less responsive to biting insects and lost circulation than great game birds prefer. Its responsive to biting insects and lost circulation than the all-day deer stalker, who, if he moves slowly, can go ahead and dislodge the biggest yellow flies from his neck, or re-position his legs, without spooking his buck. Not so with the sedentary turkey hunter. During the last crucial, dragged-out minutes of the bird's approach, for example, even the slightly visible motion of a well-camouflaged hunter inside a first class blind can set off the alarm bell in a turkey's brain that'll send him pounding for the palmetto!
Most of the real turkey slayers I’ve talked to on the subject of arms for this job swear by a 12 gauge shotgun with a full choke barrel, and they use number 7 1/2 shot and aim for the head and neck—the turkey’s most vulnerable area.

There are variances on this theme, of course. Shooting at just-flushed, flying birds might call for 2’s, 4’s, or even BB’s—the better to break some wing bones or something. But keep in mind that you sacrifice numerical chances of connecting with the larger diameter shot—fewer pellets per shell, you know.

If you shoot a pump or autoloadig shotgun, you might carry a 7 1/2 load in the chamber, to be folowed by a couple of number 4’s or 4 1/2’s—in case the old head-and-neck shot doesn’t stop him. All should be “high brass” shells, of course, or better still, the 3-inch magnums.

Rifles for turkeys? Sure, if you’re a good enough markman and a genuine sport. A turkey hunter who chooses this arm—and keeps bringing home the meat every season—is, from this corner, one of the most admired of all outdoorsmen. He ranks right up there with Dan'l and Davy in my book.

These men always shoot with the aid of a low-power telescopic sight and stick with the light varmint calibers that shoot flat, fast and hard—which Dan'l and Davy would’ve used, too, had those combinations been available back then.

The .22 rimfire magnum is about the least powerful cartridge you can get away with if you’re serious about ruffling turkeys. The .22 Hornet, and other light centerfire calibers are ideal for turkeys, and smaller game, up to 150 yards out or a little more, but preferably a lot closer.

The upper back is a good aiming point when sighting on a turkey with a rifle. A good hit there will break the back and positively anchor the bird with the least damage to the meat.

Regardless of what you’ve heard around the campfire, only the very hopeful and the superbly confident shoot for a wild turkey’s head with a rifle!

Have you ever noticed how really nervous a turkey’s head is? And did you ever try to keep the crosshairs on one through a small opening in the brush, for example? It’s about like trying to hit a ping pong ball through a picket fence—while a game’s in progress.

Well, here’s hoping you can put a real big ‘un on the table for Thanksgiving, or, at least before the season closes where you are.

The key word, remember, is perseverance. Stick to your birds. Go hunting often enough and the law of averages will surely bring you a turkey and a turkey together sometime. Maybe.

Why, I even read of a guy who had a big turkey fly into the side of his car and break its neck. In season.

Naw, it wasn’t sporting, that’s for sure; but it was a turkey! Would you have left it there by the side of the road? Of course not. It was most likely the first turkey he ever killed.

At least, it looked pretty sporty in the picture, what with him wearing his camouflage cap and holding his shotgun an’ all.

And somebody once said, “A picture doesn’t lie!”

Well, they don’t always tell the whole truth, either, now, do they? Keep your yelper dry. . .
Unique Hammock Preserved

Or x or south Florida’s last bits of unspoiled wilderness, long a target for real estate developers, is to be spared the bulldozer and become a park and nature center with its more than 250 species of rare plants, trees, bromeliads, ferns and wild orchids carefully preserved for future generations of nature lovers, students and scientists.

The area is 20-acre Fuchs Hammock, less than a mile from and directly in the path of Homestead’s mushrooming urban expansion. Dr. Frank C. Craighead, noted botanist and consultant with Everglades National Park, has this to say about the hammock: “Fuchs Hammock in my opinion is the only remaining hammock that contains a relatively good remnant of the botanical splendor of original subtropical hammocks. For example, one bromeliad which is extremely rare is found in abundance here. So are two fern species, also rare; and 13 species of wild orchids including the exotic Ear Orchid, the Shell Orchid, and charter member and longtime top official of the 800-member South Florida Orchid Society which sponsors the annual Miami International Orchid Show, largest of its kind in the world. When he became critically ill in 1968, it became imperative that he sell the hammock.

Conservationists, confronted with the imminent loss of this most unique of the remaining hammocks, became alarmed. Spearheaded by Dr. Craighead and Mrs. Fran Young, naturalist with the Dade County Parks and Recreation Department, garden clubs, horticultural societies and nature groups rallied to the cause. They attempted to interest Dade County in its purchase for use as a nature preserve, but it was too late for the County to act within the time limit set by Fuchs who, because of his illness, was pressed for funds.

In November 1968, on the strength of a pledge of regular contributions from those interested in preserving the Hammock, the Florida Branch of Nature Conservancy undertook the purchase of the Hammock for $60,000. Final papers were signed in March 1969.

Nature Conservancy is a national organization dedicated to purchasing and holding threatened natural areas until such time as a government or private agency is in a position to manage it as a preserve, nature center or for scientific study. Nature Conservancy does not own or maintain the park, but it was too late for the County to act within the time limit set by Fuchs who, because of his illness, was pressed for funds.

Today Fuchs Hammock is posted and permission is required to enter it since, prior to its purchase, many plants were carried off by raiding collectors. The missing plants, say naturalists, will come back if the hammock is preserved in its present state. There are no trails in Fuchs Hammock and if you are allergic to snakes and poison ivy, it would be better to wait until conditions are better for a walk-through.

Fran Young, who labored long and hard for the purchase of the Hammock, takes a quiet satisfaction in its assured preservation. “It is easy to imagine, deep in Fuchs Hammock, that this is a remote portion of Central American jungle with its untouched wealth of growing things,” says she.

“Even the whine of the jets from the nearby Air Force base fades to an insect hum, muted as it is by myriad leaves. Folks argue against the preservation of such areas of natural beauty, ‘People living and raising edible things,’ they say, ‘are more important than Nature and her useless plants and animals.’ They fail to take into consideration that only by preserving natural areas in a primitive state can scientists observe and record natural processes so that we may more wisely manage our diminishing resources.”

Contained within Fuchs Hammock is a 4½-acre lake which offers still another habitat for the study of wildlife and for scenic development.

Many rare ferns of Fuchs Hammock. above right, cling to moist sides of the numerous sinkholes found there. Examining the ferns in seven-foot-deep sinkholes is Fran Young, Dade County Fuchs Hammock. The very rare airplant, Guzmania monostachia, above center, is abundant here. The hammock has a 4½-acre lake, above, of great natural beauty. The dense growth, right, is penetrable at only a few places; there is considerable poison ivy and poisonwood.

By JOHN FIX

FLORIDA WILDLIFE

NOVEMBER, 1969

Photo By John Fix
Down here in the South we have long-established ideas about how bobwhite quail should be hunted.

The basic system, except for equipment changes, has been pretty much the same for 100 years and it's quite a shock to find that the birds are changing the script after all that time.

Southern bird shooters have never been noted for long distance hiking, so the mule-drawn shooting wagon and saddle horses simply gave way to the 4-wheel-drive outfit with a high seat to watch dogs and quail shooting became a little more democratic. Oh, I have to say.

But the truck stopped with a lurch and there were unhappy mutterings from down in the cab. At the same time I saw a dozen airborne specks 200 yards away barely clearing a palmetto patch and spreading out into a swamp so thickly overgrown they disappeared almost immediately.

My friend stepped out, slapped the truck door disgustedly and whistled for the dogs.

"We'll find another field," he snapped. "That covey's gone for all day!"

He made other remarks indicating that "Gentleman Bob," the quail, hasn't been playing the game by the book in recent years.

"They get worse all the time," he said. "Do you suppose these birds have been crossed with some dangned foreign strain that won't hold?"

The disgruntled pointers hopped into the box. and radio is sometimes used for wide range contact. A wood-pitch next to an orange grove, below, will provide unusual open shooting down here in Florida. The up-and-coming bird can be seen at far left. Photos By Charles Waterman.

When it comes to a sneaky approach, chances are good for a shot-or-two on the quail spread out—and away.

Southern Bobwhite Switch

By CHARLES WATERMAN

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many of the fence corner weed patches, and big fields have eliminated long strips of fence row cover.

Then came the increased hunting pressures of growing populations, the new housing developments —and the busy 4-wheel-drive hunting rigs. The gasoline outfit, never really used extensively until recent years, puts a party of two to four hunters over many miles of bird area in half a day, and the birds have learned to recognize that a purring motor means bird dogs and No. 8 shot. They retreat into the thickets we’ve grown for them.

Are the birds scarce? Not particularly except in isolated areas where nature, bulldozers and mankind have ganged up on them, but wild bobwhites are harder to come by these days and the most successful hunters are expert at picking up the “real” hunt. Spooky birds, heavily hunted, may leave the thick stuff for only a few yards morning and evening and scuttle back in as quickly as they can to fill their crops, possibly within 20 minutes. When feeding and moving, the birds put out enough scent to give dogs a good chance. When they’re staying put, even a top notch dog will generally have to come pretty close to the covert to wind it. If it’s extra cold, birds move little. If it’s rainy they hold pretty tightly too.

Most hunters using wide-ranging dogs and vehicles pay little attention to the niceties of bird habits. If all of the cover is open enough to hunt they simply spend the day at it and hope for a good bag. If part of the area is so dense it’s completely impossible to work, and the birds are smart, you had dogged well better know how they are operating. Take the frozen-out orange grove Buddy Nordmann told me about near my home.

That field is a 5-minute drive from my house. Nordmann is a weed patcher and knows a quail’s habits almost to the point of an invasion of privacy. “Go over there at 4 o’clock in the afternoon and hunt 25 yards from the edges of the field,” he said.

Of course I went an hour early and almost turned back when I found a hunting rig with three dogs was cutting up that field in swaths. Three loud-laughing gunners were kidding each other over the mutter of the Jeep’s engine, and much of the field’s weed cover was matted down by vehicle trails. It was close to town and evidently every hunting party that passed it stopped for a quick look before heading out for the “real” hunt.

Half-an-hour after the field was quiet again and just at 4 o’clock I got out of my car, feeling foolish, and put my Brittany on the ground, he looking small and inadequate after the racing pointers that had saturated the field a little while before.

We’d gone only a hundred yards when he pointed, and a scattered covey raced off into the timber only 50 feet away, giving me one quick chance which I missed. Another hundred yards and he pointed again. This time I got my 20-gauge going a little faster and actually made a double. I didn’t chase singles as it was getting late and they were in heavy timber. Buddy Nordmann probably would have followed them up, and when I telephoned him about my hunt he was disappointed because I’d found only two of the four coveys he swore used the field. Buddy says most quail hunters go home to pour a drink just as the hunting starts.

Now this field edge shooting is quick, but it’s not brush bagging where the bird is actually going through the cover when you make your try. Many old time southern hunters simply won’t go into the thick stuff, but the scarce, new bred of bobwhiters will crawl right in after them. Their dogs work close either by breeding or training. Given the proper gun and average marksmanship, there are two special qualifications for a brush shooter. First, he must be able to continue his swing regardless of whether the bird is behind foliage at the time he fires because many a brush-bagged quail is invisible when the trigger is pulled. Secondly, the best brush hunters are expert at picking the spots a bird is likely to choose in his escape.
Quick little guns for fast little birds. These four fast-handling 20-gauge guns are near ideal for quail at close quarters. From left, a Browning 6½-pounder; a French aut with chopped-off barrel, Savage Fross: short-barreledhammer, Quail Italy, of 6½ pounds; and the Browning Superposed and weight listing of 6½ pounds.

(Continued from preceding page)

shot in an ultra light weapon it still doesn't displace the sixteen and, in my experience, few southern quail shooters even want to talk about ballistics. It is rare that even a 12-gauge pointer uses more than 1¾ ounces of shot, and the favorite size is No. 8. If you want to be a perfectionist a load of ¾ for your second shot might be wise if you use a double or have a repeater with a modified barrel instead of the almost standard improved cylinder. With an improved cylinder it's likely that the pattern with the larger shot might be a little too open out where the bigger pellets are needed. For a 12-gauge shot gun, Number 8 is probably the best choice. For all-around upland gunning, improved cylinder and modified barrels are most accurate to the perfect double, but the modern shells with sleeved wads turn such a rig into a modified and full choke in many cases and, for a time, there was eager demand for the old shells with plain wads. The new ones de-tegrated the birds they hit and missed too many.

A few tests of the sleeved shells, numerous thoughtful individuals trotted off to the gunsmith for a little choke alteration. There's always been a cult of fast shooting bird hunters, most of them wielding automatics, who feel a gun simply can't throw wide a pattern. They just saw the barrel (and choke) off to suit. Out to something like 25 yards they can be pretty deadly but beyond that the birds have a good chance. Most quail are killed short of 25 yards, but there is the occasional long try in intermittent brush where the bird disappears and then comes out again.

Being happier with the shorter double gun, I used a 20-gauge Superposed Browning Lightning shot gun model for a while. It's 49-pounder pattern was something like 27 percent, seeming a bit too open for me and I was happier after I got the same thing in improved cylinder and modified.

Another make of over-under, 20-gauge bird gun shot full choke patterns for me with the modified barrel and the new shells. Evidently there have been quiet changes in chokes since the sleeved wads started squeezing things down, and my Browning shoots just what the book says with the sleeved loads.

Two of the best quail shots I know use 20-gauge Frenchi automatics. One got an improved cylinder and had a gunsmith open it slightly, and the other had the choke sawed off. These guns weigh slightly more than five pounds and are wonderful at close range, but the hack-sawed twenty, shooting an ounce of shot, seems to do better with nines than with eights—just a little more pattern density.

The Model 50 Winchester, glass-barreled 12-gauge auto, is popular for its light-muzzled, fast pointing, even though it's no longer in the catalog. One of the fastest shooters I know of uses a 12-gauge, Model 12 Winchester shot gun and the pump section doesn't seem to slow him up. That's no feather-weight gun either, but he's a young man and husky.

If the birds really take off together, it takes quick shooting to get three tries on a rise, but the bunch is sometimes strung out enough that it's simple. You'll seldom shoot more than twice at a single if you miss after that he's too far out. Auto ejectors on a double are a help as "sleepers" are frequent on scattered coys.

There are still places where quail are hunted in the grand manner as on preserves and on plantations where birds are raised as a crop, but in many areas a sneaky approach will work better. •

Binoculars

better quality binoculars can be considered as important for successful hunting as are reliable firearms and comfortable field boots.

By EDMUND McLAURIN

AFTER more than 33 years of writing on firearms and related accessories, I have concluded that sportsmen who ask for technical advice are apt to be disappointed when the honest opinions offered aren't what they want to hear.

Every hunting season, for example, I get three or four telephone calls—besides letters and personal contacts—from persons inquiring about how to buy binoculars. The 'phone conversations usually run pretty much in the same vein:

After exchanging salutations and current hunting chitchat, invariably the caller will hurry on to say he wants to buy a good pair of binoculars—with emphasis on the adjective "good"—and ask what I can recommend.

First, I ask what he intends to use them for primarily. Binoculars, like firearms, often have specific features that make them better suited to specific purposes.

The hunter obviously needs a lighter, more compact instrument than, say, a seagoing sportsman using binoculars only aboard ship, and, perhaps, even at night.

Once I have an idea of how the planned binocular purchase will be used, I make accurate recommendations as to instrument power, focusing features and weight of the same vein:

It is also helpful to know whether or not the ultimate owner-user wears prescription glasses; some binocular models come with shallow eyecups, especially designed for users who wear glasses.

Since I only think in terms of quality viewing and long service without likely expensive repair jobs, I can only recommend quality instruments.

The next question asked, nine times out of ten, concerns cost. My reply is that quality binoculars can easily cost $100 to $300, for a well known, dependable brand name product with 20-year, or even consumer lifetime guarantees.

At this point in the conversation there is usually a long pause, sometimes so prolonged I may wonder if the caller is still on the line.

He then rushes on to say that he has seen an advertisement offering a pair of 7x35 binoculars for $14.95, and that "they sound like they're pretty good."

I take pains to make it clear that one cannot expect much in the way of a quality, serviceable instrument for $14.95—or even $29.95, and that it would be wiser to pay more and buy known quality.

After all, I point out, a binocular purchase should be a one-time affair.

Usually, there is another long pause, then the caller thanks me for my advice and terminates the conversation.

Despite the given advice, it is a safe bet that the caller will buy the advertised "bargain" anyway, especially if it has good outside appearance. In fact, when deer hunting in some of the public hunting areas I've later encountered callers—randomly trying to get good results from an unfortunate purchase of "bargain" binoculars.

It is possible—if, of course, your budget allows—for you to buy a low price figure—depending on existing circum-stances—but such has not been my good fortune. When seeking quality, I expect to pay for it. Long ago I learned to stick to names like Bushnell, Swift, and—for those who can afford the brand—Bausch & Lomb.

Especially liked are the Bushnell Custom 7x35, the Bushnell Featherlight, the Bushnell Custom Compacts and the Swift Neptune Mark II instruments. I consider all well worth their list prices.

(Continued on next page)
Duck Wings Tell Their Story

By David LeNart

I n t r o d u c t i o n

M an a g e m e n t and research biologists are joining forces to provide Florida niriddots with more ducks for future hunting. The Wildlife Ecology Laboratory of the University of Florida's School of Forestry and Resource Management at Gainesville, Florida, Fish Commission, aided by hundreds of interested duck hunters are engaged in a wing survey to examine the population characteristics of the Florida duck.

The Florida duck is a subspecies of the common mallard and is locally called the dusky duck, the Florida mottled duck or the Florida mallard. Scientists refer to it as Anas platyrhynchos fuscigula. Regardless of its name, this large dabbling duck is prized by hunters for its fine culinary qualities. Recognizing this, its hefty throat, streaked breast and bluish-green wing speculum, the Florida duck is normally found only on the peninsula of Florida. Cooperating hunters mailed over 1000 Florida duck wings to the Game Commission's Wildlife Research Project Office in Gainesville during the 1967 and 1968 gunning seasons. Biologists are able to and sex ducks from the wings.

Extremely useful data came out of this effort. The number of juvenile ducks per adult was 0.39 in 1967, and 1.32 in 1968. This indicates that high Florida duck production in 1968 resulted in a large population of juveniles available for hunters. Juvenile (young of the year) represent the natural increment of the population. Stable populations have a ratio of 1:1: if the population is increasing, the ratio of young to adults will increase. When the human population is increasing, the ratio will be lower, as it was in 1967. Several seasons of low juvenile/ adult ratios might place the Florida duck in danger of extinction. Possible causes of this variation in the age structure of the Florida duck population are now being examined. Biologists think rainfall may be a key factor. During normal and above-normal years, many of the marshes and potholes that produce Florida ducks were dry during the nesting months of March, April, and May. The following spring found the marshes and even pastures flooded by heavy rains. It seems that when more marshlands become flooded, either by rain or by man's activities, more ducklings are produced. Sex ratios during both years were evenly balanced between males and females. This indicates in certain seasons during the early parts of the breeding season. It will be necessary to measure the sex ratio of many young ducklings before we can be certain about mortality differences between the sexes during the brooding season. If such mortality exists, it could mask differential mortality in the hunter kill.

Twenty percent of the cooperators were successful in bagging Florida ducks in 1967 and 31 percent were successful in 1968. They averaged 2.4 Florida ducks in 1967, and 3.3 in 1968. Total kill figures are about 8,000 for 1967, and 12,000 for 1968. Hunters usually harvest the surplus population in game season like Florida ducks. Surpluses do not carry over from year to year. Many factors, including disease and predation, reduce the population to a point known as "carrying capacity." It is this number of birds that survive to reproduce and determine subsequent populations, not the number that remain at the hunting season's end.

Five Florida counties produced the lion's share of the Florida duck wings during both hunting seasons.

### A n a l y t i c a l d a ta

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<th>County</th>
<th>1967</th>
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<tr>
<td>Brevard</td>
<td>396</td>
<td>79</td>
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<tr>
<td>Pulaski</td>
<td>79</td>
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<td>Highlands</td>
<td>66</td>
<td>14</td>
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<td>Glades</td>
<td>162</td>
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This lopsided distribution is caused partly by the distribution of Florida ducks and/or partly by differences in hunting pressure. It seems reasonable, however, that the ducks are concentrated in certain areas during the early parts of the waterfowl season. Fifteen other South and central Florida counties produced Florida duck wings but not in any great numbers.
Game Management Notes

A ONEDAY Florida Symposium on Biopolitics, "the politics of ecology," will be held at Winter Park on Friday, November 14, under the sponsorship of the Florida Chapter of The Wildlife Society. According to chapter president Dr. George W. Cornwell of the University of Florida, who is symposium chairman, the conference will begin at 9:00 a.m. in the auditorium of the Science Complex at Rollins College.

A noon luncheon, with Governor Claude R. Kirk, Jr., the featured speaker, will be served to symposium registrants at the nearby Langford Hotel, which is convention headquarters.

Prominent lawmak­ers, environmentalists, and professional wildlife conservationists from Florida and other states—all concerned with today's vital questions on environmental quality—will participate in the unique conference.

Among them are New York attorney Victor J. Yannaccone, Jr., who has developed a special practice in the area of natural resource conservation, especially, in the prosecution of cases involving the preservation of environmental quality; Dr. Seymour Block, professor of chemical engineering, University of Florida; Art Marshall, area supervisor, division of river basin studies, U.S. Bureau of Sport Fisheries and Wildlife, Vero Beach; Rep. Ted Randell of Fort Myers; Sen. Warren S. Henderson of Venice, a member of the Senate Committee on Natural Resources; Dr. John L. Grey, head of the School of Forestry, UF; Kenneth Morrison, director of Mountain Lake Sanctuary at Lake Wales; Lyman Rogers, Ocala, chairman of the Governor's Agricul­tural Resources and Development Committee; and president of Conservation 70's, Inc., a newly organized group of professional and law­makers, including lawmakers; Nathaniel Reed of the Society of Tallahassee; Governor Kirk's special assistant on natural resources; and Dr. R. E. Beatham, Director, Institute of Natural Resources, Graduate Student Center, University of Georgia.

Dr. Jack B. Cricht­field, President of Rollins College, will officially welcome the group.

Topics on the agenda include Man—The Endangered Species; An Environmental Overview of Progress; The Law—An Ecological Court of Last Resort; Florida's Environmental Crisis; Environmental Contamination and Political Viability; How to Achieve Passage of Quality Environmental Legislation; The Involvement of Ecologists in the Political Process; and a summation, The Road Ahead.

Each presentation will be followed by a discussion and question period.

Cooperators in arranging the symposium are the Governor's Office, State of Florida; the Florida Senate Committee on Natural Resources and Conservation; the Florida House of Representatives Conservation Committee; and the University of Florida, whose Division of Continuing Education is coordinating the planning.

The registration fee, which includes the luncheon, is $7.50 per person.

For additional information about the symposium, contact William "Bill" Scruggs, Jr., at the Division of Continuing Education, UF; Dr. Cornwell, at the School of Forestry, UF, Gainesville; or Gordon Stover, Secretary, Chief of Game Management Division, Game and Fresh Water Fish Commission, Tallahassee.

The addition was initiated by the Dixie County Sportmans Club, which conducted preliminary negotiations with the landowners and approached the Game and Fish Commission with their proposal. Major landowners in the added portion are Hudson Pulp and Paper Company and Buckeye Cellulose Company, both Georgia-Pacific Corporation and private individuals.

The tract has been leased for a ten-year period. Fifty thousand acres of the addition will remain closed to hunting until 1979-81 season to permit further game management work. Powell said.

The new portion is bounded generally by State Road 351 and the Atlantic Coastline Railroad on the east and north; by Hudson Road #1 (Bowlegs Road) on the west and south; and by State Road 531 on the south and east.

The Steinhatchee Wildlife Management Area now contains approximately 300,000 acres. Ownes-Illinois, Inc., and St. Regis Paper Company also own tracts within the area.

A separate tract in Northeast Region owned by Owens-Illinois, the 8,500-acre Adams Pasture WMA in Hamilton County, has been removed from the Commission's wildlife management area program by mutual agreement between the Commission and the landowner.

The relatively small size of the area and low hunter utilization were the reasons cited for the action. The area remains open to public hunting, according to Owens-Illinois.

NOTES

1. According to chairman Kirk's special assistant on natural resources, 300,000 acres. Ownes-Illinois, Inc., and St. Regis Paper Company also own tracts within the area.

2. The tract remains open to public hunting, according to Owens-Illinois.

3. Other holders are Georgia-Pacific and Buckeye Cellulose Company, both Georgia-Pacific Corporation and private individuals.

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CONSERVATION SCENE

Ladybugs a Hit in Kansas

Lawrence, those active and colorful little red and black bee-
tles known to millions of school children, have reached a peak of popularity in north-central Kan-
sass, according to the Wildlife Management Institute. Many gal-
sions of the busy predators have been hosed down to dimes on aphids, greenbugs, and other in-
sect pests of young milo. Most agree that the ladybugs did
the job.

Ladybug love-in began when an employee of the Kansas Forestry, Fish and Game Commission and a farmer friend de-
cided to import a supply from California to test their effective-
ness in controlling insects harmful to young milo. Others joined in, the ladybugs were obtained and released, and after six weeks, most farmers agreed the experi-
ment was a success.

One farmer, after releasing two
gallons of ladybugs in a 50-acre
field nearby, was nearly free of pests three
years later.

The California Senate has served notice on Detroit to de-
velop an alternative to the in-
ternal combustion engine or peddle its product elsewhere, ac-
cording to a news item in the Washington Star.

Senators passed a bill 26-5, to outlaw gasoline-powered auto-
mobiles on California roads in less than six years.

"We're going to have to do
something to control pollution or it's going to kill us," said Senator Nicholas C. Petris, the measure's
author. "We're running out of
time.

The Oakland Democrat said the cutoff date of January 1, 1975, is a "practical program." It gives automobile manufacturers plenty of time to develop a smog-free vehicle, he asserted.

The automobile lobby, appar-
teing the bill was too far out to merit attention, never testified against it in committee.

State Park Camping Brochure

A complete guide to Florida's 31 state park campgrounds is available in a new color brochure just off the press, State Parks Dis-

The Call of the Claybird

A SAFELY increasing sound in sport is booming out all over in Florida, thanks in good part to Bill Miller, Florida Division of Rec-
reation and Parks, Larson Build-
ing, Tallahassee, Fla. 32304.

The settlement was made by Miss

Most users also noted that the ladybug is superior to chemical pesticides in that the latter, while killing the target insect, also eliminates all of its natural enemies.

Smog-Free Vehicle Demanded

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Special Movie Award

"Alligator!!"

"Alligator!!", a color film on the Florida reptile’s fight for survival, has been selected by CINE, the Council on International Non-theatrical Events, to receive its coveted Golden Eagle Award.

Receipt of the Golden Eagle, considered by many film producers to be the nontheatrical equivalent of the Oscar, means that "Alligator!!" will be shown in film festivals all over the world in the coming year.

The 14-minute conservation film was produced by Goodway Films, of Fort Lauderdale, for the Central and Southern Florida Flood Control District. 

Produced and written by Stuart McVey, of Lightcountry Point, manager of Goodway Films, "Alligator!!" traces the life cycle of the reptile and shows how poaching is reducing the gator population so rapidly that the animal is now on the Department of Interior’s list of endangered species.

The film was directed and edited by Dick Logan, of Boca Raton, and photographed in 16mm color by Earl Diemer, of Greensacres City, and Dave England, of Plantation.

Coordinator for the production was Larry Nunn, of Lake Park, head of the Flood Control District’s audio-visual department.

"The king of this watery world (the Everglades) is the alligator," the narration states in establishing the film’s theme. "He is an ugly beast and many people fear and dislike him, because they do not understand him and the unique contribution he makes to the world around him."

"The alligator is king because he is the one animal that is absolutely essential to the balance of nature, to the survival of birds, animals, fish, trees, plants and all living things in the Everglades."

The theme of the alligator’s importance to the region is developed in exciting sequences which show alligators feeding on garfish, a female alligator defending her young from a hungry bull alligator, and many scenes that show the wildlife that abounds around a gator hole.

One of the film’s most unusual sequences shows the actual hatching of baby nine-inch alligators from eggs. Diemer, given the assignment of capturing this event on film, monitored the nest closely for days, even using a stethoscope to detect sounds of life inside the eggs which serve as an indication that the baby gators are ready to break out of their shells.

Poaching is presented as the greatest threat to the alligator’s existence. A simulated poaching sequence drives home the danger from illegal traffic in gator hides, responsible, the film states, for the death of more than 40,000 gators a year.

"Alligator!!" is now being distributed on nationwide television by the Florida Development Commission.

The film was produced in cooperation with the Florida Game and Fish, Game and Fresh Water Fish Commission.

Commission employees from the Everglades Region office in West Palm Beach worked closely with the FCD and the Goodway film crew in photographing many of the sequences, a number of them readily recognizable to the audience.

The Golden Eagle Award, the official announcement sent to Goodway Films stated, "is made annually by the council to those outstanding cinematographic productions which the council feels are worthy to represent the United States in international film events."

CINE awards and international prizes will be presented to the winners at a black-tie affair in Washington on November 14.

The Golden Eagle is the second major award won by "Alligator!!". Previously, the film had been honored by the American Film Festival at its annual awards banquet in May.

For that BIG ONE that didn’t get away

FLORIDA WILDLIFE'S FISHING CITATION

in available without charge to any and all subscribers to Florida Wildlife Magazine, and their immediate families, who catch any of the fresh-water game fish of the prescribed species and size requirements. Citation, showing recorded date of the catch, will be mailed to the applicant upon receipt of the following application form that has been properly filled out and signed.

Applying for Florida Wildlife Fishing Citation with the enclosed data listed below:

Name (please print).

Address: __________________________ State: ______ Zip No: ______

City: __________________________ Species: __________________________

Weight: ______ Length: ______

Type of Tackle: __________________________ Bait or Lure Used: __________________________

Where Caught: ______ in County: ______

Date Caught: ________ Catch Witnessed By: __________________________

Registered, Weighed By: ______ At: ______

Signature of Applicant: __________________________

CUT OUT AND SAVE THIS APPLICATION BLANK

ELIGIBILITY REQUIREMENTS

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<tr>
<th>SPECIES</th>
<th>WEIGHT REQUIREMENT</th>
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<tr>
<td>Largemouth Bass</td>
<td>8 pounds or larger</td>
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<tr>
<td>Chain Pickerel</td>
<td>4 pounds or larger</td>
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<tr>
<td>Bluegill (Bream)</td>
<td>1½ pounds or larger</td>
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<tr>
<td>Shellcracker</td>
<td>2 pounds or larger</td>
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<tr>
<td>Black Crappie</td>
<td>2 pounds or larger</td>
</tr>
<tr>
<td>Red Breast</td>
<td>1 pound or larger</td>
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All fish must be taken from the fresh waters of the state of Florida, as defined by the Game and Fresh Water Fish Commission. Catch must be in conventional fishing tackle, and artificial or live bait, in the presence of at least one witness.

The catch must be weighed and recorded at a fishing camp or tackle store within the state by the owner, manager, or an authorized agent of the respective establishment.