Florida Wildlife Scrapbook

NATURE NOTES

A WILDLIFE TRACK SIGN - THE JACK RABBIT CAN RUN AT SPEEDS UP TO 45 MPH AND IS CAPABLE OF LEAPS OF UP TO 10 FT.

The greater horned owl has superior eyes and ears. Its eyes are 100 times more sensitive to faint light than man's and its barbells are larger than any other bird.

The plumed antennae of the Polyphemus moth is used to find a mate. This high powered "scent perceptive" antennae can locate a female as far as 3 miles away.

FLORIDA WILDLIFE MAGAZINE • FLORIDA GAME AND FRESH WATER FISH COMMISSION

THE SENSITIVE IO FAINT LIGHT LARGER SUPERIOR EYES ARE 100 TIMES MORE

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The Cover

Tawny topside, yellow-white feet and belly fur, and long black-tipped tail—that spells weasel, Florida's smallest and rarest predatory mammal. See page 10.

Photo By William Greer

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ROSE TALLAHASSEE

FEBRUARY, 1973
National Wildlife Week

"Discover Wildlife—It's Too Good To Miss."

That's the theme of the 36th annual observance of National Wildlife Week, set for March 18-24, 1973, according to its sponsor, the National Wildlife Federation.

Plans are being readied by thousands of local and state groups across the country for participation in this year's program, which focuses on the simple, yet exciting, joys that can be found by Americans of all ages in the outdoor world.

The symbol for Wildlife Week, 1973, is a young wood duck shown emerging from its nest.

"All that newly-hatched duckling has to do to break out into the natural world is to take that first step out of the nest," said Thomas L. Kimball, executive vice president of the NWF, commenting on this year's poster symbol. "And it's nearly as easy for people to take that same step; to break out into nature and see what beauty it has to offer."

During Wildlife Week, Kimball urges that families "get out and enjoy our wild resources," adding that "the experience can open up an entirely new world."

"Too often," he says, "American families see wildlife and the rest of the natural world only through attractive magazine pictures. It's out there to be experienced right now, and it really is too good to miss!"

"For example, imagine the view this young wood duck has from the edge of his nesting box above the pond. It's a fantastic panorama of a whole new world of wildlife; very different from the dark nesting cavity, with its feathers, broken eggshells, and other ducklings."

"This wildlife world is full of new sounds and shapes. A red-winged blackbird calls out from the tip of a cattail, while below the nest box a muskrat paddles along with a mouth full of marsh grass. He makes a tiny wake as he moves to the shore, where a deer and her fawn search for succulent water plants. A frog croaks, 'chug-o-rum, chug-o-rum,' fills the air as a bullfrog competes with the blackbird for the title of 'musician of the pond.'"

"The young wood duck enters the outside world eagerly and easily. All it takes for him is a fluttering leap, a short fall, a splash, and he's there, swimming on his way across the pond, discovering water bugs, turtles, mosquitoes, and water lilies."

"You too can discover a world full of wildlife. It's there in the vacant city lot, woodland, prairie, marsh, or at a back yard bird feeder. The way you enjoy the outdoors can be as varied as the wildlife you're seeking. Try exploring the mini-world of insects; or maybe you're interested in using a camera to capture the graceful flight and rich color of birds. Possibly you'll choose hiking or camping as your passport to wildlife discoveries. Maybe you'll want to test your outdoor skills against those of an elusive buck or a native bass or trout. If you like writing, you might want to try describing your feelings for things wild. Perhaps you are a talented artist, in which case you will probably enjoy sketching and painting outdoor subjects."

"There are many, many ways of enjoying and appreciating wildlife. How you enjoy it is up to you. But it's spring. What better time to be outdoors? Don't pass up the opportunity. Discover wildlife in 1973," urges Kimball. "Let it be a time for new discovery—perhaps rediscovery—of wildlife, not only during the one week but throughout the entire year. And while we are observing wildlife and learning more about it, we must also re dedicate ourselves to maintaining a healthy environment, for a world that has natural places for wildlife is a better world for all living things."

The National Wildlife Federation is a nonprofit, nongovernmental conservation organization whose overall aim is to work for solutions to the problems confronting man, wildlife, and the environment. It now has an affiliate in every state and several territories—with a total membership of some 3.5 million people.

From its beginning, in 1936, the Federation has provided leadership for all groups interested in the proper management of wildlife and natural resources. The organization was founded on the belief that we cannot separate the welfare of wildlife from that of other living things, since, through the science of ecology, we have learned that having a quality natural environment depends upon maintaining the natural interrelationship existing among all forms of life.

Indeed, man and wildlife share a common need for some of life's essentials, particularly clean air and clean water. Today, more people are aware for some of life's essentials, particularly clean air and clean water. Today, more people are aware

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For information about club or individual membership in the Florida Wildlife Federation, an affiliate of NWF, write John C. Jones, Executive Director, 4880 North Haverhill Road, West Palm Beach, Florida 33407.

National Wildlife Federation Poster Photo By Jack Dermed

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I've no idle boast: Florida fishing is something else.

Fishing tournament directors schedule national competitions in south Florida because the fishing is so good.

Angling-oriented tourists aim toward south Florida because the fishing is so good.

South Florida residents stay in south Florida to do their fishing because the fishing is so good.

And along come Game and Fresh Water Fish Commission fisheries biologists and decide they are in the Everglades Region of Florida.

going to make it even better.

is so good .

site of extensive commercial dredging until about a year ago, when local conservationists and state conservation biologists now are working to improve.

In another phase of fishing improvement, several lakes in Florida have received "fish attractors"—structures in the form of tires, terra cotta pipes, concrete blocks, and brushpiles, which have proven successful in concentrating catchable fish for the angler.

As smaller fish are attracted to the protection of the submerged attractors, the larger game fish are in turn attracted by the bait fish—a situation which in turn always manages to attract a crowd of fishermen.

After each lake in the study is sampled by one or more methods, and the collected fish are counted, identified by species, weighed, and checked for forward physical condition, the figures are examined to obtain a general picture of the condition of each lake. This information forms the basis for selecting possible improvements open to fish management personnel.

These figures are then added to other regional and statewide information on hand to obtain a complete picture of fish and fishing throughout the area.

Where Florida was once noted for its many lakes full of game fish eager to strike bait or artificial lure, the ever-increasing population pressure has taken the edge off sport fishing in many bodies of water. So, what Mother Nature could once control through natural selection, Game and Fish Commission biologists now are working to improve.
Some former jig users have gone almost entirely to spinner-fly combinations. Here the method of retrieving must be modified a little. You can drop a spinner to the bottom of course, but it often frequency and stops working. With the spinner I have seen little advantage in stop-and-go operation, and it does about as well if you just crank it in. The speed of retrieve should be adjusted to keep the bait near the bottom. Very fast cranking isn’t good, but a great range of speeds will catch fish. If I had a choice, I’d say to retrieve as slowly as possible without stopping the spinner.

The most successful panfish spinners are usually very light and rigged to turn with very slight forward motion. I believe a small treble-hooked fly will get the best results. Squirrel tail has been highly successful as fly dressing, but I wouldn’t be too particular about that.

The casting weights for most of these little spinner combinations are usually in the form of gold or silver beads. Years ago, the panfish-spinner-fly usually had its weight up ahead of the spinner. Now, it is generally between the spinner and the hook.

Most of the specks are caught in more than 2 feet of water. As spawning approaches they are likely to show up along selected shallow shorelines, and it is in these places I think the spinner-fly rig is usually better than the jig for it can be retrieved more slowly without sinking. I have seen some exceptional crappie catches made in water less than a foot deep, but this is the wrong place for taking a string of fish from a small area. Best passage will cause too much disturbance in shallow water, and it’s likely to be only one or two fish to a stop.

I have a low opinion of shallow water with a gunky bottom of poisoned or frozen hyacinth remains, but I have seen some fine crappie lying in such places.

In one place, I fished with someone who knew more about crappie than I’ll ever learn and the

Specks can be caught on flies—if the right one is offered. These bit a fly green nymph. You won’t land a bass in shallow water, but they’re around edges more than expected.

(Continued from preceding page)

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Specks can be caught on flies—if the right one is offered. These bit a fly green nymph. You won’t land a bass in shallow water, but they’re around edges more than expected.
Once in a while the 'phone rings or the radio crackles and a wildlife officer hears a new one. Like the day in February 1972 that Jim Parker, of Jefferson County, was summoned to the telephone. Like the day in February 1972 that Jim Parker, in the April 1972 issue of FW, page 4).

Parker managed to catch the elusive, odd-smelling creature alive and unharmed by chasing it into a box—getting bitten only once in the process. Then he delivered it to the Tallahassee office for photographing, study, and final disposition—knowing it was a prime specimen for a scientific collection. Assured that it would be penned up securely for observation as a precaution in case it was rabid, Jim assured that it would be penned up securely for observation as a precaution in case it was rabid, Jim

Its bloodthirstiness aside and its modest appetite just needing to burn up some excess energy, the supple and agile animal would run round and round in his pen, then climb up the wire front and hang there momentarily, peeking through the mesh. He always remained in an upright position, never upside down, as a caged squirrel might rest. Speaking of running, weasels certainly can. One evening in April I was cleaning a small carrying cage and changing his bedding when Willy got extremely nervous at the disturbance and zipped out the partly open cage door. He was genuinely riled, all right, for he had begun to release a very strong musk, and his black, beady eyes were almost literally flashing fire. He streaked between my feet and across the back yard in a headlong dash to freedom. His gait was bounding, with the belly stretched at each stride and the tail straight out.

I was amazed at the speed and evasive moves he had! He could turn on a dime, run on the ground, climb through the hedge, and twice during the ensuing 45-minute chase he tried for brief moments to rest. With luck and the help of all the neighborhood children and half the adults, Willy was recaptured. Just before nightfall he made the mistake of going into a culvert. We captured him with crab nets and heavy gloves when he emerged. It had been some weasel to keep track of.

An interesting behavioral characteristic was observed during the weasel's brief outing: At the height of the chase he treed in a tall ornamental evergreen. Climbing a nest containing four young mockingbirds, the weasel took the time to kill three of them. (The fourth apparently escaped death by feigning it. When I placed a ladder against the tree and climbed to within reach of the nest, now containing the weasel too, the surviving bird was huddled with its dead nestmates and lying perfectly still with its eyes closed.) Obviously, the sight, smell, and warmth of the prey had elicited an attack response that the weasel, even in its haste to avoid its own pursuer, was compelled by nature to obey.

Willy was restless for days following his escape and recapture, but did eventually settle back into his old routine, appearing perfectly content with confinement and hand feeding—at least as long as he was kept in his large pen. He never cared much for his smaller, specially-made carrying cage after that experience though.

During the six months I observed the weasel I only heard three vocal sounds out of him: a low snarl, or growl, a soft, almost inaudible "kissing" sound, and an ear-splitting screech.

The growls accompanied his capture when being transferred from one cage to another—yet, he had remained strangely mute when recaptured after his jailbreak.

The kissing noises were uttered in series when I approached his cage with food, especially if he had missed a meal. Willy would move up and down at the front of his cage making the sounds, which were so soft they probably couldn't have been heard from more than two feet away.

Willy's piercing, open-mouthed screech shocked me. It was louder than a little animal is supposed to make. He let it fly the first time Pedro, our neighbor's dog, approached his cage. He uttered three, or maybe four, in 1-second bursts—and it stopped Pedro dead in his tracks!

Many good woodsmen never see a live weasel in a lifetime of outdoor activity. Many a man has worked years and years in wildlife conservation and never had the good fortune to come across one of these scarce and uncommonly shy animals. So, I treasure my brief encounter with Willy all the more.

He was one cute little "killer."
Watson is the main reason the key deer herd exists at all today. The refuge wasn’t established until 1954, but Watson came to the Keys full-time in 1950 when the state closed them to hunting. (There had been a law against killing key deer as early as 1935, but it had not been successfully enforced.)

Watson is a tough cop with a gentle soul. If you’re a deer—or a deer lover—he’ll greet you warmly and glory in your presence. If you’re a poacher, though, this wily and woods-wise man will stalk you mercilessly through the underbrush, greet you with brittle politeness, and haul you before a federal judge.

Under the Endangered Species Act, shooting a key deer is punishable by a $500 to $5,000 fine and/or 6 months to a year in federal prison. What’s more, the court can confiscate the motor vehicle and gun used in committing the crime.

“Already this year I’ve hauled three poachers,” Watson reports. “Two of them lost their guns and were fined $530 apiece, and they didn’t even hit the deer they shot.”

Watson chuckles about the time he saw some shady characters park a pickup truck along a refuge trail and set out through the woods with shotguns in hand. Tall grass between the rut of the trail came in contact with the bottom of the hot engine, began to smolder, and burst into flames. So did the truck. Watson waited for the smoke to attract the attention of the hapless hunters then arrested them when they returned in consternation to the fire.

Jack Watson may be a poacher’s nightmare, but he’s unable to stop his deer that they should look both ways before crossing a highway. More deer fall victim to motor vehicle collisions than to anything else. In 1971, cars killed about 65 deer. There were 33 fatalities in the first half of 1972, and mortality always rises during the fall rutting season. Watson says, “A guy on Little Torch Key called me one night complaining that our deer practically cleaned out his garden. I told him to wait until the end of the month and we’d send him a bill for maintenance and trimming.”

From an ecological standpoint, the deer may ultimately suffer more from those banquets of succulent cultivated goodies than from the depredations of the automobile. Gardens provide new kinds of vegetation, more palatable and nutritious in many cases than natural browse. Since residents can’t fight back by shooting a marauding deer, even if they’d want to, the herd is free to increase in number and in its dependence on man as a supplier of food.

The developed real estate on those keys shared by deer and men is still relatively dispersed, so human population densities are still low. If and when development transforms those islands into busy little cities, however, the deer may find themselves squeezed out by the sheer volume of human activity. They’ll then be forced to retreat back into the forests within the refuge boundaries, but by that time the herd may have grown so large that its members will be unable to find enough natural food and living space on the refuge lands alone.

Whether overpopulation actually occurs will depend on a variety of factors. Alligators and crocodiles eat a deer when they can catch one, and infrequently a shark will devour a deer swimming between islands. These are relatively minor forms of natural population control which serve to weed out a few of the weaker individuals. Men and the deer themselves are the major regulators of the herd’s size.

In studies elsewhere, scientists have found that deer respond to population stress by controlling their own numbers. They mature later, thereby avoiding the opportunity to breed in the first year of life. They also produce twins less frequently. Dr. Klimstra has found little evidence of twinning among the key deer, and he suspects that these self-regulating biological mechanisms may already be at work in the herd.

With the exception of the few poachers who elude Watson’s grasp, the human impact on the deer population control is inconsequential, except that Dr. Klimstra views the motor vehicle as the most efficient instrument of external population control now affecting the key deer.

Eventually, man may have to take deliberate action to thin out the herd. Controlled hunts are a possibility, and animals could be captured and shipped to zoos for display purposes. Dr. Klimstra concedes such measures may be necessary, but he doesn’t like them.

(Continued on next page)
"I don't believe we can justify hunting an animal with such a complex habitat," he states. "It will never exist in particularly large numbers. And when you take the key deer out of the Keys, he's no longer the key deer. He is what he is because of the restrictions of his environment."

That statement is more than a mere emotional response. There's a possibility that, over time, a herd of key deer penned in Chicago or California would literally cease being key deer. In the course of several generations spent in a different environment, these animals might increase in size and modify some of their unique behavioral traits—such as a 3-month rutting season, compared to 6 weeks for northern deer.

The key deer is classified as a "race" or subspecies of the eastern white-tailed deer. How it got isolated from its mainland relatives remains a mystery.

During the Ice Age, vast quantities of earth's water supply were locked into glacial ice sheets. The oceans were lower and the Keys were part of the Florida mainland. Perhaps the deer occupied that region then, and were stranded about 50,000 years ago when the ice began melting and the oceans started to rise.

Perhaps the Calusa Indians imported the deer to the Keys as recently as 5,000 to 7,000 years ago. In any case, during centuries of isolation the key deer developed unique characteristics—and the race is still in a state of evolutionary flux.

Florida's Endangered Dozen

Florida is changing. Look around. You can see many changes taking place, but there are other changes you can't see. Many of these smaller, more subtle changes influence Florida's environment more than the obvious ones. Scientists monitor and predict the results of these environmental changes, and wildlife helps them.

Wildlife is more sensitive to environmental changes than man. Wildlife can tell us when a stream is too polluted, a marsh is too dry, a forest is being overharvested, or if a watershed is loaded with pesticides. By studying wildlife, man can study the environment.

Florida is fortunate to have abundant natural resources and a climate that lets us enjoy them. But our wildlife is trying to tell us something. Each year the plight of another species comes to our attention. Here are the stories of a dozen Florida animals that are hovering on the brink of extinction.

Pine Barrens Tree Frog

This frog is so rare in Florida that it wasn't discovered until 1970. Its range seems to be restricted to a very small part of Okaloosa County. Almost nothing is known about its life history because it is so secretive. The Florida Game and Fresh Water Fish Commission placed this 2-inch amphibian on the endangered species list until more can be learned about the size of the population, its habitat requirements, and its Florida range.

The New Jersey population of this tree frog is found in the swamps, bogs, and brown, acid waters of the pine barrens. Like all hylids, the pine barrens tree frog has discs on the ends of its toes. Only time can tell.

Wood Ibis

The wood ibis may better be called a stork. It is the only member of that family living in North America. The fate of the wood stork is tied to its breeding grounds, which are located in Florida.

The most obvious change in recent years has been an increase in size.

A refuge bulletin printed in 1963 indicates bucks weighed 60 to 95 pounds, while does weighed 35 to 65. One buck hit by a car last year weighed 137 pounds.

On the average, key deer stand between 26 and 32 inches tall at the shoulder. It's possible, though, that more deer are now attaining heights near the upper limit of this average range.

Watson explains the increase in size by noting that, once under protection, the deer expanded their range from five islands in the 1940's to 18 today. This initially gave them more room to forage and breed. Also, they seldom survived more than 3 years before being gunned down by poachers, but now they live 6 or 7 years and display "middle-age spread."

One wonders, of course, whether this external manifestation of prosperity is reflected in the gene pool of the key deer. In the past, natural selection evidently favored smaller individuals. Now, it's possible that intimate contact with benevolent man is confusing the ground rules.

With our help, the key deer may be evolving in directions which have short-term benefits and long-term pitfalls for the race. Bigger deer may be able to jump higher fences to get at a carefully-tended garden, but will they be successful in wending their way through the dense mangroves, palmetto-carpeted pine forests and thick jungles of their native environment? Will they be as tolerant of the intense tropical heat as are their smaller brethren? Will success spoil the key deer?

Only time can tell.

Florida Department of Commerce Photo

In recent years the annual road kill of key deer has exceeded what the entire population was 25 years ago—some 50 animals. Now, the herd numbers approximately 750. A reduction to avoid overpopulation may be the next step.

Brown Pelican

The brown pelican is a comical, ungainly sight familiar to residents and visitors along most of Florida's coasts. The state has a relatively stable population of brown pelicans, but recent evidence shows that the presence of DDT and its metabolites in the tissues and eggs of pelicans here. Gradual interference with these birds' reproduction, coupled with the destruction of valuable coastal habitats, may push them to rapid extinction. Brown pelicans have already disappeared from wide sections of their former range in other states.

Mangrove trees provide nesting sites for pelicans, and the beginnings of a complicated food web that affects not only pelicans but men. Pelicans feed on the foot mats of sticks, grasses, and reeds during the early summer. They usually

(Continued on next page)
The brown pelican is a great bird in trouble. It seems unthinkable that man can allow, and perhaps even help, this magnificent animal to fly into oblivion.

**Florida Panther**

Once distributed throughout the state, and practically the entire North American continent, the panther's range in Florida is now limited to the Everglades, with occasional occurrences elsewhere in the state. In 1967, a panther was illegally killed in the Ocala National Forest, and just last year another was struck down by an automobile near the southern edge of Lake Okeechobee.

Panthers are meat eaters. They feed on deer, feral hogs, skunks, rabbits, and an occasional raccoon. Man and predatory animals have never been able to coexist. While Florida continues to develop, these large cats retreat to less land. Panthers enjoy complete protection from being hunted here, but the piece meal development of wild areas threatens their precarious position. Coming generations may only see live panthers in zoos.

As many as six buffy-colored, black-spotted, young are born in February. The kittens weigh about 1½ pounds at birth and are blind for the first 8 or 9 weeks of life. Mortality is high. Only two or three kittens survive to take their first hunting trip, at 3 months of age. The young stay close to momma for about 2 years, at which time the family bonds break. The then-mature panthers should make every field trip an adventure.

**Indigo Snake**

Snakes are the most misunderstood creatures on earth. Most people hate them, and the few people who love them often love them to death. Such is the case with the indigo snake.

The indigo is a 5- to 6-foot serpent, occasionally longer, that is a shiny, blue-black except for the chin and head, which may be orange-brown. Even when picked up, indigos seldom attempt to bite, and they become tame almost at once. They will take almost any sort of prey—rabbits, rats, mice, and sometimes other snakes, including the diamondback rattlesnake. (But if indigo snakes are around, rattlesnakes are normally absent.)

Because it often takes shelter in burrows made by the gopher tortoise, the indigo snake is often called "gopher snake," which is not inappropriate because it occasionally preys upon the pocket gopher, or "salamander," in one of its many underground tunnels.

**Ocala Darter**

Florida's Ocala Darter is a slender little fish that attains a length of only about 2 inches. It is greenish above and lighter toward its underside, with a few indistinct blotches along its sides. Not much is known about this tiny member of Florida's "Endangered Dozen." See the special full color center spread illustration by Wallace Hughes.

**Round-tailed Muskrat**

The Florida Water Rat looks like a small muskrat with a round tail, but this brown rodent seldom gets over 1 foot long. Unlike the northern muskrat, the round-tailed muskrat is at home on land or in the water. Very shy and retiring, it needs marshes to survive, and the combined forces of dredging and drainage have reduced the population to a fraction of its former size. Our water rat's house resembles a miniature haystack poking above the quiet waters of some marshy cove. The structure usually stands 2 to 3 dm.
feet high. It is composed of a mass of tangled vegetation and contains a single room, but always has at least two "doors"—openings into shallow tunnels that lead into the water.

Four to six young rats may be found in the nest at any time of the year, because this species, like most Florida rodents, seems to have several litters each year.

Round-tailed muskrats also construct feeding platforms, which descend vertically from their nests—roots, stems, and cattail parts—into the water. Escape tunnels are built in these too, and they have saved many a rat's life. When a barred owl or horned owl swoops overhead, the water rat has only to dive down one of the "hatchets" to safety. Otters, minks, and weasels often invade their filmy homes, and hungry reptiles, like snakes and alligators, take their share of water rats.

The round-tailed muskrat is a valuable link in many food chains. Indiscriminate drainage and the conversion of wetlands for agriculture have reduced the habitat needed for this interesting creature to survive. Few people see this nocturnal rodent, and few care. Roundtails are not particularly attractive, nor are they well understood. But just the same, wouldn't it be nice to push this member of our wildlife community into extinction when it is within our power to aid it instead?

Red-cockaded Woodpecker

Named for the small, red ear patch, or cockade, of the adult male, this robin-sized woodpecker's best field marks are the pure white cheeks and the black-and-white "ladder" on its back. The red-cockaded's nasal-toned call notes help locate this wary bird as it continues its incessant search for food—insect larvae (particularly of wood-boring insects), ants, various spiders and caterpillars, and an occasional wild fruit or berry.

This woodpecker avoids man and his activities. It needs large, old pine trees in open stands for its home, and it nests only in those trees with nesting holes. Dead trees are abandoned.

In earlier times, crocodiles ranged up the Florida east coast to the Daytona Beach area, but now they are restricted to the southern tip of the peninsula and the Keys. Crocodiles are neither beautiful nor friendly. In fact, they appear ugly, vicious, and stupid. Yet they have a significant role in maintaining the environment on which many other wild creatures depend.

Crocodiles inhabit salt bays and mangrove-bordered estuaries but take occasional trips into the open sea. Unrestricted market hunting for both alligators and crocodiles in the early part of this century decimated the crocodile population to the point that it has never recovered. Now, despite complete protection for this huge reptile, the development of coastal areas for human use further reduces its habitat.

Secretive, unpredictable, wide-ranging where it exists, and unsociable, crocodile populations were probably never large, and to survive, those that remain continue to withdraw before the pressures of civilization. Unfortunately, the crocodile does not respond to management like his cousin, the alligator, which thrives in fresh water.

Looking at the crocodile is a way of looking back into the Age of Dinosaurs. These largest and most aggressive of modern reptiles give man a faint idea of what the dominant animals of an earlier era may have looked like in the flesh.

Hopefully, we can continue to share part of the environment with a creature whose ancestors roamed the earth 200 million years ago.

Sandhill Crane

Two Races of Sandhill Cranes Occur in Florida, the Greater Sandhill, a winter visitor, and the Florida Sandhill, which lives and breeds here. Both are declining because of the conversion of wet prairies to agriculture, the destruction of nesting habitat, and man's invasion of wilderness areas.

Crane nests after a spectacular courtship ceremony that includes musical trumpetings and an intricate dance. They lay only two eggs, pale brown or olive in color, and usually only one young bird survives. Stupid production of young depends on good weather, low predation, and privacy. Cranes are wary birds; they only feel safe in areas where they can see danger approach, hence their preference for wetlands that provide wide open spaces. The wetlands produce their food, too, for which they prowl with their long, sharp bills.

The Florida Sandhill's diet is a varied one, including not only succulent roots, bulbs, and grains, but also insects, crustaceans, frogs, and snakes.

The spacious wet prairies and marshes of central Florida—Paynes Prairie, the Kissimmee River valley, the Fishabating Creek flood plain, and portions of the Everglades—still provide the habitat sandhill cranes need for survival. Whether or not these great, graceful, noisy, dancing birds remain with us depends on how closely we guard our remaining wetlands against further encroachment.

Bald Eagle

Today, only Florida and Alaska report even fair bald eagle reproduction. The sinister effects of chemical pesticides and loss of nesting trees are dooming the King of Birds.

Florida eagles usually lay two eggs, in early winter. Incubation, shared by both sexes, takes about 35 days. Care of the slow-developing young requires approximately 8 months, in April or May finds the brown, immature birds making their first flights. Summertime is travel time for most Florida eagles. Even the young of the year have been found 1,600 miles from "home."

Fish make up the bulk of the bald eagle's diet, but he's not above scavenging for road-kill animals, or even in garbage dumps. On more than one occasion eagles have been seen taking food from smaller predaeous birds, like the osprey.

Despite laws against shooting or capturing eagles, each year thousands of young kill or maim bald eagles by shooting. This is certainly more dramatic than the gradual poisoning to which they are subjected from a DDT-laden food chain, and habitat destruction—but it is all three in combination that endanger the national emblem of the United States.

Since ancient times, the eagle has been regarded as an emblem of might and courage. Poets have been inspired by the bird's great power of vision, its dignified manner, its vast, soaring flight, and the wild grandeur of its abode. The bald eagle appears on currency, coins, uniform buttons, medals, public documents, stamps, and the Great Seal of the United States. But how much longer will it appear, free and untamed, in the sky?

Everglade Kite

Everglade kites were once found over most of central and southern Florida's fresh water marshes. As channelization and drainage projects reduced this habitat, the kites migrated to the Everglades region. Today, with peninsular Florida's
Kites represent a real challenge to wildlife conservationists, for here is an animal that evolution may have condemned to extinction, and man has helped along. The question now is whether Floridians will share with this creature enough space to allow for its continued existence.

**Summary**

Many more species of Florida wildlife are rare or endangered and fully protected by law. Included are the Florida weasel, Everglades mink, Key Largo wood rat, ivory-billed woodpecker, dusky seaside sparrow, Cape Sable sparrow, great white heron, reddish egret, roseate spoonbill, manatee, and the Florida scrub jay.

There are probably other endangered species that have not been listed because they have not been studied enough to know how many there are or with what problems they are faced.

Florida's private and public agencies are committed to make every reasonable effort to help endangered species remain wild and free on Space-ship Earth. These efforts are aimed at providing for the animals' basic needs and offering protection under state and federal laws.

The Florida Game and Fresh Water Fish Commission, the Department of Natural Resources, and the Division of Forestry of the Department of Agriculture provide protection and habitat management that favor certain animal species. The Department of Pollution Control and the Trustees of the Internal Improvement Trust Fund are also actively involved in protecting Florida's wildlife resources and the habitat on which endangered species depend.

Sure Florida is changing. Everything and everybody is constantly undergoing change. But if you have looked around, you'll agree that our wildlife is indeed trying to tell us something. Are we willing to listen? If we have the will, knowledge, and prudence to act promptly and vigorously to help cure earth's environmental ills, the trends we see can be reversed. Wildlife that is threatened by pollution, the destruction of essential habitat, and wholesale degradation of the environment for temporary gain, can be saved.

Man must develop the intellectual humility that allows him—compels him—to share the land, water, and air with a myriad of other creatures that are important to his own survival. By saving wildlife, man can save himself.

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**Nutria—Undesirable Alien**

**By ROBERT NORDIN**

It was the poet Robert Burns who so adequately put certain of the frustrations of mankind into words. In his poem, "To A Mouse," he penned the immortal lines:

"But, Mousey, thou art no thy lane, In provoking my affections may be in vain; The best-laid schemes o' mice an' men, Gang aft a-gley,

An' lae's us naught but grief an' pain, For present joy!"

In retrospect, which is always the point of greatest wisdom, were the grand schemes of man that have ended in failure piled on top another, the end result would have been the said Tower of Babel. Look like the work of pokers.

Recently, another example of an idea that didn't make it came to light in Hillsborough County. There, on a number of dairy farms, large rodent-type animals were reported thriving in abundance in low, marshy areas.

An investigation of the situation has revealed a plethora of coypus, commonly called nutria, and this newest discovery from Pandora's box has created just another headache for officials concerned with the importation and liberation of non-native wildlife.

The coypu, Myocaster coypu, also called the "swamp beaver" and "South American beaver," is a native of the temperate regions of South America, and is really not a beaver at all. It has the appearance of an enormous rat. The term "nutria" comes from the same given its fur, and it was its fur, or a "best-laid scheme" for the production and use of it, that began the problem now being experienced.

Coypus are well known in South America and Europe, where their fur is used extensively in the clothing industry. In fact, in the late 19th century there was such a high demand for nutria that an animal was nearly driven to extinction in its wild state. But by 1922, the coypu was being bred in captivity on its native continent, and soon the idea spread to other countries, including this one.

High prices were paid for breeding pairs. A number of less-than-honest entrepreneurs made a small bundle selling some pretty ragged looking nutrias to some gullible and unsuspecting hopefuls. But for the most part, the ranch-raised coypus provided pelts of inferior quality, and the ventures of many "gardeners" to put certain of the frustrations of mankind into words.

Then the problem became what to do with the unwanted coypus then in captivity. The answer seemed obvious, and simple: Many disenchantered nutria ranchers turned their stock loose to fend for itself in the wild. Little did they know, or probably care, that one day their prolific disappointments would be creating another unanswered question of what to do with imported exotics when they cease to be novelties or outlive their usefulness.

The nutria is neither all bad nor all good, but its penchant for having large families at frequent intervals creates a situation that makes it not altogether harmless.

Measuring in excess of 18 inches in length and growing to a weight of up to 25 pounds, the nutria requires a goodly amount of food to satisfy its appetite. And while it is strictly herbivorous, its diet can and frequently does include cultivated root crops.

Three litters of up to five young a year can make the nutria population spread in favorable habitat faster than a coastal housing development. Problems and damage to crops and to valuable land can also result when these animals decide home should be a lake or the bank of a irrigation ditch.

In habits the coypu resembles the water vole. It is active by day and found in its natural state around rivers, ponds, lakes, and marshes. The female coypu has evolved a peculiar feeding system for her young. Her four or five pairs of teats are conveniently placed, the young can suckle while mother swims. Baby coypus, like guinea pigs, are active from birth, and grow very rapidly.

The coypu has reddish-brown fur, a long, round-tipped tail, partially webbed hind toes, short, round ears, and smooth, broad, orange-colored front teeth. Strangely, its fur is considered one of the finest that can be obtained from an animal bred in a temperate climate. But before the purists stop and consider all the commercial value, they require such expensive processing as to almost negate the investment of time, effort, and money.

Now, because of dreams turned sour, certain parts of Florida are experiencing a dilemma that has no ready answer.

One possibility that has been voiced is that alligators be placed in ponds, lakes, and streams where the nutria have become too abundant. But that answer would certainly create some questions of its own. How will we control the expanding population of this unwelcome guest? The answer is still around the corner. But again Bobby Burns probably said it best:

"Still thou are blest, compared wi' me! The present only toucheth thee: But, oh! I backward cast my e'e, An' forward, though I canna see, I guess and fear."
the good old days

an occasional backward glance can be fun—and may brighten future prospects

By CHARLES WATERMAN

His battle-scared Creek Chub Crawdad from the 1930’s is admired by the author. Left. It won his first casting plug—rubber legs have rotted away. Me tries by fishing the St. Johns River, right. "way back" in 1933.

When fishing writers get about my age, going on 60, they begin to write about the good old days, or the bad old days, or whatever kind of old days they recall. Part of this is a growing tendency to look backward, and part of it is a growing laziness that keeps them from getting out and finding new material to write about.

There is also a boring tendency to relate irrelevant stories of fishing and hunting trips, largely for the entertainment of the narrator. I have all of these reasons for writing this little account of my bass fishing experience.

I can summarize by saying that fishermen and their tackle are both much better than they were a few years back, that there are more black bass now than there ever were before, that stream fishing is deteriorating, that fishermen have more interest than ever in ecology, and that the majority of anglers are perhaps less interested in sporting methods than they used to be.

I won't apologize for the fact that I haven't fished Florida steadily except for the past 20 years. I fished here clear back in 1943 but was then away for quite a while. The general trends seem to have been about the same the country over.

Calvin Coolidge and I both fished some in the early twenties, and I got past the bait-only stage then. In those days the outdoor magazines were full of talk about sportsmanship and a lot of pleasant sentimentality about the outdoors. There wasn't much on ecology, but considerable on conservation in general. The fishing regulations weren't too sensible, but flyfishing was already on the rise.

In the early thirties when I first started writing an outdoor column—I was a reporter at $15 a week—I really got started on fly fishing. I recall one real triumph when I went to the Lake of the Ozarks in Missouri, and caught bass on bugs late in the evening at a season when no one else was doing much. Bait casting tackle was getting better, and it now seems that fly fishing had been fading along the bass waters. There was some fine bugging, however, on small, weedy railroad ponds.

Much of southeastern Kansas had been rapped up by strip mines, and we caught some bass along fly fishing too. I couldn't afford a real guide, but I remember getting a kid to run the boat for 50 cents, and two of us would chip in for the fuel back on a half-day trip.

My parents took a dim view of this, as most farm families considered fishing a wasteful pastime and believed all anglers were losers.

When I later talked to veteran Florida fishermen, they told me of drifting down the slower rivers and rowing the long way back.

On some of those Ozark trips we would paddle, pole, and drag a big wooden John boat upstream for half a day to get in an hour's drifting. It was about that time that the first larger impoundments were built. Fishing was wonderful in these for a few years and would then die off. There were no good techniques for fishing the deep water. It was largely a matter of working the shallows when the bass were up there. The rivers were more consistent.

In the early 'thirties when I first started writing an outdoor column—I was a reporter at $15 a week—I really got started on fly fishing. I recall one real triumph when I went to the Lake of the Ozarks in Missouri, and caught bass on bugs late in the evening at a season when no one else was doing much. Bait casting tackle was getting better, and it now seems that fly fishing had been fading along the bass waters. There was some fine bugging, however, on small, weedy railroad ponds.

Much of southeastern Kansas had been rapped up by strip mines, and we caught some bass along

(Continued on next page)
thought that was a short-lived fad. For a decade. Monofilament line and the small jig early 'fifties, school bass fishing began to appear ended. The impoundments brought more bass and an instrument for beginners. People who didn't know what the level-wind reel until much later, feeling it was green trees.

During the war I caught some snook at Fort Pierce on bass plugging tackle and decided that Buck Perry's Spoonplug was revolutionary, but I didn't get back at it. Much better now than we ever.

Buck Perry's Spoonplug was revolutionary, more so than I realized at the time. It went with a system of fast bottom trolling with heavy line and revealed the fact that bass weren't always along the shorelines. It still works, of course, and it was the forerunner of the depth finder used for modern bass fishing.

Perry's idea was that the Spoonplug would locate offshore concentrations of bass. After you located them you could use another method if you preferred. Then, when the fathometer was reduced in size and increased in efficiency, fresh water anglers saw that it would find fish in lakes as well as offshore and "structure fishing" was a reality. Users of that electronic gadget now catch more bass than the old-fashioned methods ever could. Some of us sneered and said we didn't want the offshore bass, but we soon got our comeuppance.

The plastic worm got a slow start. There were attempts at such things 40 years ago. Surf casters had used eelkins with success for a long time, but the first rubber and plastic imitations for bass didn't go over very well, largely because no one knew how to use them. When the portrind eels caught fish the plastic worms weren't far behind. Only a few years back, plastic worms were used on very light spinning rods in most cases, and hook-setting was a complex and erratic business. It was a light lure, and most systems involved sliding sinkers and long waits between the first nibble and the time we thought the bass "really had it." Some of us never did get the thing down right. Half the time we were playing fish that weren't hooked at all but were just reluctant to let go. The tackle just wasn't suitable.

The modern worming rod is quite stiff and generally uses a freepooling casting reel and fairly heavy monofilament. Extremely long casts are unnecessary, and once you got the hang of the stiff stick, it works very well. Many experts cast with both hands. Along with the stiffer rods came the policy of setting the hook promptly. Most of the experts drop the worm back only a few inches when they feel the take, and then set the hook within a second or so. Coupled with the depth finder, the new worming outfits are about as efficient as bass tackle can get.

Casting rods have gotten longer. A 5-foot was long when I was a kid, and many of them were only 3 feet. With heavy plugs, most casters didn't really use much rod action. The operation was described as "throwing a mudball off the end of a sharp stick." The reels had heavy spools that were inefficient with a snappy release. Some of my early backlashes were monumental. Then the spools got lighter—aluminum or plastic—and the freespool outfit arrived.

Shoreline casting places a premium on accuracy. Although the new bass fishermen are more scientific than the bank rakers ever were, they are less interested in pinpoint throwing than in what the bait does when it gets down there. Many of them are also shoreline experts, but competitive casting is a hard game to keep alive. I have always felt that the shoreline casting was what kept up the interest in skis and other tournament events. Twenty years ago, you'd often see casting rings or targets in use on water or in yards. Now, most people think they are forgotten hulls hoops when they come on them in a pile of junk.

Fly fishing is enjoying a mild boom, but suffers because there are easier methods of fishing. It is still the top method in trout waters of the Northwest, especially in the Northwest. I now believe it has more prominence in the tournaments. Fly casting championships seem to attract more attention than bait casting, and there is some interest in distance fly casting. Distance bait casting suffered because it used equipment impractical for fishing and placed a premium on engineering. Skish was an attempt at keeping the competition confined to practical fishing equipment. These sports are still alive, but have a limited following, despite much work by a few dedicated individuals. Even the spinning events didn't increase the entries a great deal. The fresh water heroes of the South are the winners of organized bass tournaments. In the West, they are likely to be steelheaders who use fly tackle. Really long distance fly casting is dependent upon light running line (usually mono­filament) behind a heavy shooting head. The system was developed by steelheaders, who need to get distance when wading large rivers, and was perfected by tournament casters, frequently the same people.

Fishing boats, even for black bass, are bigger and faster. The bass boat gets much of its efficiency through the electric motor, and most such craft have no oars at all. This is a development of recent years and is showing up more and more on salt water flats. For that matter, the bass boat itself is good for much salt water angling. Now, there is a philosophy of fishing that's a little hard to explain. With all the talk of ecology (Continued on next page)
and conservation it would seem logical to expect the size of the catch to be less important as the years go by. It doesn't seem to work that way. I hear guides and tackle salesmen complain that more and more fishermen want more and more fish. One I usual man attributes this to a growing spirit of competition. The publicity for fishing contests may have some effect, but I doubt if it's very much.

There are more fishermen today, but there are few places in southern fresh waters where hook and line angling is hard on the fish population. Pressure may make fishing tough, but the fish are still there in most cases.

I now believe there is more effect from hook and line fishing in some inshore salt water, probably a matter of too many boats. Those fish have lots of ocean to swim in and they can leave if they want to.

We've ruined some fishing, and we've improved some. The black bass is all over the country now and still there in most cases.

It's in the rivers, large and small, that we have our worst problems. We know now that channelization hurts. Cold water streams of the North have been reduced alarmingly by the same kinds of dams that brought new fishing to Southern areas.

Highway construction and development have been fatal to many trout streams, and it is only recently that we began to see just how complex a trout stream is.

The value of fresh water marshes and brackish water estuaries was slow to be realized. Only a few years ago, the word "swamp" meant useless mud and cloudy water to most of us.

But an old gaffer is a poor judge. He suffices over the loss of the kinds of fishing he enjoyed long ago. He is slow to appreciate the new ways and may regret the replacement of the waterlogged wooden skiff by the sleek bass boat.

There is one thing sure, though. We aren't going back.

(Continued from preceding page)

...
When tried on with hunting socks of customarily worn thickness, the boots or shoes must instantly reflect correct fit and promised comfort. I suggest you try your boot or shoe weight, realizing that if a pair of boots or shoes together weigh 1 pound more than is necessary for safety, comfort, and durability, we actually will be lifting a total of an extra pound every two miles, with figuring a minimum of 2,000 steps to each mile walked.

 bounded height Red Wing "Irish Setter" boots in my size weigh 1 pound 12 ounces each. The Chipewa No. 5907 boots in same size, width and overall height, and of similar all-leather upper and rubber sole construction, weigh 1 pound 9 ounces each. (I like both.)

In the combination-type hunting boot that features leather uppers attached to an all-rubber foot section, the Converse "No Bite" boots prove a bit lighter (in my size and width) than identical overall height L. L. Bean boots.

The reason I know is because I have taken the time to investigate and record the comparative weights of the various top quality boot models in my size. When brand name models are discontinued or given changed design, so, too, are my recorded figures. This makes for a more practical and direct approach of finding replacement boots.

My secret of obtaining the best genuine in boots, while not sacrificing all-important support from the leather sections, is use of a product known as "Nootime Silicone Leather Dressing." ordered from L. L. Bean, Inc., Freeport, Maine 04032.

The product is a soft paste type dressing, blended of natural waxes and silicone. It penetrates deep, and keeps leather supple well as surprisingly waterproof. I like "Snowshoe" better than formerly used anhydrous lanolin, neat's-foot oil, Viseol, Lexol and other advertised rivals. A notable quality is that the preparation does not injure rubber.

Another reason for my unmarred foot comfort afforded is the care given hunting boots and shoes between periods of use.

When the hunting season ends, I don't toss hunting boots into a closet and forget them. Instead, time is taken to clean the fur and crevices with an old toothbrush, and wipe surfaces free of dirt. "Snowshoe" is then liberally applied to the leather sections, which are rubbed and kneaded until the dressing is completely absorbed.

Periodically (because our Florida climate is so damp and mold a problem in caring for such outdoor items as boots, duffle bags and tents), I inspect the condition of my hunting boots, and usually rub on a little fresh "Snowshoe" dressing.

Initially, it may seem, in true analysis—and it sure means later foot comfort. Try it and see.

Question Box

Question: The article on deer, in the December 1972 issue, referred to four subspecies of the Florida white-tail, and named the key deer as one. What are the other three?

Answer: The four recognized subspecies, or geographic races, of whitetails in Florida are the Virginia white-tailed deer, O. v. seminolus (Goldman and Kellogg); and the Florida key white-tailed deer, O. v. claviramus (Barbour and Allen).

Question: What are the maximum penalties for violating the various Florida statutes and regulations enforced by wildlife officers of the Game & Fresh Water Fish Commission?

Answer: Most such offenses are classified as misdemeanors, for which Florida Statutes prescribe the following punishment: Upon conviction for a misdemeanor of the first degree, a term of imprisonment in the county jail 1 year and/or a fine up to $1,000; in second degree misdemeanor cases, it is 90 days and/or $500, maximum, unless higher penalties for specific offenses have been designated by the legislature. (Example: Sale or possession for sale of alligator products, such as handbags, wallets, and shoes, in Florida is a second degree misdemeanor that may be punished as provided above, or "by a fine of up to $2,000, or both," according to Section 372.6645 (4), Florida Statutes.)

Question: Are there any required items of equipment that must be carried on small boats, even rowboats?

Answer: Yes. By law, every boat must carry (1) one approved lifesaving device, in good and serviceable condition, for each person aboard; (2) one oar or paddle; (3) one anchor and line of appropriate size and length; and, if underway between sunrise and sunset, (4) a lighting device capable of shining a white light all around the horizon (a flashlight suffices). This light must be shown—even by rowboat operators—in time to avoid collision.

Question: Is it a fact that the term "gun" as used in Game Commission rules and regulations includes sling-shot?

Answer: Correct. It also includes bow and arrow and crossbow. Rule 106-3 defines gun as "Shotgun," (Continued on next page)
rifles, pistols, revolvers, air guns, gas guns, blow guns, or any device mechanically propelling an arrow, spear, or other projectile..." Hence, the phrase, "gun and light at night prohibited for taking or attempting to take game," literally means leave off the weapons other than firearms, too.

Question: Many salt water fishermen sell their sport catches at the dock. Does any law prohibit the sale of fresh water fish?
Answer: You bet. No fresh water game fish may be sold, bought, exchanged, or bartered for goods or services, or transported for sale. It is even unlawful to offer them for sale! (The tilapia, a non-native species, is also included under this law, except that in specified waters they are harvested commercially under contract with the Commission.)

Question: In which counties are the most hunting licenses purchased?
Answer: The top 10 for the 1971-72 season were Duval, with $128,129.00 in total sales; Dade, with $92,611.25; Hillsborough, with $89,911.35; Orange, with $71,596.50; Polk, with $67,821.75; Escambia, with $65,037.25; Leon, with $60,749.00; Broward, with $56,632.50; Pinellas, with $49,936.75; and Palm Beach County, with $46,372.00.

Question: Is it true that Indians don't need licenses to hunt or fish in Florida?
Answer: That's correct, as long as they're after something for their cookpots and not for commercial purposes. Furthermore, Indians may hunt and fish for food the year around within the reservation.

Question: Which species of fish have been "black-balled" in Florida?
Answer: The following: fresh water eel, fresh water stinger, grass carp, common carp, walking catfish, peacock bass, piranha, tilapia, carnero catfish, dorado, tigerfishes, and bony tonguefishes. None of these may be transported into or possessed in the state without a permit from the Game and Fresh Water Fish Commission.

Question: Are goldfish still illegal for use as bait?
Answer: Yes. No goldfish or carp may be used for bait, nor may they be possessed lawfully by a person engaged in fishing in Florida's fresh waters.

Question: Is it ever lawful to eat native game in a restaurant?
Answer: Yes, game legally taken may be prepared and served at a restaurant or other public eating place to persons who have killed such game and are in possession of a valid hunting license, if a license is required. Game may not be bought and sold, or stored in an eating place, however.

Question: What is the law about pulling a waterskier? Must there be two people in the boat?
Answer: The law requires either a "person in addition to the operator, in a position to observe the progress of the person being towed" or a "wide-angle rear view mirror mounted in such a manner as to permit the operator of the vessel to observe the progress of the person being towed."

Question: A man loans his motorboat to another. It becomes involved in an accident in which a swimmer's leg is badly cut. Is it apparent that negligent operation of the craft contributed to the accident? Who is liable, the owner or the borrower of the boat?
Answer: Maybe neither. Liability for negligent operation of a boat "shall be confined to the person in immediate charge of operating the boat and not the owner of the boat, unless he is the operator or present in the boat" when the injury occurs, under Section 375.32, Florida Statutes. So, in the theoretical situation above, a third party might have been at the controls, and he, therefore, would be held liable.

Question: Are sea cows fish, amphibians, or mammals?
Answer: They're mammals. They give live birth and suckle their young, which are covered with light fur. Manatees are harmless; fully protected by state and federal law. There are only three species in the world; one in the United States. All are rare and endangered. They are said to be on the increase on the west coast of Florida.

Question: How many lakes are there in Florida?
Answer: 7,712, including all fresh water ponds and lakes of an acre or more that are named on U.S. Geological Survey topographic maps, plus all unnamed lakes of at least 10 acres in size.

Question: Of the total, how many are in public ownership and how many are privately owned?
Answer: Only 219 of Florida's lakes were measured in the original land surveys, so that the total of those whose bottoms are owned by the state, i.e., the people, the balance were platted and sold to private individuals.

Question: Would the Game Commission give or sell a person a uniform shoulder patch for his collection?
Answer: Sorry, no. Established policy prohibits the distributing of Commission patches or other insignia to any persons other than those authorized to wear them.

**Suwannee Bass**

**By GRAY BASS**

**Somewhere fish are like some people. We see them around for years and years, but never get to know them. We may even know where they live, but next to nothing about how they live.**

So it has been with a unique game fish, north Florida's own Suwannee bass, Micropterus notius. Until now it has been just a casual acquaintance to most fishermen, and a curiosity to a few. People outside the fishing fraternity or the academic community might never have known he existed at all.

In January 1972, the Game and Fresh Water Fish Commission undertook to investigate the life history of the Suwannee bass as part of a larger study of the sport fishery of the Suwannee and Santa Fe rivers, in northeast Florida.

Four aspects of the fish's ecology are of primary importance: distribution, food habits, reproduction, and value as a game fish.

Suwannee bass have been recorded upstream in the Suwannee itself as far as Suwannee River State Park, 120 miles above the Gulf of Mexico. Recently, it has been found to occur at least seasonally within a mile of the Gulf in the Suwannee estuary. The lower 30 miles of the Santa Fe River, a major tributary of the Suwannee, holds the majority of the Suwannee bass population.

First recognized as a species in 1949, this bass closely resembles its first cousin, the northern smallmouth bass, Micropterus dolomieu. In neither the Suwannee bass nor the smallmouth does the upper jaw extend beyond the eye. Chunkier and smaller than its long-jawed second cousin, the familiar large-mouth bass, the Suwannee is usually blue beneath, and most fish are marked with dark, diamond-shaped blotches along the sides. The spring-fed Ichetucknee River, a tributary of the Santa Fe, yielded the first few specimens ever collected for scientific examination. Subsequently, they have been discovered throughout most of the Suwannee River watershed, and have been identified from the Ochlockonee River. The Suwannee bass is an endemic species; it occurs nowhere else in the world.

A unique form of the black basses, it is considered rare. Only in the swift, rocky stretches of the lower Santa Fe River and Ichetucknee River is it common. A small form, the largest on record weighed 1.7 pounds and was 13.8 inches long.

Two other "basses with small mouths" are native to Florida: the redeye bass, Micropterus coosae, and the spotted bass, Micropterus punctulatus, both of which occur in streams of the northwest Florida panhandle. (Past attempts to introduce the northern smallmouth into the state have been unsuccessful.) Wherever it has been taken, the compact Suwannee bass has found to prey primarily upon crayfish and to a lesser extent upon other fishes, dragonfly nymphs, fresh water shrimp, and other small crustaceans. Crayfish are common in the Suwannee and very abundant in the Santa Fe and Ichetucknee rivers.

Spawning occurs from March into June, but gravid females have been observed as early as February. Approximately 3,700 ripe ova are produced by each mature female. Circular, sausage-shaped beds are fashioned by Suwannee bass, in typical sunfish fashion. Females tend to be larger than males, as is the case with largemouth bass, too.

A creel census was initiated on the lower Santa Fe River as part of the study in June 1972. During the summer and fall, approximately 31% of basses taken by fishermen were Suwannee bass, most being caught during the autumn months.

A spunky rascal, the Suwannee bass is noted for its fighting qualities, being possibly more valiant than the largemouth. And because of its plumpness and sweet flavor, it is considered excellent table fare.

With regard to other fishes of our environmentally endangered bass world, the "Suwannee" bass is a rare form. It's time we got better acquainted with the species, for its continued survival and contribution to sport fishing in Florida will surely be bound to maintenance of high water quality and suitable habitat in the Suwannee watershed.
CONSERVATION SCENE

Man on Wheels

"Three bladeless, wheelless devices of the demon of darkness are contrivances to trap the feet of the unwary and skin the nose of the innocent. They are full of guile and deceit. When you think you have broken one to ride, and subdued its wild and satanic nature, behold it bucketh you off in the road and teareth a great hole in your pants."

This opinion of the bicycle, expressed in a Sunday sermon in Baltimore in 1896, did not reflect public consensus. This is shown, conclusively and oftentimes hilariously, in A Social History of the Bicycle by Prof. Robert A. Smith (American Heritage Press, $9.95).

What began as an attempt to discover the sources of the bicycle craze of the Gay Nineties evolved into a lighthearted but scholarly study of the impact of the cycle on American culture, and the extensive heritage the "craze" left behind. A professor of Social Sciences at California State College, the author treats the origins of the two-wheeler, impact of the machine on the economy, morals, transportation, sport, highway improvement, dress reform, communications—the whole thing.

"The primary value of the book for the reader is twofold, I hope," says Prof. Smith. "First, it will bring pleasure, an occasional laugh, and maybe a better understanding of the lives of our great-grandfathers or great-grandfathers. Second, it may provide a better understanding of the reader's own times by showing how a machine influenced our contemporary life style."

Some 100 illustrations enhance the witty, stimulating text.

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is 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.

Only fishing citation applications received within 90 days from date of catch will be honored.

APPLICATION FOR FLORIDA WILDLIFE FISHING CITATION

The Editor, FLORIDA WILDLIFE

Game & Fresh Water Fish Commission, Tallahassee, Fla.

Please send me the Florida Wildlife Fishing Citation with the inscribed data for that catch.

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Type of Tackle _______

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