Florida Wildlife Scrapbook

YOU CAN HELP KEEP FLORIDA'S OUTDOORS CLEAN AND BEAUTIFUL!

After a picnic, campout, fishing or hunting trip, or day at the beach — Pick up all paper, bottles and cans —

Take all trash with you —

AND PUT IT IN YOUR HOME GARBAGE CAN!

Be careful with fire —

Before leaving —

• Drown it
• Cover it
• With dirt

FLORIDA WILDLIFE MAGAZINE • FLORIDA GAME AND FRESH WATER FISH COMMISSION

APRIL 1973

official publication of the Game & Fresh Water Fish Commission State of Florida

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The Cover

Most common of the "yard and garden" variety, the Southern Toad is found throughout Florida and southeastern U.S. It breeds in shallow water, including rain puddles—some may live to be 30 years old. See page 13.

Ektachrome Photo by William J. Weber

FLORIDA WILDLIFE is published monthly by the Florida Game and Fresh Water Fish Commission, P.O. Box 70, Tallahassee, Florida 32302, and distributed free of charge to all licensed hunters, anglers and collectors. It is included in the subscription rate of the Florida Fish and Wildlife Conservation Commission. Second Class postage paid at Tallahassee, Florida.

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The poets have said that within the body of every man lives the heart of a boy. It is true, and those who are wise do not deny it. 

Recently, as I perused a pile of old newspaper clippings I had saved over the years, this very idea was brought pointedly home. In one article, written by an old friend, an outdoor writer, the first line read, "It was a boy place." Five words, yet so descriptive to the eyes and heart of this reader that I could feel the essence of the place the writer was about to describe. 

I, too, had known a "boy place," but I had forgotten all about such things until this gentle reminder. The writer's words held special significance for me, and I turned them over and over in my mind. What a pity, I thought, that "boy places" were too often wasted on insensitive youth. 

While enjoying my moment of bittersweet nostalgia, I realized that time had not really quickened its pace, nor had the minutes crowded those youthful moments of gentle reverie from my life. It was by my own design that I had eliminated the "boy places" from my life. I knew it was not too late, though, to search one out again, if only for a last goodbye.

At my first opportunity, armed with the only tools necessary to re-establish my "boy places," I went to the woods I had known as a boy.

Things were far different than they had been those many years before, but I had anticipated the change and so was not terribly shocked by what our burgeoning population had forced. It was nearly impossible to find an area in which I could escape all trace of the nearby world of people, but as I walked farther and farther from the concrete and macadam, I found places where I knew no man had walked in many days.

I had been this way before, and had felt the warm breeze on my face before. I had seen these trees before, and heard birds singing here before. On the breeze was carried the scent of wild flowers in bloom, and this, too, I had experienced before. But it had never been quite like this before. As a boy, I had walked, seen, and sensed things as I was doing now. But now, the experience went beyond those fond memories of youth. Now, when I looked, I saw things. Now, when I listened, I heard things.

Morning slipped easily into afternoon, but my day in my "boy place" was far from over, for I had determined to experience the uniqueness of night there also.

Night comes softly in the woods, and it is heralded by many messengers. Some, like the day birds re-tiring, are subtle. Others, like the pair of rabbits that exploded into merry chase one after the other, reminded me that night in the woods is filled with activity.

I sat hunched at the base of a stocit tree and listened to the night begin to happen. In the brush beyond where I sat, the day birds twittered and fussed as they made themselves comfortable for the night. Something out beyond my limited vision moved quietly, and my mind's eye saw a graceful deer nibbling at the browse as she picked her way carefully along.

The noises of the night continued with grunts and squeaks whose origins I could only imagine. Then, very near my head, I heard the soft, unmistakable sound of a night hunter on the wind, and I envied the owl her ability to pierce the darkness with her remarkable eyes.

I was enthralled with this place and this experience I had almost forgotten. But suddenly I realized I was cold, and that my knees and legs were stiff from the posture I had been holding for so long a time. It was time for me to return to the other world, and with a tinge of sadness I turned toward home.

I slept soundly that night, a more peaceful rest than I had enjoyed for many nights. In the morning I awoke slightly sore, but with much inward contentment. I felt almost foolish as I smiled at myself in my shaving mirror and realized what a coup I had achieved with this place and this experience. I had almost forgotten what a boy place was.

But then I realized I had all the tools necessary to re-establish my "boy places." It makes no difference who we are, we all have a special place in the woods where we can quietly retreat and be with our thoughts. Some of us haven't found our places yet, but there is a place where only Mother Nature will be our companion and witness. And we needn't go there alone unless we so choose.

The next time I go to my "boy place"—and it will be soon—I'm going to take a friend, my son, or maybe my daughter. They, too, need to tuck away in the secret corner of their hearts their own special memory of a very special place.

For me, it's my "boy place."
Cast with Care

It's hard to hurt yourself bad while fishing, but there are some slight hazards, even when engaged in "gentle" art of distance fly casting

By CHARLES WATERMAN

A COUPLE OF OLD acquaintances slipped up on me the other day. They were Lefty Kreh and Mark Sosin, who have produced a book on "Practical Fishing Knots." I bought it long ago, but if I had known I was going to say such nice things about it I would have asked them for a free copy.

Now I never doubted that these two would give the straight dope on fishing knots, as they're always wallowing around the briny looking for really big fish. And as left-handed people they can fish with a rod in the back pocket and there isn't too much to be said that hadn't been already said about knots. I got the book to see just which ones they had picked as the best, figuring it would be quite a timesaver for a naturally knotty fellow like me. I am the guy who was first taught by the Navy to tie a bowline and have since learned to tie the knot to suit any situation. Since I don't wear neckties much, they are an increasing challenge as the years go by.

I hope these guys sell a million copies of "Practical Fishing Knots," but I know they're facing the competition of untold folders put out by line and leader manufacturers, short sections in most fishing books and, occasionally, magazine articles. Still, I can't think of a better title for their book.

Oh, they cover the knots all right, and they give you good estimates on various knots' strength. The instructions are simple and practical. But what stuck up on me was the section on fishing lines and how they perform when knotted. It is the best treatise on lines I've read, and the things they tell you will explain lots of things that happen to fishermen. This includes an explanation of how lines are weakened, the differences between expensive and inexpensive monofilament, the principles of limpness and stiffness in monofilament, good dope on the stretching qualities of braided and mono lines—things like that. The book comes from Crown Publishers, Inc., New York.

The secret of his instant success with a fly rod. A FRIENDLY OLD horse packer in his younger days. I asked him the secret of his instant success with a fly rod.

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Probably his most productive fly is the Muddler Minnow, a famous trout and black bass catcher, but has a much longer head section. Dave puts in a little Mylar.

Chermanski catches a lot of black bass on streamer flies, a method sadly ignored in Florida. In fact, he says the streamer is the most effective lure, year around—an eye opener for those who give up if they won't take popping bugs.

A fish's skin is the part most likely to take on the taste of the water it lives in, and simply moving the scales won't get rid of it. Plenty of diners have been turned away from certain species because an individual tasted muddy—or something. Sometimes it's simply "strong."

Panfish are frequently fished with the skin on, and peeling a bluegill fillet generally leaves you with a pretty small piece of fish. Bass are more frequently skinned.

Some of the best freshwater fishing is over mud bottoms, and a "muddy taste" doesn't necessarily mean there's anything impure about the fish. Come to think of it, I don't know how a human knows what tastes like mud.

Anyway, fresh water fish are most likely to take "muddy" when water is low and growing stagnant. It may be they eat things then that they wouldn't take in normal times—and possibly some of the water's unpleasant odor goes right in through the skin.

Incidentally, the skin gives some salt water fishes a bad reputation. Snook is an example. Although open water fish have a reputation for better taste, I can't see much difference between them and the darker-hued inshore specimens—but we always skin and fillet snook.

Stainless steel props for motors used in fishing are pretty expensive, but have a reputation for high performance and durability. Before the stainless ones, those of us who operated in shallows, especially around oyster bars and rocks, nearly always used bronze or brass. I have a stainless steel one now, but haven't used it long enough for comparison with brass. There's a special deal in which you get a reconditioned wheel for 20 bucks plus freight. Since a new stainless prop for my clunker comes to around $80, this looks good to me.

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I've seen shows in school fish that lose their cool when one individual hops on a lure. But that's different because the fish is getting his incentive from another fish.

Temperature changes work faster in shallow water. In dead of winter a quick cold snap can chill a little woody lake in a matter of hours. It warms faster, too.

Where do the fish go in cold weather when they have no deep water? No place, obviously. They just become sluggish. What about hot weather? Same thing. Any severe temperatures affect deep water last. Ordinarily you should forget shallow water and go somewhere else. Shallow lakes are less consistent than deep ones, even though fish are easier to find.

For several centuries ocean fishermen have been finding fish by locating busy sea birds. Bass fishermen have done the same thing for a long while when chasing schooling fish, but many of them neglect the bird indications when fishing shorelines. Of course, birds such as herons, egrets, and bit tersitters indicate there's life along a shoreline. If it's a low, marshy area, as along many Florida lakes and rivers, it's good to note just where the birds are standing. A great blue heron 30 feet back from the water's edge isn't much help, as he's probably hunting frogs. A half-pint green heron may be looking for smaller bait than you're interested in.

Larger wading birds on the very edge of the water are about the best signs of all. These birds may have located considerable bait that might attract the fish you're after. If there's lots of bait they usually keep their heads a little lower so they can take a quick shot. If they're just looking for something, they have their necks extended as high as possible.

None of this information is likely to be revolutionary to Audubon Society members, but lots of fishermen don't pay that much attention.
ALLABOARD
Boating Safety and Recreational Device
Designed by C. W. "Red" Russell
THE AMERICAN NATIONAL RED CROSS

INSTRUCTIONS

8' x 16" x 1" (or 1/4" for 6' board or light-weight crew) marine ply.
Round edges and fiberglass edges and one side (epoxy resin).
Cut hand and foot holes approximately 5" x 2 1/2" (set back 2 1/2" or 3" from edges of board).
Secure cleats 5/8" x 1/2" glued and screwed to board 15" apart, flush with bases of foot and hand holes.
Splice rope grommet 1/2" dacron, 5' length (join ends with short splice), through rope holes 1/2" diameter for snug fit.
Give five coats marine spar varnish on natural side and two coats white epoxy paint on fiberglassed side and edges.

"Allaboard" is a new all-purpose piece of equipment to increase the safety and enjoyment of the active boatman, his guests, and his crew has been developed by an American Red Cross official.


"The Allaboard, not a manufactured product, can be made at home by 'do-it-yourselfers' or by students in vocational training or shop classes," said Russell. "It consists of a sheet of three-quarter or one-inch exterior or marine plywood measuring 8 feet by 16 inches, and fiberglassed on one side and on the rounded edges."

There's a need for such a device, the safety official explained, because of the lack of reboarding equipment or techniques for helping persons who fall overboard. It is also helpful in handling injuries which may occur around the water, as well as in giving additional recreational benefits. Other uses include a gangplank, a ladder, a stretcher, a float to support tired swimmers, and as a "Bopper-stopper," which, when placed under the keel, helps steady a boat in rough water.

"Many lives are lost for lack of reboarding devices or techniques," Russell said. "While boat racing rules require an assortment of safety gear such as life lines, preservers and grab rails, water lights and buoys, none specify means or procedures for getting an overboard victim back into the boat. Even though some boats have portable swimming ladders for active, agile people, some persons can't climb a vertical ladder out of the water. And, of course, a ladder is of little help in getting an injured or unconscious person aboard," he stated.

Another point to remember, he added, is that gear and equipment aboard boats compete for space and must be reduced to the essential. The Allaboard performs many functions, therefore saves space by cutting down the need for several pieces of equipment.

To use the Allaboard as a gangplank, the rope grommet at either end can be secured to a convenient cleat on the boat or pier. The other grommet acts as a roller under the gangplank. When the tide is out, or to reach a higher elevation, the Allaboard becomes a ladder.

As a fenderboard, the fiber glassed side provides protection when the boat is moored alongside a pier or against a piling.

To recover a person who has fallen overboard, the simplest method is to suspend the board over the side. Place a fender or seat cushion over the side first to hold the Allaboard away from the boat (Continued on next page)
CHARLES RUSSELL'S interest in water safety goes back a long way. For the past 42 years, both as a volunteer and later a staff member, he has been affiliated with Red Cross Safety Programs. For 12 years he served as assistant national director for Small Craft Safety and Educational Programs. He is the author of four basic textbooks on canoeing, boating safety, and first aid instruction. He is a past member of the National Safe Boating Week Committee, and of the Recreational Boating Committee of the National Safety Council, and is currently a member of the General Safety Committee of the U.S. Power Squadron. He is the recipient of the Anheuser-Busch "Schooner," and The Charles Frederic Chapman Award for his contributions to boating safety education.

The Southern Toad

I KNOW a squat little fellow who never smiles. He sticks out his tongue a lot, he has no chin and no teeth, his skin is all lumpy and dry, he never drinks water, and he sometimes eats with his hands. But for all this he's a peaceable neighbor; he works faithfully in my garden while I sleep, and in the springtime he entertains by blowing bubbles and singing with his mouth closed, all at the same time. He's a toad.

Breathes there a boy who hasn't picked up a toad, had it dampen his fingers, and been told he'd get warts as a result? I doubt it. That was the first year I ever heard concerning a wild creature, right ahead of the one about the hoop snake. In our area the common yard and garden variety of toad is Bufo terrestris, the Southern Toad. You see him under the streetlight every summer evening doing his thing—lopping up bugs. You've uncovered him in your own yard, perhaps while cleaning out the flower beds, and watched him sulk and puff up because his nap was interrupted.

Toads are amphibians. They're tail-less, toothless, so-called cold-blooded blooded animals closely related to frogs and salamanders. They are true land animals, but their life cycle begins in the water. Toads assemble in great numbers to spawn in rain puddles, or in the warm shallows of natural ponds. Their eggs hatch quickly, in a matter of days, and their tadpoles mature rapidly, which is necessary because the pools may soon dry up.

In general, toads may be distinguished from true frogs by their smaller size—frogs have smooth skins—and in the same way, the tadpoles of toads are distinguished by their small size and black color. Frog tadpoles are generally large and greenish. Tiny toads may suddenly appear in every puddle, and it has seemed to old-timers that it literally rained them. In actuality, though, they simply hatch out from tad eggs laid in the pools.

The female toad is generally voiceless, but the loud trilling of the male summons her to him. He puffs out his vocal sac, which serves as a resonator, and sings his best until a mate approaches. Thousands of mating frogs and toads together in a pond make an awesome sound, and one of the most pleasant events you'll hear if you've been particularly impatient for spring to arrive.

Tad eggs are laid in long, gelatinous strings. They resemble birdshot spaced out in a cellophane wrapper for sale by the yard. Seventy-five to 100 per cent or more of the toad's diet consists of insects. That's why they're so nice to have around the garden. They feed by sight, flicking out a long, sticky tongue with lightning speed to capture any bug small enough to swallow whole. If a toad's eyes are too big for its stomach, it may catch a large moth or other cumbersome mollusk and, finding it difficult to down, use its forefeet to literally stuff it into its mouth. The toad's tongue, incidentally, is tossed down at the front of the mouth, not the back.

Although it is true that toads don't drink, they do require water. They get it through their skin. That's why a toad rests in a damp place during the day. As he sits there, moisture is absorbed through the belly skin. They also obtain moisture when they eat all those juicy insects.

Temperature is a critical factor in the lives of amphibians, fishes, and reptiles, as every beginning biology student soon learns. They are ectothermic, not really "cold-blooded." They must simply be satisfied with the temperature of the air or water around them, for they generate little or no body heat, as do the birds and mammals.

To protect themselves from the cold, toads burrow into the ground and hibernate until warmer weather rolls around. A toad unearthed in November is a pitiful sight. It's all but dead, with its back hunched, its head tucked in as far as possible, its legs held tightly against its cold body, and there's no change in his appearance whether he's turned on his back or laid on his tummy.

For protection from natural enemies, toads have at least five lines of defense. They can burrow to hide themselves from view; they are well camouflaged, being variously colored brown, grayish, yellowish, or orangish reddish, with lots of bumps and "warts" that blend well with soil and leaves; they play dead, looking just like they do when they're cold; they inflate their bodies, which has the effect of making them larger and more menacing looking, while also placing a protective air cushion around their vital organs; and toads possess special skin glands that exude a poisonous fluid when they become upset. Kids are urged to wash their hands after picking up a toad, not to prevent warts, but to keep the toxic secretions from the toad's skin from coming in contact with the sensitive mucous membranes of their own eyes and mouths. They say it smarted. I never experienced it.

The Southern Toad is found throughout the coastal plain from eastern North Carolina to eastern Louisiana. It is common throughout Florida, including the Keys.
Last fall, while I was rummaging through my tackle box trying to decide which bass lure to use first, Ted Henson walked down to the bank and caught eight two-pounders on a minnow-spinner. If anyone else had done this, I would have worked up a considerable hatred for him.

Ted, chewing happily on a cigar stump, released bass after bass as he poked along the edge. It was a pond just north of Tallahassee which I had fished often, but it was new to him. I had hoped to see something spectacular from this expert, but he was carrying it a little too far.

I had heard of Ted for many years, but this was my first fishing lesson from him. He’s a famous tournament and exhibition caster and a member of the International Fishing Hall of Fame. He’s been testing lures in Florida for 25 years and has a half century of fishing observation under his cap.

Through the winter I had the pleasure of fishing with Ted several times. One blustery afternoon we both got skunked. I was delighted as it meant I had tied him. Another day I got one fish ahead of Ted, but it was only a fleeting moment of glory.

Ted Henson gets sore when I call him an expert. He says I’m only putting pressure on him. “Look,” he exclaims, “an expert is nothing but a guy from 25 miles away with a different plug. I fish for pleasure!”

It’s true. At the slightest mention of a fishing trip his eyes light up. When he gets in the car to go, he’s as excited as a small boy dunking his first worm for sunnies. Each fish, small or large, is a new adventure. He’s as happy with a pound bass as I would be with a five-pounder. It’s fun to fish with him because he has a good time whether it rains, blisters, or everyone strikes out. Maybe you’d call that his philosophy of fishing.

For a long time I’ve worked to raise my fishing status from duffer to amateur. I bug Ted a lot to tell me the secrets of his success, to give me a magic potion or some secret method.

One evening this past winter I got him cornered in my den. “Surely,” I said, “there’s some way you can summarize your fishing knowledge and experience.”

“There’s no substitute for spending time on the water and studying what’s going on,” he said. “Fishing for bass is a lot of little things. Any of many factors can be wrong and foul you up. Even if you do everything right, the bass may not cooperate. The largemouth is about the most temperamental fish in the whole world. If I knew how to make them hit when they don’t want to, I’d be a billionaire.”

Learning to read water is one of the best ways to increase your chances for success, Ted says. The natural lakes in Florida, as opposed to impounded bodies, are the toughest to learn. Many fishermen think the bottom of a lake is like a bowl. Actually, it may have more contour differences than the land surrounding the water. There are old creek beds, dropoffs, ledges, sink holes, bars, and debris piles.

A fisherman has to learn to visualize the bottom structure, with the help of some clues.

Small bass, those under a pound or two, may be in the shallows, but larger ones usually school in what is the most comfortable water for them at (Continued on next page)
the time. This often means deep water which offers protection and also a desirable water temperature. In large lakes, schools of sizable bass may be as much as a half mile from the banks, where most fishermen spend their time. Bass generally have one or two major feeding periods a day and this is when they fan out and you catch them in the shallows.

Bass spend most of their time on or near the bottom. In deep lakes, such as those in the TVA chain, they are often found at depths of 30 feet in the summer or even 50 feet. They are not scattered uniformly over the bottom, but gang up at places offering comfortable temperatures, protection and travel lanes to a food source.

When Ted goes to a lake he has not fished before, he always tries to get a map with small-interval contours showing underwater topography. If there isn’t one available, he reads the visible indications such as points, creeks leading in, and the land’s slope. In the old days, he used to take a rope with a weight and work out the contours. He also trolled, as he still does, with deep-running bombers or waterdogs. If there is not too much subsurface debris, structure can be slowly worked out by bumping jigs on the bottom.

Ted emphasizes that small depth finders, some of which also show fish under certain conditions, have revolutionized bass fishing. By using a chart and surface indications as a starter, he can take a depth finder and quickly locate the most likely structures for bass. When a favorable bar, underwater hump, sink or ledge is found, he uses a lure which will work along the bottom, such as a plastic worm, jig, bomber, or loaded plug with spinner. “I’m like most fishermen,” Ted says, “I don’t try to use bass hit-topwater plugs, but when the fish are down deep you have to sink a lure down there with them. It’s hard to pull a bass up from the bottom to smash a surface lure. It’s the same with shallow-running plugs. One wiggling three feet beneath the surface won’t pull a bass up from 15 feet of water very often.”

Another modern tool he uses is a Fish Meter which gives water temperature at different depths. An electric line, coated and with a thermometer protected by metal, is lowered into the water. Press a button on the meter and it gives you the temperature. The line changes color every five feet, and this makes it easy to keep up with varying depths.

Generally, Florida bass are most active at water temperatures from 65 to 75 degrees. Their metabolism is higher in this range and that means they feed more. If you’re fishing in the winter, the surface may be down to 55 degrees. Obviously you’ll want to find warmer water at some unknown depth.

In the summer it’s the opposite; the surface may be boiling and you’ll want to locate a layer of cooler water.

When searching for bass comfort zones, you may have to work relative temperatures rather than absolute degrees. For instance, in northern Florida in winter, all of the water in a pond may be below 60 degrees. Bass in 58 degrees of water may be more active than those in 54 degrees; of course, you may not find any at all in the colder areas. In a large lake, there will be great variance in water temperatures because of springs, creeks, depth, current, shade, turbidity, recent weather, and many other factors. Most fishermen are not interested in a scientific measuring expedition, but one can do a reasonable amount of quick testing without too much lost reel-cranking time.

No matter what his electronic gadgets say, Ted keeps a constant eye open for bait movements, sea gulls working minnows and bass splashes. If he sees minnows swirling, he works lures around and under them and forgets about instruments. He finds it hard to pass the mouth of a creek flowing into a lake, or an underwater spring—any place where there may be a lot of bait.

Ted believes that much traditional fishing lore has a factual basis. For instance, if birds and animals are active at a certain time, this is an indication that fish may be active. He thinks the solunar tables tie in with cyclic periods of fish activity and are key starting points. He doesn’t like doing a spinning barometer, and when a front suddenly hits he hopes he’s already had a good time fishing.

He goes along with the traditional acceptance that most of the time bass hit best early in the morning and late in the afternoon. There’s no question that bass are sensitive to prolonged sunlight. Ted says, On cloudy days you’ll catch more bass because they’re feeding and loafing near the surface than on bright days. Most fishermen fish shallow; even when they let a jig sink to the bottom, they too quickly have it dancing high rather than snoping sand. When the sun is bright and water clear, Ted works a shady bank or underwater cover or just plain deep. Light intensity is a factor which must be considered if you want bass on the stringer.

He’s a firm believer in running a quiet boat and says improved electric motors are a contributing factor for more bass being caught, ever before. He’ll throw you overboard if you splash the anchor. Unless you’ve definitely located fish in deep water, he believes in keeping a low profile and watching your shadow on the water.

I asked Ted about some of the common mistakes beginners make. He replied, “They don’t learn to work a few basic lures correctly, such as spoons, spinners, jigs, bushwhackers, and plastic worms. Working a lure correctly partly means continually experimenting with speeds and depths, and to a lesser degree, color. A lot of newcomers will buy anything in a store and figure that’s experimentation. They’re always looking for some magic lure.”

“I’ve been looking a long time and still am,” he laughed. “I want to own the only lure in the world that catches bass on every cast.”

Ted hit down on his eigh and continued, “New fishermen often lack patience and confidence. They don’t realize how many dry runs old-timers have, but we stay on the water and keep trying. Sooner or later we catch fish, and this gives a jolt to our confidence; it soothes. You have to believe you’re going to catch fish to catch fish. I don’t know how the bass know when and where to hit a lure, but they do and what happens, but every good fisherman I’ve known has been long on confidence. It’s like shooting craps—you’ve got to believe you’re going to win.”

Although he continually experiments with a variety of rods and reels, on most trips he takes a spinning reel with a 10-pound line and a bait reel with a 20-pound. The spinning rod handles light lures and the line is heavy enough for fairly open water. The bait reel is mostly for choked-up water and deep lures.

When Ted gets a strike and sets the hook, he has already surveyed the obstacle course. He immediately “weighs” the fish by putting pressure on the rod and decides on the best way to work it in. He says, “Those beginners we were talking about— when they do get a lunker on they usually get excited and rush the fish to the boat too fast. That’s a quick way to lose one. Once a big bass is under control a little coming your way off to wear him down 15 to 30 feet from the boat, depending on cover.”

Not long ago, I phoned Ted for another seminar. I said, “The solunar time is wrong, the barometer is falling, a front is going to hit, it’s windy, and nobody on the lake caught anything this morning. Can you go this afternoon?”

“Well,” Ted drawled, “I’ll take me at least 15 minutes to get ready. I believe we just might tear them up. After all, nobody can tell for sure what a bass will do!”
Natural Lakes of Florida

A priceless heritage that came through the centuries

They provide an abundant supply of water for pure cultural use in Florida have generated considerable alterations. This abundance of water is, at the same time, a blessing and a curse. Having too much of a good thing nearly always results in its being taken for granted. The pressures of human population growth and accelerated cultural eutrophication now affecting more than 200 natural lakes in the state consist of high phosphate-bearing rock. Water lakes cover in excess of 300,000 acres. They range in size from less than an acre to almost a half-million acres. They are aquatic but shallow, like Okeechobee, left, which averages only 9 feet deep. In fact, including a major salt- and mud of south Florida’s water supply depends largely upon how the people upstream handle their wastes—and how they value Lakes. Lakes need to fluctuate in order to cleanse themselves. The following section right measures seasonal rise and fall of small lakes.

Lake Okeechobee

Lake Okeechobee, shown above, has a maximum depth of approximately 17 feet and an average depth of only 9 feet. It is classified as a water table lake by geologists, and thought to represent an original hollow in the Pliocene sea floor. Many Florida lakes have quite limited watersheds, particularly those known as perched lakes—situated above the water table but having impermeable substrates or geological seals beneath them. These may lack inflow or outflow streams, so the opportunity for water exchange, or flushing, simply does not exist. The surface strata of several large areas of the state consist of high phosphate-bearing rock. Water lakes in such areas often contain acid streams which carry several parts per million of inorganic phosphorus in solution. However, if natural conditions remain unaltered, other chemical nutrients are not usually present in amounts sufficient to permit biological expression and subsequent degradation of the lakes and streams within the watershed. All or part of 36 of Florida’s 67 counties are under the jurisdiction of two water management, or flood control, agencies. Approximately the southern two-thirds of the entire state lies within their boundaries, including river basins having the majority of Florida’s natural lakes. Among the tasks assigned to these agencies are those of protecting urbanized areas from severe flooding during periods of greater-than-average rainfall, and providing sufficient quantities of water for a multitude of uses during periods of drought. Rather than attempting to regulate human populations in order to maintain flood plains in their natural state by use of strict zoning regulations, these agencies have instead been forced to regulate and confine the natural fluctuations in the water levels of rivers and lakes. Rainfall in Florida is abundant, but highly seasonal. Most of it falls during the “wet,” or hurricane season from about June through September. The period from October through May is normally one of little rainfall. The lakes, as a result, typically fluctuate between high and low stages on an annual basis, responding to the pattern of rainfall. Similar high and low cycles in rainfall and lake stage also occur for alternating multi-year periods.

In the past, during intervals of greater-than-average rainfall, many lakes often flooded agricultural or urban development which had encroached on the flood plain during previous periods of less-than-average rainfall. The objective of the water management agencies, then, was to eliminate the extreme high water stages in order to prevent flooding, and to eliminate also the low water stages in order to conserve water for man’s use during periods of drought. This lake level stabilization is accomplished—usually on a basinwide scale—by the construction of water level control structures at the outlets of all or most of the lakes in the basin, and channelization of the natural streams below each lake in the chain to increase water discharge capacity. In drainage basins where such projects have been completed, the lakes have often been permanently lowered. High and low stages are eliminated, and the lakes are artificially regulated within a narrow vertical range on an annual schedule. This practice, combined with chemical alteration of the lake environment by domestic sewage, usu-

Photo By Tom Wayman

Photo By Wallace Hughes

This article is adapted from a paper entitled “Natural Lakes of Florida—Limnology and Fishes,” presented by the author in December 1972 at a meeting of the American Association for the Advancement of Science, held at Washington, D.C. Mr. Holcomb, B.S., M.S., is a fisheries biologist with the Florida Game and Fresh Water Fish Commission. He is assigned to the Fisheries Research Laboratory at Eustis, Florida.
note of environmental changes which were taking place in the lake—trophic indicators which had been noted and documented previously in other basins which already had undergone eutrophication. These indicators include:

1. A rapid accumulation of flocculent organic sediments in the center of the lake basin, and over vast areas of once-productive shore area (littoral) vegetation.

2. The elimination of a diverse invertebrate bottom fauna, to the exclusion of all but a few tolerant forms.

3. A gradual reduction in the extent of littoral emergent and subemergent vegetation. Studies of the vegetation in Lake Tohopekaliga during 1956, prior to stabilization, and in 1970–71, demonstrated that it is necessary to completely dewater many species of perennial emergent aquatic plants periodically if one wishes to maintain an adequate littoral zone—which is so necessary to the production of high standing crops of desirable invertebrates and sport fish. Areas once dewatered of emergent vegetation did not produce new growth if the substrate was continuously flooded.

4. A gradual increase in concentrations of nitrogen, phosphorous, and dissolved solids.

5. A reduction in the diversity of algae normally present, with blue-green, bloom-producing species becoming dominant. The first major algal bloom documented in Lake Tohopekaliga occurred in late January 1970, six years after lake level stabilization. It was lakewide and persisted until late May 1970. The bloom moved downstream through three major lakes in the chain involving 45,500 acres of water, down 50-mile stretch of the channelized Kissimmee River, and into Lake Okeechobee.

6. The development of near-oxygenless conditions in deep water, with concurrent supersaturation of free oxygen in surface waters.

7. Substantial changes in the structure and species composition of fish populations. Florida lakes which are relatively undisturbed, generally support a diverse fishery of 20 to 30 species, with desirable sport fishes such as largemouth bass, bluegill, redear sunfish, and black crappie making up 60 to 90 percent of the population by weight. The loss of recreational fishing represents a tremendous economic liability. For example, the value of the fishery in Lake Tohopekaliga during 1970 was calculated to be in excess of $12 million, based on the standing crop per acre. The value of sport fish harvested by fishermen in that year alone was estimated to be in excess of $200,000.

In 1970, the Florida Game and Fresh Water Fish Commission undertook a study of Lake Tohopekaliga which consisted of a drawdown of the lake to a stage elevation approximating that which existed periodically prior to lake level stabilization in 1964. The study was designed to document changes in fish populations, aquatic invertebrates, aquatic macrophytes (plants) of the littoral zone, changes in the texture and composition of the substrate, phytoplankton communities, and water quality. Lake was dewatered for a period of approximately six months in 1971. (See "Lake Toho Drawdown" by Art Hutt, Florida Wildlife, March 1971) with the following results:

1. The standing crop of major sport fish was reduced during the drawdown, compared to the pre-drawdown period, but by the fall of 1972, the standing crop of fish had doubled compared to the same period in 1970.

2. During drawdown, water was completely retracted from vegetated areas and populations of littoral invertebrates were eliminated. After reflooding, the standing crop was doubled compared to the pre-drawdown period. This increase occurred over a 5-month period from a standing crop of zero.

3. As a result of drawdown, desirable littoral vegetation advanced lakeward, expanding from an area of approximately 9,000 acres to 10,500 acres, a 15 percent increase.

4. The drawdown resulted in a 50 to 80 percent reduction in the depth of organic sediments. Flocculent sediments disappeared completely, and soupy mixtures of fragmented, partially decomposed macrophytes became scattered mats of light, cellular material upon drying. Areas where the greatest organic buildup had been became covered instead with a vegetated, peat-like matrix. In areas where the substrate was firm and solid after drying, and without exception, rooted plants became abundant where before they had been sparse or absent. Four to six months after reflooding, the substrate remains solid except for a few small areas which never completely dried.

5. During drawdown, green algae generally exhibited a decrease in frequency and abundance, with recovery as re-inundation progressed. Nine algal blooms occurred during the drawdown.

6. Most chemical and nutrient levels increased during the drawdown because of constant or increasing amounts of nutrient-laden sewage being discharged to the lake.

The changes associated with the drawdown of Lake Tohopekaliga are being monitored and evaluated. I think it is safe to conclude, however, that lake drawdown in such situations shows promise as one management technique for the partial restoration of lakes undergoing accelerated cultural eutrophication.

At the present time, it is anybody's guess how long the beneficial effects of the drawdown of Lake Tohopekaliga will last. After all, all we did was pull the plug. Lake Toho still receives its annual allotment of domestic waste—in increasing quantities, I suspect—and the narrow lake level regulation schedule is the same.

The results of this study have formed part of the base for a similar project on Lake Apopka, a 31,000-acre lake in the Oklawaha River Basin. It is hyper-eutrophic—overenriched in the extreme. Once one of the best fishing lakes in the entire Southeast, Lake Apopka has received considerable publicity from time to time in recent years because of massive fish and wildlife deaths there. The proposed drawdown of Apopka will require the cooperation of local, regional, state, and federal agencies. Accomplished federal financing will be to the tune of nearly $2 million. The progress of the project will be watched carefully. Whether it is a success or a failure, we shall learn from it, even if it is only the discovery of how badly we have burned our bridges. •
Roy Snyder leaned back in his chair, briefly pondering my question before slowly answering, "Fishing's been off. They're pulling water out of Area I. The bass aren't hitting."

It appeared our spur-of-the-moment idea of fishing the Loxahatchee National Wildlife Refuge, in Conservation Area I of the Central and Southern Florida Flood Control District, was being shot down by circumstances beyond our control.

The Loxahatchee Refuge is a prime bass fishing area on the doorsteps of the badly crowded lower Florida east coast. At times, 9- to 10-pound bass are common. However, the fishing is up and down. With high water, the fish spread out into the sawgrass and are hard to find and sometimes unreachable. During low water, they congregate in the canals, and fishing can be fantastic. But in between, particularly when the water is being drawn from Area I, fishing is chancy—a "maybe, maybe not" situation.

I appreciated Roy's honesty. Too often, those who have a financial interest in a fishing area bend the truth a little, or don't exactly give the most complete information. "You should have been here yesterday" is the all-too-often-heard reply to a question on fishing conditions. And there are some who aren't too accurate with their yesterdays. Some of their statements are based on "yesterweeks"—true then, but way off base now.

Roy is a reliable source of information. He's manager of the Loxahatchee Recreation Area, located 14 miles west of Deerfield Beach on Florida 827. You can rent boats and motors, hire guides, and get bait, tackle, and sundries there. Naturally, Roy is in daily contact with the latest fishing reports. Not only that, but he knows the area's hotspots as only a guide can know them.

Kit and I seldom get to south Florida now, having shifted our base from Miami to Inverness. But when we do get to the southern end of the state, we try to go fishing. This time the weather—an abundance of rain—was torpedoing our angling plans.

We're not looking for record fish or table food. They're always fun on light tackle, and they usually hit any time."

"Yeah," he responded. "They usually do hit. It'd be no problem to put you into some muds," he continued, smiling, perhaps at the thought of our tackle hazard. "We've got mudfish galore, and they run big!"

"Fine," I said. "When do we go?"

Roy, glancing at his watch, replied, "I'll get Tom Bustle to guide you late this afternoon—say four o'clock. Since tomorrow is my day off, I'll take you out in the morning. O.K."

That was fine with us. We knew Tom was chief guide at the Loxahatchee Recreation Area and, (Continued on next page)
after all, we were going after cooperative bowfins, not finicky bass. Action seemed assured, falling water or not. It was about four p.m. when we met Tom at the docks. He looked incredulous when we told him of our mudfish interest. Roy also had told him, but Tom just couldn’t believe it until he heard it from us. He shook his head, too polite to express his opinion. After all, we’d just met, and he was accustomed to unusual fishermen. But obviously he didn’t class us as just unusual, but as real oddballs.

“O.K.,” he replied after a long pause. “I’ve never deliberately fished for muds. Roy says they’ll be congregating up the North Canal. Just in case we didn’t class us as just unusual, but as real oddballs. They’ve been the most productive lately with this deliberate fishing for muds. Roy says they’ll be wanting to try for some bass, I’ve brought some shiners. Powered by a 65-horse Merco. The mudfish were there. As we eased towards the inside shore of the mudfish hole in Tom’s 16-foot, aluminum boat apparently in pursuit of bait fish.

Two keeper bass are boated by Roy Snyder. Above, a passing angler, left. But still, no bowfins would touch either minnow or artificial bait. It was too strong.

We went back to the mudfish hole. There was no sign of action this time. Maybe, we thought, the muds would cooperate. They didn’t. But the bass? That was a different story. Although not as active as the previous afternoon, they did cooperate. When we fished close to the inside bank, we found bass action. In the middle of the canal, we got nothing. And the muds simply wouldn’t strike. Roy even rowed us deep into the sawgrass in a shallow ditch that should have been a mudfish haven. There were no muds there; in fact, no fish with the falling water. Oddly, the morning score 10 to 0 in favor of the bass, we abandoned all hopes of encountering bowfins. The cotton pickin’ mudfish were displaying an acute case of lockjaw.

“Roy suggested trying a bass hole he knew which also was in good chain pickerel territory. He was confident he could locate some chains if we wanted to try some fast retrieves. If not, plastic worms had produced some good bass from this particular hole on previous trips.

We anchored at the spot, and Kit and I rigged with plastic worms. Roy announced he was going to cast with his favorite pickerel plug. He began casting, using a rapid retrieve. On the second toss, he had a solid strike. But nothing went according to the script. Mudfish? No. Chain pickerel? No. He landed another bass! He just shook his head.

Meanwhile, using a black worm with white spots, I put two bass in the boat in 10 minutes. These bass were eager; there was no lengthy waiting. They grabbed the worm and ran. By now, the sun was high and fishing definitely unproductive. Even the bigmouths were taking a siesta, so we headed for the dock.

As we landed, Roy remarked, “I wouldn’t have believed it. Thirty-five bass and not a single mudfish! It’s simply fantastic!”

We had to pinch ourselves to believe it, too, but it happened. The bass busted our fishing plans by a score of 35 to 0 over the muds. Wonder what it’d be like to try fishing strictly for bass? We’re going to try the next chance we get. It should be interesting.
Fish Management Notes

During the past year, three commercial fishing crews participated in a haul seine program supervised by the South Florida regional office. Three problem bodies of water were the target of the program, which included intensive harvest of fish—particularly undesirable species—aimed at reducing overcrowding and stimulating growth of the remaining fishes.

The intercoastal chain of lakes supports a dense population of gizzard shad, while Lake Parker and Lake Hancock are plagued with a superabundance of blue tilapia. These bodies of water were therefore chosen for the haul seine program.

"Two of the commercial fishing crews ceased operations, faltering when efforts to sell tilapia at a profit were frustrated by a market that was unresponsive," said Regional Fisheries Biologist Phil Chapman, of Lakeland. "To enable haul seine work to continue on a self-sustaining basis, and to derive some revenue from harvested fish, the Game and Fresh Water Fish Commission approved several amendments to the Wildlife Code. The sale of tilapia will be legal in Florida, where this fish can be taken under special permits, by a limited number of commercial haul seines in specified lakes in Polk County."

"Before leaving the county or being sold, the fish must be dead (headed, eviscerated, or possibly glaze frozen) in accordance with criteria established by this office, and an inspection fee of one cent per fish must be paid (headdied, evi scerated, or possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possibly possible
Tricky and more spectacular were the live turkeys in protective fenced enclosures, with just the bobbing heads of the birds protruding as aiming marks.

Since most of the old-time muzzle-loading flintlock muzzle-loaders need deep grooves for consistent accuracy. Most of the replicas, however, shoot better than their owners can aim and hold. Deep rifling tends to stabilize a tight-fitting ball, but creates a desirable gravel gas charge around any loose-fitting projectile—to the detriment of compression and accuracy.

Old-time Kentucky rifles, the barrel rifling was deep, frequently fifteen thousandths of an inch, and sometimes deeper. In a rifle having a bore diameter of .50, the groove measurement diameter of at least 48 hundredths of an inch (.48). In contrast, many of the replicas have "button-rifled" barrels of modern shallow turning grove depth. Expert ballisticians who have specialized in muzzle-loading rifle performance maintain that a rifled muzzle-loader needs deep grooves for consistent accuracy. Most of the replicas, however, shoot better than their owners can aim and hold. Deep rifling tends to stabilize a tight-fitting ball, but creates a desirable gravel gas charge around any loose-fitting projectile—to the detriment of compression and accuracy.

The "Minie" ball tightly in the bore, the load must first be centered in a lubricated patch before being pushed down the muzzle and seated on the powder charge. The patch has to be of the right thickness to ensure that it is just tight enough to be so tight as to even be pressed into the soft lead projectile.

For consistent accuracy, seating patches must be of correct thickness as well as uniform size. Because cloth scraps were not always available, many pioneer riflemen on the move used buckskin as ball patch material. But buckskin varies in thickness. Today, uniformly thick pillow ticking material, denim, Indianhead cloth, muslin, and linen are popular choices. Most experts hold to the opinion that patches should be about twice the size of the ball and about twice the thickness of one groove of the rifling either silver- or gold-colored or greased, and is cut to final size before the patched-ball is pushed down on the powder charge.

On firing, the patch passes through the bore with the ball and matches the grooves and is extracted and unseated after leaving the muzzle. When using a "Minie" ball, care must be taken to start the ball down the bore uniformly for each shot, and without deformation, for best accuracy. This can be accomplished through the use of a false muzzle attachment. The attachment sits squarely on the end of the barrel is held by seating pins. A plunger starts the "Minie" ball straight in without deforming the soft lead and without gradually wearing away the rifling at the end of the muzzle, which would affect the firearm's accuracy.

Old-time competitive riflemen firing "Minie" slugs used such attachments, but not woodsmen who required fast reloading.

Modern black powder burners favor false muzzle attachments too, but don't know whether to laugh or cry when they forget to remove the accessory from the muzzle before firing and have it sail downrange.

Those who don't use the helpful loading aid take care to place each lubricated patch properly on the muzzle before loading and fire a second shot. It is impossible to remove the main powder charge without firing. For the deer hunter who wants to do a new loader the safety factor. Fortunately, there is a simple solution. A loaded percussion-type muzzle-loader can be disarmed very easily removing the cap from the nipple and placing a piece of electrician's tape or cardboard over the firing hole, then slowly lowering the hammer to hold the safety plug in place until ready to resume hunting. Oh I shot a black powder muzzle-loader regularly, but quit simply because there was not much fun shooting it. I can fashion a fat-toothed plunger and fire a second shot. It is impossible to remove the main powder charge without firing. For the deer hunter who wants to do a new loader the safety factor. Fortunately, there is a simple solution. A loaded percussion-type muzzle-loader can be disarmed very easily removing the cap from the nipple and placing a piece of electrician's tape or cardboard over the firing hole, then slowly lowering the hammer to hold the safety plug in place until ready to resume hunting.

Yea years ago I shot a black powder muzzle-loader regularly, but quit simply because there was not much fun shooting it. I can fashion a fat-toothed plunger and fire a second shot. It is impossible to remove the main powder charge without firing. For the deer hunter who wants to do a new loader the safety factor. Fortunately, there is a simple solution. A loaded percussion-type muzzle-loader can be disarmed very easily removing the cap from the nipple and placing a piece of electrician's tape or cardboard over the firing hole, then slowly lowering the hammer to hold the safety plug in place until ready to resume hunting.
CONSERVATION SCENE

Land of Images

How much do you really know about John Ringling, Henry Flagler, Harriet Beecher Stowe, Thomas Edison, Addison Mizner, or the Ox-Woman, Sadie McLain? All these diverse personalities played a part in creating the legend of the unique and magical state that is Florida. Along with the Celestial Railroad, Mrs. Fuller's water hyacinths, Sexton's Junk Mountain, and the fabled "Millionaire's Club" at Boca Raton, there are stories of some of the many fascinating episodes in the history of America's only tropical frontier.

In Florida—Land of Images by Nixon Smiley, (E. A. Seemann Publishing, Inc., $5.95), the Miami Herald columnist and reporter tells these stories as only a rough geographical journey from Jacksonville to Miami, from Key West to Cross Creek, to paint a portrait of his native state far different from that of the tourist guides and travel brochures. Florida emerges as a land of many faces—funny and exciting, lusty and bizarre, sure to enchant both the newcomer and the native alike.

U.S. Water Atlas

The only available visual guide to the water quality, resources, pollution, and water use of the nation was published in April by Water Information Center, Incorporated. This new work contains over 126 maps in color, three times the number of plates as the previous edition (1963).

Completely new is an entire section consisting of 33 maps devoted to water quality and water pollution. Sample map titles from this section include: Thermal Pollution, Acid Mine Drainage, DDT, Pipeline Spills, Arsenic and Lead, Cadmium and Chrome, Mercury, Pipeline Spills, Arsenic and Lead, and Fish Kills.

Other map titles indicate the book's broad coverage: Water Use (Public, Industry, Rural, Irrigation), Lakes, Rivers, Reservoirs, Dams, Aquifers, Glaciers, Precipitation, Lawns, Wetlands, Cloud Seeding, Evaporation, Fog, Frost, Hail, Thunderstorms, and many more. Each map is accompanied by an explanatory text on the facing page. Maps of Alaska and Hawaii are included in a separate section.

The 9x14-inch hard cover Water Atlas of the United States ($33.00) is available from Water Information Center, Inc., Department P, 44 Sintake Drive East, Port Washington, New York 11050.

Exotic Wonderland

BEAUTIFUL, BIZARRE, deadly, graceful, ugly, commonplace, repulsive, puzzling, phenomenal—insects, some 3 million species of them, creatures which have been on earth longer than any other form of life, are now the subjects of a superbly illustrated volume of scientific accuracy and scholarly detail that often reads like science fiction: Insects of the World by Walter Linsenmaier, translated from the German by Prof. Leigh E. Chadwick (Mc-Graw-Hill Book Co., $35.00).

This exotic, mind-boggling wonderland is explored by a man who has devoted much of his life to the study and painting of insects. He depicts it in concise words and 140 full-color paintings and photographs—besides several hundred line drawings, maps, and charts.

The reader meets them all, from familiar flying, jumping, and crawling pests to fantastic creatures that seem to come from another world. The gallery includes the bombardier beetle, whose defense is a cloud of noxious gas; the South African termite, which lives in air-conditioned apartment communities; the 3-million-year-old, ubiquitous cockroach; the dairy ant, which keeps hordes of aphids and milks them for honey; and the European copper butterfly, whose taste buds are in its feet, to mention only a few.

World renowned for his drawings and paintings, Walter Linsenmaier has one of the finest insect collections in Europe. Prof. Chadwick, former chairman of the Department of Entomology at the University of Illinois, acted as scientific consultant.

ELIGIBILITY REQUIREMENTS SPECIES

LARGEMOUTH BASS

8 pounds or larger

CHAIN PICKEREL

4 pounds or larger

BLUEGILL (BREAM)

1½ pounds or larger

SHELLCRACKER

2 pounds or larger

BLACK CRAPPIE

2 pounds or larger

RED BREAST

1 pound or larger

All fish must be taken from the fresh waters of the state of Florida, as defined by the Game and Fresh Water Fish Commission. Fish must be caught on conventional fishing tackle, with artificial or live baits, 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.

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.

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 Date

Game & Fresh Water Fish Commission, Tallahassee, Fla.

Please send me the Florida Wildlife Fishing Citation with the inscribed data listed below:

Name (please print):

Address

City State Zip No.

Species Weight Length

Type of Tackle

Bait or Lure Used

Where Caught County

Date Caught

Catch Witnessed By

Registered, Weighed By

Signature of Applicant.

FLORIDA WILDLIFE

CUT OUT AND SAVE THIS APPLICATION BLANK