INTELLIGENT ANIMALS

Ten well known animals studied for intelligence by a Columbia University professor were rated as follows:

Chimpanzee
Dog
Cat
Monkey
Elephant
Pig
Gorilla

Recent studies indicate the gorilla ranking very high on the list of intelligent animals—perhaps better than many listed here.

Hunting Officer Notes
Fishing
Conservation Scene
Management Notes
Hunting

The Cover
The Black Bear and Black Crappie (speckled perch) are this year's "joiners" to welcome a new year of fresh water fishing and hunting. The color reproduction (in smaller size) will appear on the cover of 1970-1971 Hunting, Fishing and Management Area Regulations Summary. See pages 4 and 16.

Dealers

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Wildlife Management Areas
Scorned but Scrappy

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The Florida Wildlife Scrapbook

Florida Wildlife Purpose: This scrapbook is printed as a publication of the Game & Fresh Water Fish Commission, State of Florida.

* Publications Department
BILL HANSEN Editor
WALLACE HUGHES Art Director
GENE SMITH Editorial Assistant
C. L. SATTERFIELD Circulation

MAY 1970

FLORIDA WILDLIFE

official publication of the

Game & Fresh Water Fish Commission
State of Florida

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From A Painting By Wallace Hughes

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MAY, 1970

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Here are a few facts that refute the premise, according to John Marsman of the Savage Arms Co. Men have paid nearly $400 million in the past 30 years on guns and ammo alone, equal to $22 per minute.

Through this same tax, sportsmen have paid nearly $1,900,000 over prior year. Greatest portion of the tax is due to the jump in the sale of sporting firearms and ammunition.

Facts About Hunting

Western Goose Season (that portion of the state west of the eastern boundary of Jefferson County):
DEER & BEAR: November 21 through January 31.
TURKEY: November 21 through January 31.
QUAL & SQUIRREL: November 21 through March 7.

Archery Season (statewide): September 12 through October 2.
Legal Game—Deer of either sex (except fawns), bear, turkey, squirrel, quail, and wild hogs.
No open archery season in Dade and Broward counties; in that portion of Palm Beach County south of State Road 80; in that portion of Monroe County south of the Loop Road; or in that portion of Hendry County east of L1 and L2 loxes. The possession of firearms while hunting with bow and arrow during the archery season is prohibited; crossbows prohibited; the use of any unlicensed hunting dog by any person hunting with bow and arrow during the archery season is prohibited. Persons holding a valid archery permit in addition to a regular hunting license may hunt on designated wildlife management areas and on open lands during the established archery season.

TURKEY: Spring Season—March 6 through March 21 in that portion of the state lying south of State Road 50; March 20 through April 4 in that portion of the state lying north of State Road 50.

Shooting Hours—resident game
One-half hour before sunrise to one-half hour after sunset; except Spring Turkey Season when shooting hours will be one-half hour before sunrise to 12-noon, only.

Bag Limits

<table>
<thead>
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<th>Season Bag</th>
<th>Possession Limit</th>
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<tr>
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<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Turkey—Fall</td>
<td>1</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Turkey—Spring</td>
<td>1</td>
<td>2</td>
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<tr>
<td>Squirrel, Grey</td>
<td>10</td>
<td>20</td>
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<tr>
<td>Squirrel, Fox</td>
<td>2</td>
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<tr>
<td>Quail</td>
<td>12</td>
<td>24</td>
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<td>Bear</td>
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<td>Wild Hog</td>
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National Forest Bear Hunts

Applications for the Apalachicola National Forest bear hunts, September 14 through October 31, should be filled with the Regional Manager, Game and Fresh Water Fish Commission, P.O. Box 576, Panama City, Florida 32402, before 10 A.M., Friday, August 21, 1970. Each of the 14 three-day hunts will be limited to not more than 30 people. Each group must obtain a $50.00 party permit and each person in the party must also possess a regular hunting license.

On the Ochlockonee National Forest, hunters participating in the special bear hunts, October 9, 10 & 11; 16 & 17; 23 & 24; and 21, 22, 23, will be required to purchase a special permit costing $5.00. Permits available from the Northeast Region office, Game and Fresh Water Fish Commission, located on U.S. Highway 90 East, Lake City, Florida.

Additional information concerning the special bear hunts may be obtained by contacting regional offices.

FLORIDA WILDLIFE Hunting Season

Resident Game

Central Zone
(That portion of the state north of State Road 60 to the eastern boundary of Jefferson County):
DEER & BEAR: November 14 through January 17. No open season on bear in Levy County.
TURKEY: November 14 through January 17. No open season in Alachua and Sumter counties in the Okefenokee National Forest; or in that portion of Columbia County south of State Road 240 and west of State Road 47.
QUAL & SQUIRREL: November 14 through February 26.

Wild Hog: Alachua and Levy counties—November 14 through January 17.

Southern Zone
(That portion of the state lying south of State Road 60.)
DEER & BEAR: DeSoto, Manatee, and Sarasota counties:
October 31 through November 15, and December 19 through January 3.
Other counties: October 31 through January 3.
TURKEY: Hendry, Manatee, and Sarasota counties:
October 31 through November 15, and December 19 through January 3.
Other counties: October 31 through January 3.
QUAL & SQUIRREL: October 31 through February 21.

WILD HOG: Palm Beach County; October 31 through January 31.

SPECIAL REGULATIONS:
No open season on deer in Conservation Areas 3; in the Florida Keys of Monroe County; in that portion of Palm Beach County lying west of U.S. Highway 27 and south of Belle Glade; and in that portion of Hendry County east of L1 and L2. The use of dogs in DeSoto, Hendry, Manatee, and Sarasota counties shall be limited to bird dogs, retrievers, and small trail hounds. The use of running hounds or any other dog that can reasonably be considered a dog usable for running deer is specifically prohibited.

Regulations Summary 1970-71

Trees Reduce Noise

Noise, or unwanted sound, can be reduced by as much as 50 percent by properly located barriers of trees and shrubs. In combination with grass, trees can cut down sound levels by 65 percent when they are used to divide or surround large, hard-surfaced areas.

These are some of the key findings already determined by Professor David L. Cook of the College of Engineering at the University of Nebraska in a three-year study soon to be completed with funds provided by the Forest Service, U.S. Department of Agriculture. Cooperating with him on the project is Dr. David F. Van Haverbeke, a Forest Service research scientist with the Rocky Mountain Forest and Range Experiment Station.

Professor Cook pointed out that excessive noise is a form of environmental pollution that is drawing increasing public attention. He said the use of trees and shrubs as traffic noise screens has been proposed to combat that pollution, but little scientific evidence has been developed concerning the method's effectiveness.

He and Dr. Van Haverbeke are expected to finish the project late this year to provide information from which decisions may be made for design and placement of trees and shrubs.
**Wildlife Officer Notes**

The day of friendly warnings to litterbugs by officers of the Game and Fresh Water Fish Commission is about past, according to Maj. Bradley Goodson, chief of the Commission’s Law Enforcement Division, Tallahassee.

Florida wildlife officers have been instructed to arrest individuals caught dumping garbage, rubbish, trash or other refuse on public or private property in violation of Florida’s anti-litter laws.

Goodson said, “Because of the nature of the wildlife officer’s work, he is often in a position to observe litter law violations. In the past, we have tried to discourage litterbugs with a warning. We think the time has come to give those who deface our state with trash and garbage the same attention we give apprehended violators of gun & fish and boating safety laws.”

The litter law enforcement program will also cover Florida’s rivers, lakes, streams and canals, Goodson pointed out.

Littering is a misdemeanor. Under Florida law, a littering may be fixed up to $100.00 and imprisonment up to three months. A second offense carries a maximum fine of $500.00 and up to six months in jail.

Irvin B. Spence, 65, formerly of Caryville and a wildlife officer in his native Holmes County for the past 22 years, retired in January. He and his wife now live at Geneva, Alabama.

In a brief retirement ceremony at the April Commission meeting in Tallahassee, Spence was recognized and commended for his long and faithful service and was presented an inscribed gold badge and a framed certificate of appreciation. Making the presentation was Commission Chairman William Blake of Tampa.

Spence was employed by the Game and Fish Commission in October 1947 and rendered continuous service until reaching retirement age. He was a law enforcement area supervisor for a number of years.

Before joining the Commission he had been engaged in shipbuilding, farming and construction work.

He is the father of six children. Two of his sons are also long-time Commission employees—J. H. “Buck” Spence of New Smyrna Beach, assistant chief of Communications Division, and Gordon Spence of Milton, a game management specialist supervisor.

“Mr. Irvin” plans to enjoy a good bit of fishing now that he’s retired. He lives within a few miles of Lake Victoria in north Holmes County, a Commission-built-and-stocked public fishing lake he helped foster in 1966.

**COMMISSION Training OfficerLt. Alan Lamarche** reports the completion of two in-service training schools already this year.

Twenty-six Commission supervisory personnel from the ranks of law enforcement, game management, fish management, and law enforcement control completed a one-week Supervisory Management Seminar in February. It was held at the Commission building in Tallahassee.

Dean Guiser, manager of Training and Development Section, Division of Personnel and Retirement, Department of Personnel and Administration, and his assistant, Harley Johnson, presented 20 hours of instruction. They discussed principles of supervisory management, aspects of motivation, evaluating subordinates, communication, and other topics.

Commission instructors presented 20 hours on subjects relating specifically to operations of the Game and Fresh Water Fish Commission—current operations and activities within each division, recent legislation and court rulings affecting officers in the performance of their duties, administrative procedures, and related matters intended to keep the supervisory personnel “up to date.”

The division chiefs, Administrative Assistant Joel McKinnon, Personnel Officer Dave Swindell, Property Officer Von Walker, and Lt. Lamarche were the instructors.

“We had good participation from the group,” said Lamarche, “and extremely good response on the value of the seminar. The supervisors gave us a lot of good ideas for the training of field personnel, too, and solidly supported the 200-hour Police Standards School now required of all newly employed law enforcement officers.” (See Wildlife Officer Notes, Florida Wildlife, December 1969.)

In April, 10 newly employed fishery and wildlife biologists attended a 3-day orientation school, also at Tallahassee.

The newest members of the technical staff were introduced to Commission operational policies and procedures, The Wildlife Code of the State of Florida, and various administrative responsibilities and guidelines.

The division chiefs described statewide operations in order to give the biologists a broader understanding of how the Commission is organized and how it functions in fulfilling its responsibilities under the law.

Ken Woodburn of the Division of Marine Resources, Department of Natural Resources, and John Dubose of the staff of the Trustees of the Internal Improvement Trust Fund, discussed legal and technical aspects of water pollution control, dredge and fill, and administrative matters involving the Commission staff.

**FLORIDA WILDLIFE**

**Panfish**

**FISHING**

Most panfish, especially bluegills, are yanked out of the water with bait and heavy tackle despite volumes written about sportier methods. Since no bream battle is likely to swamp the boat or scare the occupants, the use of such nonsense tackle may be just as much fun for most people. There are times, though, when light tackle and artificial lures will catch several times as many fish.

Late spring and early summer is usually the best time for bluegill fishing expeditions—partly because of spawning activity; partly because of weather conditions. Bluegills and some of their small sunfish relatives spawn during much of the year, but they’re especially active at this time.

In most Florida panfish waters, surface lures are good. There are times when something deep works better, especially during the heat of the day, and a few panfishers, who have given it a lick and a promise, will tell you that bluegills are deep goers and that one of the first requirements is a lure or bait that stays down there. Usually the best action is on top—generally in late evening.

Bluegills will often start popping near the shoreline just as dusk in warm weather. I’d say they start their evening foraging a little later than the bass do. If you fish a shallow lake or river and never hear bream popping on top the chances are you’re in the wrong part of your fishing territory. I think all of them come to the top at times if they live in shallow water.

(Continued on next page)
Some of the fish are three-incher. A size fourteen he's taken it clear down into his goosel. Ordinarily, the larger bluegills don't give you that trouble, taking the bug with a sucking approach that folds up legs and all. If you can hook the fish I think the longer legs add a great deal to the lure. The attraction comes after you have twitched the thing, thus flattening the legs down against the bug's body; then when you leave the bug sit the legs straight out and wave seductively as they do so. That's when a bream tends to lose its self control and charges. Very slow operation of the bug is nearly always the best method. Bream are willing to watch a bug back off to watch, and then grab it the next time it moves. I have watched this procedure in clear water, and have seen a fish take after he's actually been scared off twice by violent action of the lure.

When you're fishing below the surface with a spinner ahead of a little bucktail or spider, be sure that the hooks are small and sharp. Many bluegill strikes, even on a moving lure, are simply nibbles, and it is better not to set the hook violently until you are sure it is in. I would keep up the retrieve the fish is likely to come back and hook himself, even after missing once or twice.

Where bluegills are plentiful, I like to use a rather big bug for them—one that is attractive to bass. If the hook size is about six it will take the bigger bluegills and warmouth perch and is still large enough for a hook, it can easily be torn apart by thick bluegill lips. I have had very poor luck catching bass with the very small bluegill bugs and sponge spiders, and most of those I have caught have been very small.

Most of the better panfish plugs, spoons, and spinner-fly combinations are very light, weighing 1/4-ounce to 1/2-ounce. The very lightest spinning rods are best for these, and I'd say 4-pound line is about perfect for both casting and catching fish with them.

Bluegills are usually taken by jerk and heave methods, simply because no one seems to take enough interest in them to keep tackle especially for the job. With the addition of rubber spiders and little bugs, the fresh water trout outfit is nearly perfect.

By the way, although a bluegill mouth is tough enough for a hook, it can easily be torn apart by a wire stringer. If you use that kind of a stringer, put the wire through both lips.

While we're dealing with the efforts of outdoor writers I would like to do some drum beating for an old friend of mine, Warren Shepard of Livingston, Montana. Shep's thing is antique fishing tackle and firearms, and he has been selling some very interesting stuff to outdoor magazines on these subjects. I'm especially interested in the antique fishing stuff because that's a little-known field and almost everything Shep writes is news to me.

He is a real authority on antiques, so much so that he sometimes becomes a nuisance on the subject. I suspect that he secretly wishes we could go back to silk lines and greenheart rods. When I went Hungarian partridge hunting with him a year ago I was only mildly surprised to find he was using a black powder shotgun. He killed the birds all right, although most of his activities were obscured by gassy clouds of accord smoke.

Then he came up with a beautiful Winchester 21 double barrel full—about a thousand bucks worth—and I thought he had entered the "new" generation. But he sold it almost immediately. It developed it was only trading stock and he now has an ancient Parker.

Some of his fishing possessions are truly fascinating, as you can tell by the photographs that go with his articles. He is doing some for Field and Stream, Allsport Publishing Corporation, 21 Vernon St., Florid Park, N.Y. 10011.

A white back I fished with Shep out west. He used an ancient rod and I couldn't help wondering uncomfortably what I'd do if he caught a 100-year-old fish.

For some time I had a lot of troubles with stored

(Continued from preceding page)

outboard motors. Carburetors gummed up and pistons stuck. Of late there have been some chemicals that help a lot.

The latest is Sta-Bil, a solution that stabilizes gasoline left in tanks and lines for long periods. It is rather expensive as an additive but I have used it several times now and haven't regretted it because the gasoline seems to hold its go.

The alternative way is to drain the gas from the tank, a business that is questionable, both from the standpoint of fire safety and from the standpoint of the condition a tank would be in if left empty for a long period. I have always felt that small tanks should be left nearly full for best lasting qualities.

Anyway, Sta-Bil is recommended by Johnson Motors. It's manufactured by Knox Laboratories, 2335 South Michigan Avenue, Chicago, Ill., 60116.

In storing outboard motors for long periods of time I have been using a rust preventative sold by outboard dealers. You just squirt the stuff into the carburetor while the engine is running, getting lots of white smoke and what appears to be prolonged protection during storage. Using these solutisons, I have had no recent troubles.

More and more bass fishermen are using electric motors in the bows of their boats, many of them controlled by foot attachment. There are several reasons why this is more satisfactory than the stern-mounted motor. The main thing is that maneuvering is simplified, especially if there's a wind. Then, too, the fisherman can be up front where he can see what he's doing when fishing alone, rather than having the entire boat sticking out ahead of him.

Most bass boats have low sides, a big factor in using an electric. I have used one on the stern of a big, high-sided skiff with pretty poor results. If there was a little breeze I simply couldn't turn into it. All I could do when I wanted to go back in the direction I came from was put the motor in reverse or start my traveling outboard. When the electric went into reverse it had to start from the beginning of the big boat against the current or wind most of the time.

To use an electric motor from the bow, a boat should be fairly low in the water. It would take quite an engineering feat to put an electric on my high-howered skiff and still be able to hide it when it wasn't in use. The factory-built attachments for using the electric motor in front are made to retract, allowing the fisherman to bring the little motor completely aboard the boat. It would be impractical to leave an electric dangling outside while under way with a fast outboard motor. Even when retracted the electric takes up quite a little room in the bow, and it shouldn't be walked on.

Despite these minor disadvantages the electric is now quite successful, and is becoming increasingly popular.
Shelling on Sanibel Island

GATHERING sea shells by the seashore conjures up visions of a sedate pastime suitable for frail old ladies and children—or at best a way to keep wives at bay while husbands do some surf fishing. That’s not necessarily so.

To the initiated, shelling is an engrossing outdoor preoccupation—with all the appeal of any nature hobby. When you go all out as they do on Sanibel Island on Florida’s West Coast—where they’re so “shelled out” that the tide tables emphasize low tide—it even becomes a sport certainly as challenging as “Huckleberry Finn” fishing. There’s nothing sedate about wading mud flats for live shells.

Probably it’s inevitable that anyone who lives on the West Coast—or even visits there—is drawn to shells and shelling on a casual basis at least.

Our own home in Sarasota is bursting at the seams with shells—from calico scallops and turkey wings picked up beachcombing, to lightning whelks, banded tulips, crowns and conches dug up live in mud flats at low tide. Most—but not all—are from Sanibel.

Some of our shells—cleaned, sized and on display: 1) calico scallop, 2) snuffish, 3) quahog, 4) sunny Venus clam, 5) light-winged whelk, 6) turkey wing, 7) banded tulip, 8) hamsinch orb, 9) bird’s crown. As a rule, the quahog shell at the bottom of picture measures 1 ½ inches in length.

Actually the entire West Coast is a sheller’s paradise. We have found colorful shells on the deserted beaches of Cape Sable in Everglades National Park and dug them out of the mud in a bayou within spitting distance of the fancy resorts on Sarasota’s Lido Key. It’s a combination of the warm waters of this latitude and the comparative shallowness of the Gulf of Mexico. Mollusks are more colorful and in greater variety in warm water. And the shallow waters of the Gulf put shells within reach of shellers.

But Sanibel is special. It sticks out “sideways” into the Gulf—running east and west instead of north and south like most offshore keys—and its Gulf beaches have a southern exposure; shells wash up there in greater variety than in most places. The Pine Island Sound side of Sanibel, and of Captiva, which adjoins it, is dotted with bays and bayous, mud flats and grass flats. These estuaries are a breeding and feeding ground for mollusks, as they are for so much of marine life, from egg to adult.

Everybody on Sanibel Island is a shell collector for the same reason that everybody in the Pacific Northwest seems to be a rockhound. The shells are there.

We got our first indication of how seriously Sanibel takes its shells on our first visit there, long before we became Floridians. We were camped at a private campground, and Tom, thinking hard about fishing and bird photography, strolled along a walk which led in the general direction of the beach. A trailer door opened and a head popped out.

“Your’e too early,” a voice said.

Tom looked blank.

“It won’t be low tide for three hours yet. You won’t find many shells now,” our fellow camper explained.

Already bemused by those tide tables which stressed low tide, we hit the beach ourselves—and went back north with souvenirs more meaningful than anything we might have bought.

Later we found that beachcombing for whatever shells can be picked up is to serious shelling about what cane pole-and-worm fishing is to going after bass with spinning tackle and surface lures. The greater rewards require a bit more effort in either case.

Even so, Sanibel beaches yield more shells than most—so much so there’s a beachcombing posture known locally as “the Sanibel squat.”

Shelling is particularly good after a storm out in the Gulf—when the tides and waves are higher than usual and the shells wash in in abundance. (There’s also a school of thought that holds that high tide, when the shells are washing in, is even better than low tide, when you pick up what the tide has left.)

If you go along with the principle that half a bivalve is better than none, you’ll find plenty of shells from scallops, cockles, clams, arks, and the like. But rarely will you find a bivalve with both sides intact. (Continued on next page)

By TOM and LUCIA TAYLOR

PHOTOS BY TOM TAYLOR

(Continued on next page)

FLORIDA WILDLIFE

MAY, 1970
(Continued from preceding page)

halves intact. And the gastropods (univalves) you find intact probably will have been long dead and, perhaps, so long buffeted by waves and bleached by the sun they're no longer colorful.

The best way to be sure of really colorful shells—is to take them alive.

For some species, like the sunray venus clam (Macrocallista circumcincta) which buries itself in sand just beyond the low water mark, this means digging into sandbars. And we've seen beachcomber types "panning for gold" with sieves—their yield not nuggets but tiny coquinas.

Usually, though, it's a matter of wading in mud and shallow water at low tide, back in the bays and bayous.

The first time we did it, we went with a guide—the same way you go fishing with a guide, another indication of how seriously Sanibel takes its shelling.

Now living not too far away, we take our own boat and find our own shelling spots back in the mud flats.

Our boat, a 12-foot aluminum cartopper designed for inland bass fishing, is ideal for this kind of thing. Its shallow draft means we can cut across most flats without worrying about how shallow the water might be even if we overextend ourselves, we can't get into deep trouble. Once, hunting for shelling spots along the north side of Sanibel, we found ourselves stuck—no mean feat, since our boat will make it in only inches of water. But the cartopper is so light that it was a simple matter to jump out and pull it along.

The boat is only transportation. Once you've found a promising spot, the idea is to wade the shallowes, searching the bottom for shells. Deck shoes or tennis shoes that lace and tie are a must; you need sturdy soles to protect your feet, and shallow, searching the bottom for shells. Most collectors end up with horseshoe crabs, starfish and sand dollars, too, but these usually "just happen." The mollusks are the ones they hunt.

All you do when you spot what might prove a promising shell is reach down and pick it up and drop it in your bucket. There's no particular hazard, although it's disconcerting to reach down and see a blue crab scuttling away. Invariably, though, they do scuttle away. Florida mollusks won't sting you. The alphabet cone (Conus sparsus atlanticus), which lives in sand, is dangerous only to other mollusks, but it's a cousin of the Indo-Pacific glory-of-the-seas, whose sting stops just short of being fatal. (On the other hand, the glory-of-the-seas, found around the Philippines and Indonesia—if it can be found—is worth $1,200. The alphabet cone is prized only for its graceful shape and attractive markings. It's one of the harder ones to find, but still rates as plentiful.

Learning a little bit about the habits of mollusks is the best way to pinpoint good shelling spots. (When shellers talk about shells, they're talking about mollusks—particularly the pelecypods (bivalves) and the gastropods (univalves), the big class of marine snails that takes in everything from "real" snails, to cones, to whelks and conchs. Most collectors end up with horseshoe crabs, starfish and sand dollars, too, but these usually "just happen." The mollusks are the ones they hunt.

If you'll settle for half a bivalve—here they are, left, from low water mark on bank, 20 feet of the beach. Piles of shells like this stretch for miles along Sanibel's beach. Live lighting whale, shells underwater on the Pine Island Sound side is in there hiding behind his "trap door." the shaded area in upper part of shell. This shell was cleaner than most found off shore, but still needed algae cleaning. An easy, almost missed, can be seen at lower left of photo.

(Continued from next page)

Oyster beds are a good place to look because gastropods eat oysters. Mangrove areas offer another happy hunting ground, partly because they're shady. Mollusks don't like bright sunlight. Also, it's because gastropods like the oyster shells which attach themselves to the mangroves. And, it's the way the food chain works.

Mangroves nourish tiny marine organisms. Bivalves strain vegetable organisms out of the sea water by means of a siphon-like structure around the outer edge of their shells. The marine snails eat the bivalves—or each other. (They bore holes in hard shell by means of a sandpaper-like tongue called a radula.)

Some bivalves, like oysters and turkey wings (Arca occidentalis), which attach themselves to rocks, are pretty much sitting ducks for gastropods. Others protect themselves by moving faster than the univalves, or by burrowing into the sand.

Some mollusks are hungry and "meaner" than others. The king's crown (Melongena corona), a favorite with shellers because of its handsome markings, is a vicious predator and, although it likes oyster meats best, will take on anything. The only thing that can kill it is the big horse conch (Fusceolaria gigantea), which smothers its prey.

The markings on shells aren't just beauty for beauty's sake. The shells are the mollusks' outer skeletons—and the colorful stripes, lines and bands might be compared to the growth rings on trees. A real expert can study the markings and tell when the mollusk was growing and when it was resting. But when you've found your shells live, you

Lucia, left, wades at low tide in search of live shells. Live mollusks are likely to appear as shown below, when taken from mud flats—held for viewing is a quahog clam.

Photos By Tom Taylor
There’s mud to be washed off, maybe barnacles to be scraped off—and if there was algae on the shell, it will still be there. A half-and-half solution of Clorox and water takes it off. Here we ran into the in-and-out side. Either way, rubber gloves are advisable. After the shell has been in the bleach solution, the algae will still be there—but now you can rub it off with a brush. We use a toothbrush.

A final step is to rub the shell with baby oil or light mineral oil to bring back its natural sheen. "Empty" shells from the beach need the oil too. (Sanibel probably buys more mineral oil per capita than any other community in the U.S.)

There are still other ways to get shells. Mollusks live in from two to 20 feet of water. Skin divers can find the deep ones. Then there’s night collecting—turning over rocks at low tide or digging in the sand while you juggle a flashlight. This can be rewarding since mollusks are especially active at night.

Some collectors just buy their shells. Getting back to our fishing analogy, this strikes us as pretty much like stopping at the fish market on the way home from the lake.

One final problem not only remains but gets worse as time goes by—and that’s the question of what to do with all those shells. Some collectors build special display cases or mount their shells to be hung on the wall like pictures. Ours are on shelves and table tops, and we’re running out of display space. So far, we’ve staved off the dilemma by giving shells to northern friends. They’re delighted—and to us, the suddenly empty display shelves constitute a license to go back to Sanibel Island for more shells.

"Empty" shells from the beach need the oil too. (Sanibel probably buys more mineral oil per capita than any other community in the U.S.)

Alphabet cone, left, is a cousin of poisonous and valuable glory-of-the-seas of Philippines and Indonesia. This Florida cone is a menace only to other mollusks, and prized for beauty. It is a shell, however, a bit harder to find. The same wrasses which feed trees along Captiva beach, above, just cross the bridge from Sanibel, will bring new shells from the Gulf with every tide. Some can be seen at lower right.

Old bottles salvaged from refuse will be used in the years to come to pave streets, build and insulate homes and to make new bottles.

Mr. Cheney told Subcommittee members that the glass container industry has concluded that there are "more potential uses for waste container glass than there is glass available from refuse now or in the predictable future." GCMI and its member companies are currently exploring the means and economics of establishing pilot glass retrieval programs in one or more urban areas, he added.

Mr. Cheney said that GCMI is sponsoring research to develop mechanical means of separating bottles and jars from refuse and then sorting it by color for re-cycling it back into the bottle making process. He added that as much as 30 percent of the raw materials for manufacturing new bottles could consist of salvaged glass.

Mr. Cheney said that GCMI has cooperated with the U. S. Bureau of Mines "on its successful development of the means of magnetically separating the glass and metal fractions from incinerator residues. The Bureau also has developed the technology for converting the salvaged glass into building bricks and glass wool insulation. With color sorting and automatic removal of contaminants, which appear to be feasible, this glass could also be used as cullet to make new bottles."

An even larger potential exists in the use of crushed waste glass as aggregate in glassphalt, a product being developed by the University of Missouri, at Rolla, Missouri, in which crushed glass substitutes for crushe limestone in asphalt for paving streets. Mr. Cheney said. He added that estimates indicate that the need for aggregate in most cities would far exceed the available glass.

"The ultimate solution, of course, should be the separation of all the component out of waste and returning them for re-use to their respective industries—such as paper back to paper mills, aluminum back to smelters, and scrap iron back to foundries," Mr. Cheney said.

"We believe that conservation of raw materials demand salvage and that the long-range, efficient management of waste calls for re-use," he continued.
Camping - Camping is permitted on most wildlife management areas, however, such camp sites, or a usage is controlled by special regulations. Camping may be restricted to designated areas on opening weekend at Citrus Wildlife Management Area; and for designated Bear Management Areas. Stamps may be purchased from County Judges or their authorized sub-fish, 15. Florida residents 65 and over are exempt.

Hunt Permits - Hunt Permits are required to hunt on any wildlife management area, however, such permits may be obtained as outlined in detailed regulation and must be signed, must be in the hunter’s possession while he is within a wildlife management area and participating in a hunt, and must be displayed upon request of a Wildlife Officer or other Commission personnel. Stamps must be signed by the bearer, in ink, on the face side.

Taking Wildlife - The taking of any wildlife or fresh water fish is prohibited on any wildlife management area unless specifically authorized by the regulations established for the particular area.

Camping - Camping is permitted on most wildlife management areas, however, such usage is controlled by special regulations. Camping may be restricted to designated campgrounds, or a landlord permit may be required. On some areas, including those on National Forest lands, camp structures are prohibited but campers may use tents, trailers, or camping vehicles. For details, see the regulation and map folder for each management area.

Guns on Wildlife Management Areas - Regulations prohibit the possession of guns on management areas except during the open season established for the particular area. However, unless otherwise provided in area regulations, hunters with guns may enter those management areas where camping is allowed after 8:00 a.m. on the day preceding the opening of the area to hunting. All guns must be removed from these areas by 6:00 p.m. on the day following the closing of the area to hunting. Special restrictions regarding the use of rifles in certain shingal shell shot sizes apply on some areas. The possession of dogs on any management areas after legal shooting hours or on days when hunting is not permitted.

Dogs on Wildlife Management Areas - Dogs may be used for hunting on any management areas, however, their use is restricted or prohibited on certain management areas, and on portions of some areas. Read the regulation and hunt map folder for each management area for detailed information. The possession of dogs on any management areas prohibited during the closed season. Dogs used on management areas must wear a collar bearing the name and address of the owner.

Checking Stations - On those wildlife management areas where checking stations are maintained, hunters must check in and out and must report their kill to a checking station operator when leaving.

Spoil - Any vehicle or other transportation device may be searched when entering, while in, or when leaving a wildlife management area.

Fire - On some wildlife management areas all fires are prohibited, however, where camping is allowed, campfires are permitted.

FLORIDA WILDLIFE

WILDLIFE MANAGEMENT AREAS - GENERAL REGULATIONS

Management Area Stamp - A Public Hunting Management Area Stamp is required, in addition to regular hunting license requirements, to hunt on any wildlife management areas. Stamps may be obtained in the county where the individual lives or from a designated Wildlife Officer during the hunting season. A Public Hunting Management Area Stamp is required, in addition to regular hunting license requirements, to hunt on any management area during the hunting season. Hunters must check in and out and must report their kill to a checking station operator when leaving. The possession of loaded guns is prohibited on any management areas after legal shooting hours or on days when hunting is not permitted.

Managers/Commissioners will not be allowed to hunt on management areas while in the capacity of a manager/commissioner.

Details, including areas, seasons, and rules, are provided on the management area maps included in this guide.

It is illegal to transport or sell a wild animal without proper documentation.

Camping is not allowed.

Permits are required to hunt on any management areas where checking stations are maintained. Hunters must check in and out and must report their kill to a checking station operator when leaving.

Archery Permits - Archery Permits, in addition to regular hunting license requirements, are required on some management areas. The possession of loaded guns is prohibited on any management areas after legal shooting hours or on days when hunting is not permitted.

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Checking Stations - On those wildlife management areas where checking stations are maintained, hunters must check in and out and must report their kill to a checking station operator when leaving.

Spoil - Any vehicle or other transportation device may be searched when entering, while in, or when leaving a wildlife management area.

Fire - On some wildlife management areas all fires are prohibited, however, where camping is allowed, campfires are permitted.
**1970 Wildlife Management Areas**

**Western Zone**

1. St. Regis Wildlife Management Area
   - **Open Season:** Hunting—November 21 through January 24.
   - **Legal to Take:** All legal game (except deer), including wild hogs, and unprotected fur-bearing animals (except beaver). Deer: 1 per day, 2 per season.

**1971**

**Archery Season**

- Hunting—November 21 through December 6, and December 19 through January 3.
- **Legal to Take:** All legal game (except bear and turkey), including wild hogs, and unprotected fur-bearing animals (except beaver). Migratory game birds may be taken during applicable open seasons.
- **General Regulations:** No rifles or pistols allowed. Shot smaller than No. 3 buckshot prohibited for hunting deer.

**Small Game Season**

- **Open Season:** Hunting—January 4 through March 7.
- **Legal to Take:** Quail, squirrel, rabbit, and migratory game birds (during applicable open seasons).
- **General Regulations:** No rifles or pistols allowed. Shot larger than No. 6 prohibited.

**Early Dove Season**

- During the first phase of the season, the hunting of mourning doves is permitted on designated plots on Wednesdays and Saturdays. A special $1.00 daily permit is required. Shot larger than No. 6 prohibited.

**Gun Season**

- **Open Season:** Hunting—March 20 through April 4.

**Federal Regulations**

- **Archery Season:** Hunting—September 12 through October 2.
- **Legal to Take:** All legal game, fish, frogs, and fur-bearing animals.

**Spring Gobbler Season**

- **Open Season:** Hunting—March 20 through April 4.

**Eglin Field Area/continued**

**Archery Season**

- Hunting—September 12 through October 2.
- **Legal to Take:** All legal game, fish, frogs, and fur-bearing animals.

**General Regulations:**

- Restricted camping permitted.
- No rifles allowed.

**Spring Gobbler Season**

- **Open Season:** Hunting—March 20 through April 4.
- **Legal to Take:** All legal game, fish, frogs, and fur-bearing animals.

**General Regulations:**

- Restricted camping permitted.
- No rifles or pistols allowed. No buckshot or shotgun slugs allowed.

**Summer Hunt**

- **Open Season:** Hunting—July 1 through August 31, 1970.
- **Legal to Take:** Bobcat, raccoon, opossum, and red and gray fox.

**General Regulations:**

- Hunting permitted only on portions of the area designated on Air Force maps.
- No firearms permitted; hunting with dogs only.
- 2. Dogs other than bird dogs prohibited.
- 3. Special permit required for each day of hunting.

**On these Wildlife Management Areas where checking stations are maintained, hunters must check in when entering, and, when leaving, must report hunting kills to the attendant on duty. On all other Management Areas, hunters are requested to have their hunting kills checked at Area Hunt Headquarters. (See Area map and summary.)**

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**4—Point Washington Wildlife Management Area**

- **Open Season:** Hunting—November 21 through January 24.
- **Legal to Take:** All legal game (except bear), including wild hogs, fish, frogs, and fur-bearing animals.

**General Regulations:**

- 2. Hunting and fishing maps and regulations may be obtained by writing to: ADTC (AERUW) Natural Resources Branch, Eglin AFB, Florida 32542.
- 3. Hunting and fishing permitted only on portions of the area designated on Air Force maps.
- 4. Camping permitted at designated areas by special permit only.
- 5. Open fires prohibited except at designated campsites.
- 6. Trapping of unprotected fur-bearing animals (except beaver) permitted by special permit from March 1 through March 31.

**5—Ginnie Field Wildlife Management Area**

- **Open Season:** Hunting—November 21 through March 7.
- **Legal to Take:** All legal game (except bear), fish, frogs, and fur-bearing animals.

**General Regulations:**

- 1. Hunting and fishing permitted.
- 2. No rifles or pistols allowed.
- 3. Dogs other than bird dogs prohibited.
- 4. The possession or use of centerfire rifles or shotgun shells containing shot larger than No. 6 prohibited.

**6—U. P. Barker Wildlife Management Area**

- **Open Season:** Hunting—November 21 through January 24.
- **Legal to Take:** All legal game (except bear), fish, frogs, and fur-bearing animals.

**General Regulations:**

- 1. Hunting permitted on specified areas during first phase of dove season.
- 2. Dogs other than bird dogs prohibited.
- 3. The possession or use of centerfire rifles or shotgun shells containing shot larger than No. 6 prohibited.

**7—Edward Ball Wildlife Management Area**

- The newly established Edward Ball Wildlife Management Area will not be open to hunting during the 1970-71 hunting season.

**8—St. Vincent Wildlife Management Area**

- (St. Vincent National Wildlife Refuge)
- **Fishing and other use will be in accordance with regulations of the Department of the Interior, Bureau of Sport Fisheries & Wildlife.

**9—Liberty Wildlife Management Area**

- **Open Season:** Hunting—November 21 through January 24.
- **Legal to Take:** All legal game, fish, frogs, and fur-bearing animals.

**General Regulations:** Restricted camping permitted.

**Spring Gobbler Season**

- **Open Season:** Hunting—March 20 through April 4.

**General Regulations:** Restricted camping permitted.

**Archery Season**

- **Open Season:** Hunting—September 12 through October 2.
- **Legal to Take:** All legal game (except bear), fish, frogs, and fur-bearing animals.

**General Regulations:**

- 1. Hunting permitted only on portions of the area designated on Air Force maps.
- 2. No rifles or pistols permitted; hunting with dogs only.
- 3. Dogs other than bird dogs prohibited.
- 4. The possession or use of centerfire rifles or shotgun shells containing shot larger than No. 6 prohibited.

**10—Lemon-Sulfate Wildlife Management Area**

- **Open Season:** Hunting—November 21 through January 24.
- **Legal to Take:** All legal game, fish, frogs, and fur-bearing animals.

**General Regulations:** Restricted camping permitted.

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The location of Wildlife Management Areas, by number, appears on map, page 16. Detailed maps and COMPLETE REGULATIONS for individual Areas may be obtained, after September 1, 1970, from Commission Offices listed on page 3, or at the Management Areas during the Areas' open seasons for hunting.
Florida hunting and fishing regulations and licenses are in effect from July 1, 1970 through June 30, 1971. Licenses are issued from the offices of County Judges and from their authorized sub-agents.

**Central Zone**

13—Aucilla Wildlife Management Area

Open Season: Taylor County Portion: Hunting—November 14 through January 17.

Trapping—January 18 through March 1.

Fishing and Fregging—Permitted throughout the year.


Trapping—January 18 through March 1 north of U.S. 98.

Fishing and Fregging—Prohibited south of U.S. 98.

Legal to Take: All legal game (including wild hogs), fish, frogs, and fur-bearing animals.

Wild hogs—Except in the following places:

The Western Sloops in Jefferson County, bounded on the east by the Wakulla River and otherwise bounded northerly and westerly by the St. Joe Paper Company fence.

General Regulations: Restricted camping permitted.

Spring Gabbler Season

Open Season: Hunting—March 20 through April 4.

General Regulation: Hunting prohibited in that portion of the area south of U.S. 98 in Jefferson and Wakulla counties.

14—Tide Swamp Wildlife Management Area

Open Season: Hunting—November 14 through January 17.

Trapping—January 18 through March 1.

Fishing and Fregging—Permitted throughout the year.

Legal to Take: All legal game (including wild hogs), fish, frogs, and fur-bearing animals.

General Regulations:
1. Restricted camping permitted.
2. No dogs allowed, except that waterfowl retrievers may be transported through the area to the coast for waterfowl hunting.

Spring Gabbler Season

Open Season: Hunting—March 20 through April 4.

Federal migratory bird hunting dates and regulations for Marsh Hens (rails & gallinules), Snowing Dove, Waterfowl (ducks & coot), Snipe, and Woodcock, as set by the U.S. Fish & Wildlife Service, during July and August, will be published as a separate summary, available by September 1, 1970.

15—Steinhatchee Wildlife Management Area

Open Season: Hunting—November 14 through January 17.

(Quail and squirrel through February 28).

Trapping—January 18 through March 1.

Fishing and Fregging—Permitted throughout the year.

Legal to Take: All legal game (except bear), including wild hogs, fish, frogs, and fur-bearing animals.

General Regulation: Restricted camping permitted.

Spring Gabbler Season

Open Season: Hunting—March 20 through April 4.

General Regulation: Camping prohibited.

16—Gulf Hammock Wildlife Management Area

Open Season: Hunting—November 14 through January 17.

(Wild hogs through December 3 only.)

Trapping—January 18 through March 1.

Fishing and Fregging—Permitted throughout the year.

Legal to Take: All legal game (except bear), including wild hogs of any size, fish, and fur-bearing animals.

General Regulation: Restricted camping permitted.

Spring Gabbler Season

Open Season: Hunting—March 20 through April 4.

General Regulation: Restricted camping permitted.

17—Citrus Wildlife Management Area

Open Season: Hunting—November 14 through January 17

(Quail and squirrel through February 28).

Fishing and Fregging—Permitted throughout the year.

Legal to Take: All legal game, fish, frogs, and fur-bearing animals.

General Regulations:
1. Restricted camping permitted.
2. Special Gun Hunt Permit required for November 14 & 15 only. No more than 1200 hunters may participate in opening weekend hunt.
3. Dogs other than bird dogs prohibited. Bird dogs permitted January 18 through February 28 only.
4. Rifles and shotgun shells containing shot larger than No. 6 prohibited January 18 through February 28.

Archery Season

Open Season: Hunting—September 12 through October 2.

Legal to Take: All legal game, fish, frogs, and fur-bearing animals.
22—Nassau Wildlife Management Area

Open Season: Hunting—November 14 through January 17. (Quail and squirrel through February 28.)

Trapping—January 18 through March 1.

Fishing and Frogging—Permitted throughout the year.

Legal to Take: All legal game (including wild hogs), fish, frogs, and fur-bearing animals.

General Regulations:
1. Restricted camping permitted.
2. Dogs other than bird dogs prohibited in that portion of the area bounded on the north by the St. Marys River, on the east by State Road 115-A, and on the south and west by Woods Road 43. Dogs other than bird dogs prohibited in the entire management area after January 17.

Spring Gobbler Season

Open Season: Hunting—March 20 through April 4.

Fox Hunting Season

Open Season: Hunting—August 3 through October 31.

General Regulations: Guns prohibited.

23—Lake Butler Wildlife Management Area

Open Season: Hunting—November 14 through January 17.

Trapping—January 18 through March 1.

Fishing and Frogging—Permitted throughout the year.

Legal to Take: All legal game (except turkey), fish, frogs, and fur-bearing animals.

General Regulations:
1. Camping prohibited. No fires allowed.
2. No dogs or guns permitted in the area bordered by State Road 231 and Woods Roads 4, 5 and 9.
3. No dogs allowed south of State Road 100.

24—Camp Blanding Wildlife Management Area

Open Season: Hunting—November 14 through January 17.

The area west of State Road 225 and north of State Road 230 will be open November 14 through November 22; closed November 23 through January 17. Wild hogs may be hunted south of State Road 16 November 14 through November 22 only. Fishing—Permitted only in Fish Management Area lakes.

Legal to Take: All legal game (except turkey), including wild hogs of any size, and fur-bearing animals.

continued on next page

General resident game hunting season information for 1970-1971, including bag limits, licenses, archery seasons, and bear hunts, appear on pages 4 and 5, this issue of FLORIDA WILDLIFE.

26—Lakeland Wildlife Management Area

Open Season: Hunting—November 14 through January 17. (Quail and squirrel through February 28.)

Trapping—January 18 through March 1.

Fishing and Frogging—Permitted throughout the year.

Legal to Take: All legal game (except turkey), including wild hogs, fish, frogs, and fur-bearing animals.

Wild hogs—in Alachua County only.

General Regulations:
1. Camping prohibited.
2. No fires allowed.

Spring Gobbler Season

Open Season: Hunting—March 20 through April 4.

General Regulations:
1. Camping prohibited.
2. No fires allowed.

27—Fort McCoy Wildlife Management Area

Open Season: Hunting—November 14 through January 17.

Fishing and Frogging—November 14 through January 17.

Legal to Take: All legal game, fish, frogs, and fur-bearing animals.

General Regulations: Restricted camping permitted. No rifles or pistols allowed.

28—Ocala Wildlife Management Area

Open Season: Hunting—November 14 through January 17.

Fishing and Frogging—November 14 through January 17.

Legal to Take: All legal game (except bear), fish, frogs, and fur-bearing animals.

General Regulation: Restricted camping permitted.

Archery Season

Open Season: October 3 through October 25.

Legal to Take: Deer of either sex, quail, turkey, squirrel, and unproctected fur-bearing animals.

Spring Gobbler Season

Open Season: Hunting—March 20 through April 4, only in that portion of the area north of State Roads 314 and Forest Road 86.

General Regulation: The possession or use of rifles, or shotgun shells containing shot larger than No. 4, prohibited.

Camp Blanding Area/continued

General Regulations:
1. Camping prohibited.
2. Hunters must check in and out at checking stations.
3. Dogs other than bird dogs prohibited in that portion of the area north of State Roads 16 and 215 and west of State Road 225 and north of State Road 230.

Archery Hare

Open Season: Hunting—October 10 & 11, 17 & 18, and 24 & 25.

Legal to Take: Deer with at least one antler five or more inches in length, bear, quail, squirrel, wild hogs, and unprotected fur-bearing animals.

General Regulation: Hunting permitted only in that portion of the area north of State Roads 16 and 215. Checking Station No. 2 will be open.

25—Gunn River Wildlife Management Area

Open Season: Hunting, Resident Game—November 14 through January 17. Waterfowl—Wednesday, Saturdays and Sundays (and November 26 & 27, December 25, 1970, and January 1, 1971) within Federally established season. Fishing—Permitted November 14 through January 17. Fishing on Lake Ponte Vedra permitted under Fish Management Area Regulations. During winterwater season, fishing will be permitted only from 12:00 Noon to one hour after sunset.

Legal to Take: All legal game (including wild hogs), fish, frogs, and fur-bearing animals.

General Regulations:
1. Camping prohibited.
2. No rifles allowed.
3. Motors larger than 6 hp, and airboats prohibited on Lake Ponte Vedra.
4. Dogs other than waterfowl retrievers prohibited.
5. Waterfowl may be hunted only from one-half hour before sunrise to 12:00 Noon.

Archery Season


Legal to Take: Wild hogs.

General Regulation: Restricted camping permitted.

It is unlawful for any person to throw or dump refuse or rubbish of any kind on any highway or public lands, or on any private property without the owner’s prior consent. This law (Chapter 621.16, Florida Statutes) carries fine of up to $50.00 for the first offense and provides for enforcement by any law enforcement officer in the state.

29—Tomoka Wildlife Management Area

Open Season: Hunting—November 14 through January 17.

Fishing—Permit from landowner required.

Frogging—November 14 through January 17.

Legal to Take: All legal game, fish, frogs, and fur-bearing animals.

General Regulations:
1. Restricted camping permitted.
2. No rifles allowed north of U.S. 92.

Spring Gobbler Season

Open Season: March 20 through April 4, only in that portion of the area north of U.S. 92.

General Regulation: Restricted camping permitted.

Managed Deer Hunts

Open Season: Hunting—September 22, 23 & 24; September 25, 26 & 27; September 29, 30 & October 1; and October 2, 3 & 4, in Hudson Tract.

Legal to Take: Bear.

General Regulations:
1. Each group (of not more than 17 persons) must obtain a $50.00 permit, and each person in the party must also possess a regular hunting license.
2. Rifles, or shotguns smaller than 16 gauge, prohibited.
3. Restricted camping permitted.

Polk State Hunt

Open Season: Hunting—November 14 through January 17.

Fishing—Permit from landowner required.

Frogging—November 14 through January 17.

Legal to Take: All legal game, fish, frogs, and fur-bearing animals.

General Regulation: Restricted camping permitted.

30—Fernandina Wildlife Management Area

Open Season: Hunting—November 14 through January 17.

Fishing—Permit from landowner required.

Frogging—November 14 through January 17.

Legal to Take: All legal game (including wild hogs), fish, frogs, and fur-bearing animals.

General Regulations:
1. Restricted camping permitted.
2. Rifles other than .22 caliber rimfire prohibited.

The 40 page summary of 1970-1971 Fresh Water Fishing & Hunting Sales and Regulations, including Wildlife and Fish Management Areas, with color illustrations, may be obtained, after July 15, 1970, at offices of County Judges, and Commission offices listed on page 2.
Florida’s Fish Management Areas

Copies of regulations applying to each fish management area are available at the Tallahassee and regional offices of the Game and Fresh Water Fish Commission and at the offices of the County Judges. General regulations applying to fish management areas are as follows:

1. No special license or permit is required to fish in Florida Fish Management Areas, but valid fishing licenses are required except for residents 65 years of age and older, and all children under 15, when fresh water fishing by any method.

2. The possession of fishing tackle is prohibited on any fish management area that is closed to fishing.

3. Daily bag limits and methods of taking fresh water fish shall be as generally established for the State except as provided for a particular fish management area.

4. Persons entering or leaving fish management areas having designated entry points shall enter or leave only at such designated points.

5. Any vessel, boat or other transportation device may be searched while in, leaving, or entering a fish management area.

6. Fishing is prohibited in those waters posted as closed to fishing on the fishing license and regulations of the Commission, or to such other special regulations as applying to particular fish management areas.

FISHING LICENSES

1970-1971

(issued from office of County Judge)

All Florida fishermen, except residents 65 years of age and over and children under 15, must possess a valid fishing license when fishing for game or non-game fish. No license shall be required of any resident who possesses documentation of eligibility for receiving federal, state or county public welfare program assistance, when fishing in county of residence with not more than three (3) poles or lines for non-commercial purposes.

<table>
<thead>
<tr>
<th>License Type</th>
<th>Annual Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident Fishing &amp; Hunting Combination</td>
<td>$10.50</td>
</tr>
<tr>
<td>Resident</td>
<td>$3.00</td>
</tr>
<tr>
<td>Non-Resident (15 years of age and over)</td>
<td>$8.00</td>
</tr>
<tr>
<td>Non-Resident 5-Day Continuous</td>
<td>$2.25</td>
</tr>
<tr>
<td>Non-Resident 14-Day Continuous</td>
<td>$3.25</td>
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31—Bull Creek Wildlife Management Area

Open Season: Hunting—November 14 through January 17. Fishing and Faming—Permitted throughout the year.

Legal to Take: All legal game (including wild hogs), fish, frogs, and fur-bearing animals.

General Regulations:
1. Camping prohibited.
2. Rifles and pistols prohibited.
3. Special permit required November 14 through November 22. No more than 105 hogs per day may participate. A maximum of six permits per vehicle will be issued on a first-come-first-served basis from November 23 through January 17.

Spring Gobbler Season

Open Season: Hunting—March 6 through March 21.

Archery Season

Open Season: Hunting—September 12 through October 2.

Legal to Take: All legal game (including wild hogs), fish, frogs, and fur-bearing animals.

Southern Zone

32—Arun Peck Wildlife Management Area

Open Season: Hunting—October 31 through January 3, Sundays only. Fishing and Foggling—October 31 through January 3, Sundays only.

Legal to Take: All legal game (including wild hogs of any size), fish, frogs, and fur-bearing animals.

General Regulations:
1. Hunters must check in and out at checking stations. Hunters may enter the area at 8:00 A.M. and must leave by 8:00 P.M. each open hunt day.
2. Possession of rifles, or pistols with telescopic sights, prohibited.
3. Horses prohibited.
4. Dogs prohibited north of the main road from Main Bose to Fort Kissimmee.

Spring Gobbler Season

Open Season: Hunting—March 6, 13 & 20 only.

General Regulations: Hunters must check in and out at checking stations and must leave the area by 7:00 P.M. each open hunt day.

33—Cecil M. Webb Wildlife Area

Open Season: Hunting—October 31 through February 21. (Deer and wild hog season closes January 3. First nine days open; Mondays, Tuesdays and Fridays closed thereafter.)

Fishing and Faming—Permitted throughout the year.

Legal to Take: All legal game (including wild hogs), fish, frogs, and fur-bearing animals.

General Regulations:
1. Restricted camping permitted.
2. No rifles allowed.
3. Hunters must check in and out at checking stations. Checking Station No. 2 will be open first nine days; Saturdays and Sundays only thereafter.

34—Lyons Bros. Fishing Creek Wildlife Management Area

Open Season: Hunting—October 31 through January 3.

Fishing and Faming—Permitted throughout the year on unlocked portions.

Legal to Take: All legal game (including wild hogs), fish, frogs, and fur-bearing animals. The taking of hen turkeys prohibited.

General Regulations:
1. Restricted camping permitted.
2. No rifles allowed.
3. Mizzell island portion and Rainy Slough area west of Tasmania Grade closed.
4. Airboats prohibited.
5. Dogs other than bird dogs prohibited.
6. Use of horses for hunting prohibited.

Archery Hunt

Open Season: Hunting—September 12 through October 2.

Legal to Take: All legal game (including wild hogs), fish, frogs, and fur-bearing animals. The taking of hen turkeys prohibited.

General Regulations:
1. Restricted camping permitted.
2. Dogs prohibited.
3. Hunting permitted in the Mizzell Island portion only.

Southern Zone

35—J. W. Curtiss Wildlife Management Area

Open Season: Hunting—October 31 through January 3.

Fishing and Foggling—October 31 through January 3.

Legal to Take: All legal game (except turkey), including wild hogs, fish, frogs, and unprotected fur-bearing animals. Wild hogs may be hunted until 105 have been taken, after which the season on wild hogs will be closed until December 25, at which time wild hogs may again be hunted until 50 have been taken, or through January 3.

General Regulations:
1. Restricted camping permitted.
2. Hunters must check in and out at checking station.
3. No airboats allowed.
4. Dogs other than bird dogs prohibited January 4 through February 21.

Archery Season

Open Season: Hunting—September 12 through October 2.

Legal to Take: All legal game (except turkey), including wild hogs, fish, frogs, and unprotected fur-bearing animals.

Spring Gobbler Season

Open Season: Hunting—March 6 through March 21.

General Regulations: Hunters must check in and out at checking stations and must leave the area by 7:00 P.M. each open hunt day.

36—Encyclopedia Wildlife Management Area

Open Season: Hunting—The Encyclopedia Wildlife Management Area will be open only during the Federally established waterfowl hunting season.

Fishing and Foggling—Permitted throughout the year.

Legal to Take: Waterfowl, fish and frogs. The taking of otters is permitted.

General Regulation: Camping permitted.

37—Okefenokee Wildlife Management Area

Open Season: Hunting and Fishing—October 31 through January 3.

Fishing and Foggling—Prohibited at all times.

Legal to Take: All legal game, fish, and fur-bearing animals.

General Regulations: Camping permitted.
Most serious fishermen seem to stick to one target at a time. A bass angler will consider a crappie an interloper, a mudfish a nuisance, and a gar an insult. This paradox occurs even though these incidental catches may be made by the same method and in the same waters where the prime objective is being sought. A mudfish, or grindle, puts up a fight worthy of a bass, but seldom appreciated. Many anglers head out with just "one target" in mind, and grumble when a different type of fighting fish strikes. I'd have some top-notch pictures. The upshot of the expedition was that I sat with a camera on ready for half a day with no mudfish action at all. The bass fishing was fine. Mudfish don't always hit, even though they've been doing it for days. Finally my friend caught one, considerably embarrassed that he hasn't done better.

Although they are bottom operators for the most part, capable of hiding in bottom ooze and able to live in water with very little oxygen, mudfish will slap the stuffing out of artificialis on occasion, even surface baits, if the water is shallow. In most cases they don't come up a great distance to hit a surface lure, but they will follow a deep runner up from the bottom and hit it on top.

If I were out to catch mudfish on a typical Florida river and used artificials, I'd look for shallow backwaters, preferably with mud bottoms. Mudfish frequently hang in those spots in very shallow water. Natural bait on the bottom is more reliable than lures, though.

I believe mudfish are less persnickety than bass about the time of day they feed. Eugene W. Miller of Dayton, Ohio, writes that he used to fish for bass morning and evening at Bass Galore Village, Dunnellon—and spend the middle of the day fishing for mudfish and gars. He'd fish in about eight feet of water through the hyacinths and use a dead minnow on the bottom. While engaged in that placid pastime, Mr. Miller says, he hooked and landed a mudfish that weighed 18½ pounds. It was a little hard on his landing net. That's a big bowfin.

A big bowfin puts up a hard fight but if you have been catching a few of them you can tell it's a mudfish instead of a bass. More of a series of tugs and less running. However, if it's been a long time since I've hooked a mudfish I generally take one for a bass.

There are some big gars in Florida but it doesn't have to be an "alligator gar" to be pretty healthy. The size reached by the longnosed and shortnosed gars is a little vague, and since they aren't closely followed in gamefishing circles, records aren't kept. Most gars are taken on natural baits but I've caught many on plugs and popping bugs. Smaller gars make flopping jumps but I'm not overly impressed by their fighting qualities. The big alligator gars that

(Continued on next page)

PHOTOS BY CHARLES WATERMAN

MAY, 1970
smaller gars are great followers, often fascinated by habit of sliding along behind it with the dorsal back are tough through sheer weight. Most of the gar activity, although the out of the water. This is a little reminiscent of pickerel activity, although the gar, more often than not, will catch the lure picked up without striking. Most of the gar strikes are simply chopping bites with the fish moving about the same speed as the lure. The take is slow. In fact, I don't think a gar can swim very fast. They're hard to unhook without pliers. They don't snap like a bluefish but they have plenty of teeth and have a habit of twisting in a net. They've ruined a lot of cork and balsa bugs for me. They don't snap like a bluefish but they have plenty of teeth and have a habit of twisting in a net. They've ruined a lot of cork and balsa bugs for me.

Chain pickerel are frequent customers when you're fishing for bass in very weedy or grassy waters. Pickerel like spoons, spinners, pork rind, and pork chunk. A wiggler with a little spinner that goes chop-chopping along on the surface is hard for a pickerel to swim away from. They fight well and are very fast. They're hard to unhook without pliers. You could do a lot worse than a string of pickerel.

The warmouth perch is another of the inconsistent salt water fish. It's engineered, but the warmouth is a bit reminiscent of my buddy the green sunfish, which we always called black perch back in the Midwest.

Anyway, after catching a few warmouth from time to time for twenty years and running into swarms of them occasionally, I figured I had their number—fairly small fly rod popping bug worked slowly, or a small spinner with a little fly back of it on a spinning rod. When I heard they were plopping like raindrops on a nearby slough and everybody was catching them on worms I just got ready to go.

"May not hit artificials," said a friend.

Such a ridiculous thought didn't merit an answer so I gave him a superior smile, and checked if I had a good stringer along. I spent half a day working popping bugs over plopping warmouths. I tried them with streamers, small wet flies, and spinning lures. Nothing!

"They've never taken artificials there," said my friend.

I asked him why, but he didn't help me. Evidently he felt his other information was sufficient.

When you get into brackish areas, surprises are thicker than in fresh water. Salt water fishermen are traditionally scornful of anything they can't eat, with the possible exception of tarpon, which have attracted so many tourists and record hunters that they get some respect in the larger sizes at least. Still, I know many Floridians who cuss tarpon that have attracted so many tourists and record hunters that they get some respect in the larger sizes at least. Still, I know many Floridians who cuss tarpon that latch on when they're after channel bass or snook. This is a bit of left-handed psychology I have never quite understood.

I introduced one of the finest fishermen I know to brackish water tarpon and fought a really big one for an hour before losing it. He thought tarpon were the greatest fish of all until he went out with some more blust characters who told him they were trash fish, no good to eat, and strictly for tourists. Far as I know he hasn't deliberately tried to catch a tarpon since. I had always thought of the grouper as a bottom hugger, but I have seen black grouper jump like...
what they were and I threw a streamer fly to them, get instant action, and told him I’d rather stay right with that school. We did, but I caught him eyeing me suspiciously for the rest of the day. He’d never before encountered anyone who wanted to stick with a school of ladyfish when “real” fishing was just across the bay.

In my experience, ladyfish prefer a fast-moving lure, tend to get strike and completely out of range of a plug, and will chew a fly into anonymity with a couple of grabs. Nothing can kink a wire leader quite as hopelessly as a ladyfish—unless it’s a sole-hooked ladyfish.

Can’t say I ever went out purely to catch ladyfish—but can’t say I ever left a big school when they were striking. Biggest one I ever saw was caught over on the east coast near New Smyrna Beach. It took a plug and, strangely, didn’t jump very much.

The jack crevallae and its relatives (there are a whole lot of “jacks” of slightly different shapes and sizes) are probably the hardest fighting fish in the bays and oceans, but don’t jump. They get to great size, supposed to reach 70 pounds in some areas, and quite a few 40-pounders have been recorded in Florida waters. Any jack over 20 pounds is simply too much for the average spinning, plugging, or fly-fishing angler. A five-pounder is usually about all he wants, although I have seen some 20-pounders caught on medium tackle.

I saw one whopping jack hooked and played for a while down in Everglades National Park. He was hooked on 18-pound baitcasting line and with a light, direct-drive reel with nylon gears. The reel helped up a while but darkness was coming on, and we decided to force the fish since we had 20 miles to run to the dock. The reel finally froze up and we had to break it off.

The smaller jack digs for the bottom and lies flat against the pull of the line, much like a hooked bluegill. The big ones use their broad sides to fight the pull but aren’t apt to turn over on their beam ends unless the pulling gets heavy or they’re beginning to tire. They are among the hardest strikers of any fish I have tangled with, big ones cracking a surface plug with a loud pop, sounding like an outsized snook. A school of small jacks ripping into surface baitfish sounds like distant machinegun fire.

Jacks aren’t especially good to eat. Can’t say I ever ate one, although they are said to have a bloody, oily flesh, I’ve heard them compared to bluefish.

A school of jacks moves pretty fast and anybody who has chased them with a boat knows it isn’t easy to keep track.

In fresh water, catfish are seldom considered gamefish, simply because they don’t often take artificial. In salt water, the catfish is even more maligned. On most bridges and piers the occasional salt water catfish that comes aboard is often beaten to a pulp because the guy who caught him doesn’t know how to get the hook out. The ordinary salt water catfish doesn’t strike me as being a particularly combative citizen.

The other day I was drift fishing for salt water trout with another fellow who kept landing salt water catfish on a deep-going plug. They were all foul-hooked and we thought at first that there was a school of them so thick that you couldn’t pull the plug through. Finally, I came to the conclusion that they were interested in the lure, even though they didn’t strike it, and were probably milling around it and getting caught when my friend whipped his rod. But I have seen them so thick they couldn’t get out of the way.

The gafftopsail catfish is something else. Three of us once fished for snook in an inland bay where the water was only slightly salty. One of the party was unfamiliar with salt water fishing and inclined to handle his fish too gently. He had a booming strike and thought he had a big snook that refused to jump. The fish actually took out so much of his line that we started the motor and followed it. At long last we landed a big gafftopsail catfish, to my friend’s embarrassment. He needn’t have felt bad. The gafftop is quite a fish. It doesn’t jump but it will hit on top—with vengeance.

Despite an idea that salt water catfish shouldn’t be eaten, the gafftop is very good, hanging right in there with channel catfish, according to catfish gourmets. It’s streamlined in spite of its big mouth. Like some other fish its habits vary greatly with locale. I know of one bay deep in the mangrove Everglades where gafftops are likely to strike tarpon lures, scaring the stuff out of you when you’re expect ing a 100-pound tarpon. It’s been that way for years, but one angling authority considered it a very unusual occurrence when he hooked a gafftop on an artificial on the east coast.

The most beautiful aquatic show I ever saw was put on by gafftops. We were anchored in a bay on a very dark night with a houseboat and were throwing bread scraps to gafftops in water that gleamed with fluorescence. In their underwater turnings the gafftops were rim-lighted with an uneven glow that made them look like surrealistic fish, their streaming tails and long gills adding to the illusion. It was so dark there was little distinction between water and sky. The whole scene appeared unreal. Mudfish might have been almost as pretty.
CONSERVATION SCENE

Model Firearms Legislation

The National Shooting Sports Foundation has made a compilation of model firearms legislation, the Wildlife Management Institute reports.

The publication, intended for use by legislators, government agencies, sportsmen and conservationists, contains 20 pages, 11 × 81/2 inches, and gives examples of such laws as pre-emption in the field of gun registration and licensing, contiguous state purchases, hunter orange and hunter safety, lawful transport, constitutional provisions on the right to keep and bear arms, and mandatory penalties for crimes committed while armed. Editorial commentary accompanies each example presented.

The book is edited by Alan S. Krug, who, in his preface, recites presenting a paper on model firearms laws at the 1966 meeting of the Southeastern Association of Game and Fish Commissioners.

Firearms legislation possesses important policy implications for conservation action agencies, he told the commissioners, and urged them to take an abiding interest in it. Model firearms bills offer a means for conservationists and statesmen to become involved in the firearms controversy in a positive, constructive manner, he said.

The need for quality model firearms bills is greater than ever since hundreds of pieces of firearms legislation are being introduced in legislative bodies at every level of government. There are 35 state legislatures in session during 1970, and in many instances where new legislation recently has been enacted sportsmen are suffering under provisions of poorly drawn, unclear laws.

The book regards the California pre-emption law as the most important state firearms legislation passed in 1969. Under it, California occupies the entire field of regulation of registration or licensing of firearms, giving the state's gun owners uniform, statewide laws.

The book can be obtained, free of charge by writing to the National Shooting Sports Foundation, Inc., 1627 Post Road, Riverside, Connecticut 06878.

Litter and Pollution Drive

The Glass Container Manufacturers Institute unveiled plans for a massive, public-service-oriented advertising campaign to enlist youth in the war against litter.

GCMI said the plan evolved from a program announced late last year—but since radically changed—to combine anti-litter education with the promotion of soft drink bottles.

Richard L. Cheever, GCMI's executive director, explained that it was decided to restructure the advertising program after the original campaign entered its test-market phase "and we sensed an opportunity to lay the program even more closely to growing national concern for the quality of the environment." He said the "dry run" for the media campaign, which began early in January, has now been phased out.

"As restructured, this campaign will significantly expand the already substantial commitment to litter-prevention contained in the original program," Cheney said. "And there will be other important changes. In its new format, the program will emphasize the overall attributes of glass as a soft drink package."

The program was launched nationally May 21 with a network television special starring "The 5th Dimension" singing group. It included newspaper and other advertising, as well as spot television and spot network radio in 42 market areas. A second network TV special is scheduled for June 29, starring Liza Minnelli.

As previously planned, the campaign will be built around a new group formed by GCMI to reach the "teen and young adult generations. The group will be known professionally as "The Glass Bottle."" Cheney said the Glass Bottle group "will play a vital role in conveying our message to the under-30 generation. These talented young musicians will serve as anti-litter ambassadors to the nation's youth. And they will lend massive support to the soft drink industry's own litter-prevention efforts."

Other messages will highlight "the essential cleanliness and chemical imperviousness of glass. Also under consideration are messages showing the naturally abundant raw materials—mostly sand—from which it is made, its potential for reuse and its role in curbing pollution in the solid waste disposal process," Cheney said.

Member companies of GCMI account for more than 80 percent of the nation's production of glass jars and bottles.

Suddenly Comes the Dawn

IT WAS REFRESHING to read a syndicated news columnist's analysis, dailied Washington, D.C., in which the writer probed for an answer to why the crime rate in the United States is so high among those who have massive support to the soft drink industry's own litter-prevention efforts.

"Other messages will highlight anti-gun fanatics who have sought to prove that guns, and guns alone, are the root of America's rising crime rate."

"Surprisingly, this writer did not attack guns as the root of all evil. He noted that the same common law governs both countries, yet the United States is plagued with a crime rate for greater than that of the British Isles."

"The possible explanation, he pointed out, lies in the culture of the British people. One is reverence for the law, even though it might not be enforceable. The other is the certainty, not the severity, of punishment for violators."

A third factor is the respect British subjects have for their law enforcement officers. Hobbies are absolutely incorruptible, the writer says, as are members of Scotland Yard."

This reverence for the law and those who represent it is reflected in the case of a hobby who was punched by a youth he was trying to arrest for having stolen a bicycle. The youth was found guilty on both counts, sentencing him to 21 days in jail for the theft, and seven years for striking the officer.

What the writer brought to light at last long are the true causes of a rising crime rate in the United States. He may not have covered all of them, but the three he has singled out are among the most important.

There are other factors involved, to be sure, but the important thing is that, at long last, guns are not being blamed solely for the whole rotten mess.

Suddenly comes the dawn. Hopefully, the federal government, with its proposed gun registration and other restrictions as a panacea to the nation's crime problem will awaken in time to see the light.

Aldrich Retires

A. D. "Bob" Aldrich, 67, former director of the Florida Game and Fresh Water Fish Commission (1935-65) and for the last five years its superintendent of fish hatcheries, retired in April. His career in conservation work and administration spanned nearly 50 years.

Aldrich was born in Lake Mills, Wisconsin, and attended the University of Wisconsin. He accepted his first job in conservation in 1921 with the U.S. Bureau of Fisheries.

In 1936 he became fish hatchery superintendent for the Oklahoma Game and Fish Department. He later served with the Army Corps of Engineers, Tulsa Biological, before becoming director of Fisheries for the Oklahoma Fish and Game Department in 1945. He was superintendent of lakes and recreation before being selected the assistant directorship of the Oklahoma Department in 1952, the post he left to accept the Florida commissioner's position in April 1955.

Bob has been an active member of the American Fisheries Society since 1936. He is a charter member of the Inland Waters Conservation and has long been active in The Wildlife Society and numerous other conservation organizations. He has served in many advisory positions to both state and federal boards and agencies.

Aldrich is a past president of the International Association of Game, Fish and Conservation Commissioners (1938-39) and of the Southeastern Association of Game and Fish Commissioners (1964).

The retiring former director was twice honored in 1965—a farewell cookout party in Tallahassee, sponsored by the Fisheries Division, where he received a set of golf clubs and other gifts, along with the best wishes of his fellow employees, and in formal ceremonies at the opening of the Game and Fresh Water Fish Commission in Gainesville, where Chairman William Blake revoked his contributions to the profession, to conservation, to the State of Florida, and to the Commission during 15 years service. Blake then presented Aldrich with a framed resolution commending him for his long and faithful service.

The Aldriches, Bob and Ruth, now reside at 51 Leisure Street, Ridge Manor, Florida 33525.
Fish Management Notes

A two-day fish pathology workshop was conducted in Tallahassee in late February by Dr. William R. Rogers and John A. Plumb, research Associates of Fisheries, Auburn University, Auburn, Alabama. Attending were Commission fishery biologists and hatchery personnel.

Detection and identification of fish parasites and disease organisms was the primary workshop objective.

In the second-day session, held at Florida State University's zoology laboratory, Dr. Rogers explained that some fish for parasites should begin with a look at the gill structures and inside the mouth. He said these areas will usually indicate quickly any significant parasite problems.

From the visible external parasites he moved to the more difficult ones to locate, explaining to the group that internal parasites "specialize"; that various organs of the fish's body are likely to harbor specific kinds of parasite and disease organisms. He mentioned a number of examples and demonstrated by locating and identifying several common parasites from a largemouth bass taken from a local lake.

The workshop was arranged under provisions of the Cooperative Fish Parasite and Disease Study (D-J Project F-18-6), contracted by the Commission with Auburn University.

A one-week short course on the same subject was conducted at Auburn in March. Selected fishery biologists from Florida attended.

A detailed, on-site survey of the wholesale tropical fish handlers in southern Florida turned up a total of 167 such businesses, according to biologists Vernon Ogilvie of Palm Beach and John T. Buntz of Lakeland and Vernon Ogilvie of W. Palm Beach. The survey was completed in March.

In addition to getting a "headcount," the purpose of the survey was to learn which species of the non-native tropical fishes are raised in outdoor ponds and what problems to the state are associated with these fish handlers and their facilities.

"Of 166 places checked in the South Florida Region alone, the majority were fish farms; some were both raising and importing; and a few were importers only," said Buntz. "The business is growing quite fast," he added, "so the survey cannot really be called 'completed.' New ponds are being dug and new farms opened daily."

The predominant types of fish found in established ponds were live bearers: guppies, mollies, mosas, swordtails, etc., but some farmers were raising egg layers as well: tetras, barbs, danios, cichlasomes, gouramis, and other species.

"Very few, if any, effective drainage systems were observed," said Buntz. "On some farms the water level was at the edge of the surrounding dikes and each time it rains, non-native fish overflow into ditches and eventually get into natural streams. Other farms had satisfactory dams but to empty their ponds they pump the water into ditches that flow into public waterways."

During the survey, three piranhas, five electric eels, and 152 walking catfish were confiscated by Commission personnel.

On the basis of the survey findings, biologists recommended stricter licensing of all handlers of nonnative fish; tight, enforceable pond and drainage system specifications; broadening of the list of species for which a permit to possess is required; and greater penalties for illegal fish importations.

Many importers apparently are obtaining certain species of tropics without the required state permit simply by labeling their containers with the names of other species.

The exotic, or non-native, aquatic plants hydrilla, Eurasian watermilfoil, and water hyacinth continue to create tremendous problems for all users of Florida waterways, reports the chief of Fisheries.

One weapon in the fight against these other noxious vegetation was the implementation, in 1969, of a permit system for the importation, cultivation, and transportation of aquatic plants into or within Florida. The permits are issued by the Department of Air and Water Pollution. The Department of Agriculture and the Game and Fresh Water Fish Commission must, by law, approve each application before a permit is issued.

Another weapon was the authorization, also by the Department of Agriculture, for the use of motorboats revolting trust funds for aquatic weed research and control programs.

Dr. John W. Sites, Dean for Research at the Institute of Food and Agricultural Sciences, University of Florida, recently received Commission support—subject to the availability of funds—for a 3-year study project entitled, "Processing, Chemical Composition, and Nutritive Value of Aquatic Plants."

The water resource research center at the university, the Southwest Water Management District, and the Game and Fish Commission will jointly fund the study at an estimated total cost of slightly over $15,000 annually.

In order to sustain research work already being conducted by Dean Sites, the Commission, at its regular meeting at Gainesville in March, approved an agreement and the immediate expenditure of $7,000.00.

All parties concerned—conservationists, agricultural interests, and others—are optimistic about the future possibilities of converting noxious aquatic weeds to useful purposes as animal feeds and fish supplements. [Continued on next page]

Gun Model

Although very little can be "listed" in favor of a certain gun model—from assembly to action—it has become one of the favorites for sportmen.

By EDMUND MALCURN

The light, autoloading rifle's popularity was given impetus by the sudden release of thousands of surplus military models, for sale to members of the National Rifle Association through the Office of Civilian Marksmanship of the National Board for the Promotion of Rifle Practice, Washington, D.C.

The limited allotment was quickly consumed, and a long waiting list had to be set up against the time additional government surplus carbines might be made available.

Thousands wanted one for hunting, but others simply wanted a 30M1 because they had carried the rifle in World War II and liked it.

It is unlikely that Winchester, original developer of the military 30M1 Carbine, ever visualized its eventual use as a sporting firearm. The short-stroke, gas-operated carbine was created to Army Ordnance specifications primarily as a new, short, lightweight weapon intended to replace the hard-to-hit-with 45 caliber Model 1911 Automatic Pistol and other short-range, small military weapon models.

Accordingly, total weight was kept to 5½ pounds, barrel length to 18 inches, and the cartridge designed to be almost the ballistic equivalent of the old .32 Winchester self-loading cartridge.

The military cartridge features a rimless style brass cartridge, case-hardened with hard-nosed, jacketed type 120 grain bullet, suited to warfare but not acceptable to most state commissions for humane hunting.

Countless thousands of rounds of war surplus 30M1 Carbine military ammunition are now on the market. Average cost is close to $7.00 per round.

When war surplus 30M1 Carbine ammunition is purchased in quantity (the most economical way), sealed tins can often be had, each containing 600 rounds. I have never used such surplus ammunition from sealed containers that wasn't in perfect condition. The same cannot be said of some loose lots.

Norma was the first commercial ammunition maker to realize the potential market for a hunting load for the 30M1 Carbine. It made its bid with a soft-point, round-nosed bullet load. Remington and Winchester soon followed with their own versions.

These commercially manufactured sporting loads are now stocked by many sporting good stores.
Price per box of 100 rounds is in the neighborhood of $48.40, plus sales taxes.

Whether you use commercial grade sporting ammunition, or less expensive war surplus ammo, the ultimate cost of the wildeye shooting of the .30M1 Carbine—as with any other center fire rifle caliber—can add up alarmingly.

Reloading is the answer. It's very difficult for many why many first users of the .30M1 Carbine for deer hunting are changing back to the .30-30 caliber in Winchester and Marlin lever actions, and the even more powerful .386 caliber for which a variety of rifle models are chambered.

But the .30M1 Carbine makes a fine short range varminter and a good bed of the action in its modified military stock, or new substitute—especially as front of receiver—will result in further tightening of the action in the stock.

The standard .22 rifles with .22 Long rifle cartridges used by professional gunsmiths will do a satisfactory job. Aeglas, Micro-Bed and Bissonite—RT-88B are frequent choices.

In bedding the action in the stock, make sure you understand the step-by-step procedure before you start the job, and that, once tackled, you first, you if possible, to barrel, receiver, guard screw holes and other places where not rigidly cementing action and stock, together, as some shooters have mistakenly done.

The bedding of the action should be the last phase of the stock work. Any alteration or decorative work, as well as the final smoothing and finishing of the stock, should be behind you as you approach the action-bedding phase of the stock work. Any alteration or decorative work, as well as the final smoothing and finishing of the stock, should be behind you as you approach the action-bedding phase of the stock work.

Careful glass bedding of the action in its modified military stock's big blemish. Birchwood-Casey, Bob Brownell and Outer's Laboratories, help make stock finishing easy and fast. Just carefully follow the directions that accompany the products.

Of course, you avoid most of the time-consuming steel grade stock work which you purchase one of the better sporting models of the .30M1 Carbine. Stocks are usually already nicely shaped and finished, and without the ugly swell cutout of the military model.

Although not needed, because of the .30M1 Carbine's light recoil, a Pachmayr "White Line" recoil pad will serve to "dress up" either military or commercial version. Pachmayr also makes decorative pistol grip caps, as does Flaig, Inc.

A muzzle brake can easily be fitted to the .30M1 Carbine. The device will reduce the already modest recoil, and add distinction to the rifle. The Shuk-Cul, Johnson and other models all give nice appearance when installed.

Aluminum hand guards are available for those who prefer them. Personally, I don't want one; I much prefer the beauty of wood in this component.

Many military model .30M1 Carbines were made in a hurry without attempting to verify that barrel and receiver connected in proper alignment. Consequently, many of the little rifles require that the military rear sight be cranked far to one side for zero windage sighting-in. Others will not sight-in at all.

Fortunately, there is an easy solution. Williams Gun Sight Company, Davison, Michigan 48423, makes a receiver sight, "Guide" sight, that fits in the dovetail slot of the military sight. You simply remove the military rear sight by driving it out of its slot, then slip the "Guide" sight in the dovetailed recess and tighten two Allen-type holding screws.

With this substituted style of rear sight, you get the advantage of double windage adjustment, if needed, by using all of the windage adjustment provided by optional positioning of the new sight's base in the dovetail slot, and second, by making any additional needed windage adjustment in the aperture slide.

Since the "Guide" sight also allows twice the elevation adjustment of the military model's rear sight, elevation is not a problem. If however—as sometimes happens—a higher or lower front sight may be needed, the Williams firm can supply that, too.

Best bet is to replace the military front sight with a sporty-looking, practical 9/32" height ramp, screwed or sweating to barrel, and used with a front sight base height of .569 of an inch. All components are available from Williams.

The Williams model FP-30CAR side-attaching receiver sight can also be put on the .30M1 Carbine. It fastens to the left side of the receiver with two furnished 6-48 thread screws. I use this sight model, combined with a "Shorty" front sight ramp and Redfield "Sourdough" front sight.

When making new rear sight installation, careful grinding or filing off of the tip of the rear sights to move the tail is recommended. The tip of the rear sight will cover up most of your handgun, and application of cold bluing (like G-60 or Outer's) will further contribute to a neat job.

The technical point to keep in mind when putting new metallic sights on a .30M1 Carbine is to have a sight-line that clears the rifle's wood handguard, should you wish to retain that component when sporterizing the rifle.

Fortunately, different heights of sight bases can be had, both for normal hunting, and for those who give your sight supplier full description of your rifle, so that sights of needed height can be furnished.

(Continued on next page)
The mount gives off sets scope positioning that also line of bore.

Available are several practical scope mounts for the 30M1 Carbine. The S&K Insta-Mount comes in base form, machined to accept Weaver, Conetrol, Herter or United brand scope holding rings.

A really rugged mount is the Williams SM-740 side mount, combined with a special mounting plate. The mount gives offset scope positioning that also permits use of metallic sights in their normal position.

The Seventies will be the decade of conservation. City people are finding out that the wise use of natural resources is imperative for survival.

General magazines, the television networks and civic organizations have suddenly discovered conservation. Most of all, politicians are scrambling to get on the preservation bandwagon, and there is no doubt that 1978 will be the year of conservation acceptance by the public, in theory if not in action.

Hunters and fishermen started state fish and game agencies. They asked that they themselves be required to buy licenses and that the money support the state agencies. Even today, with two minor exceptions, hunters and fishermen are the sole support of state fish and wildlife agencies; no money comes from the public despite the fact that the sportmen funds provide protection and habitat for hundreds of species of non-game wildlife.

Hunters and fishermen, unique in all America, asked that their fishing reels, guns and ammunition be taxed so that funds could be increased for habitat development and the purchase of lands to be held in perpetuity for all Americans.

Hunters and fishermen imposed seasons and bag limits on themselves in order to give all a fair chance to crop game and fish without hurting the basic breeding stock of each species. The outdoorsmen formed national organizations to push for the wise use of our natural resources, such as the National Wildlife Federation, the Izaak Walton League of America, Ducks Unlimited and many others.

Now, after 70 years, who is going to be passed over and not given credit in this "Year of Conservation" by most of the mass media and politicians? You guessed it—the hunter and fisherman!

In fact, with the sudden rash of amateur preservationists, there is a good chance that the hunter will be the first attacked. These sudden discoverers will think that game can be stockpiled; they don't understand that hunters crop only the annual surplus and that no game species in America is in danger of being overharvested by sportmen.

It's up to every outdoorsman and the outdoor writers to see that hunters and fishermen are recognized for their leadership and magnificent crusades of the past seven decades. As for the host of newcomers to conservation, sportmen should say, "Welcome aboard." All Americans are needed in the fight to use our natural resources wisely.

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For that BIG ONE that didn't get away

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ELIGIBILITY REQUIREMENTS

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>WEIGHT</th>
<th>LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>LARGEMOUTH BASS</td>
<td>8 pounds or larger</td>
<td></td>
</tr>
<tr>
<td>CHAIN PICKEREL</td>
<td>4 pounds or larger</td>
<td></td>
</tr>
<tr>
<td>BLUEGILL (BREAM)</td>
<td>1 1/2 pounds or larger</td>
<td></td>
</tr>
<tr>
<td>SHELLCRACKER</td>
<td>2 pounds or larger</td>
<td></td>
</tr>
<tr>
<td>BLACK CRAPPIE</td>
<td>2 pounds or larger</td>
<td></td>
</tr>
<tr>
<td>RED BREAST</td>
<td>1 pound or larger</td>
<td></td>
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</tbody>
</table>

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 bait, in the presence of at least one witness. Permits use of metallic sights in their normal position.

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.