Florida Wildlife Scrapbook

NATURE NOTES

The Weasel has a healthy appetite. It will eat about one-third of its weight in meat every 24 hours. It is the most efficient predator in the animal world. Often attacking and killing prey twice its size. Rats, mice, ground squirrels, and rabbits are favorite meals.

Rats are the most prolific of all mammals. If living conditions are suitable, a female will breed throughout the year. Litters average from 5 to 12. Young according to the species; gestation period 22 days.

Rice Rat

Canada Goose

Except for parrots and vultures, geese and their relatives the ducks live longer than any other birds. 60 to 80 years old in captivity. Much less in the wild.

The Cover

Superbly equipped and able to take care of itself, the White-tailed Buck has qualities that excite the challenge of every deer hunt. Its existence is not threatened by hunting, as some "nonhunters" claim. See page 4.

From A Painting By Wallace Hughes

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FLORIDA WILDLIFE MAGAZINE • FLORIDA GAME AND FRESH WATER FISH COMMISSION

NOVEMBER, 1970
Hunting does not destroy the resource, as some nonhunters infer. Studies repeatedly show the hunters' annual harvest of deer under modern hunting regulations does not endanger the deer population as a whole. On the contrary, it helps maintain a healthy balance between the deer and the carrying capacity of the land on which they live. Thus, the sport helps perpetuate itself.

To a certain extent, hunting benefits agricultural interests and highway safety, too. Controlling the deer herd numerically reduces the fiscal pinch caused by crop-damaging deer in Florida every year, and it helps somewhat in curbing the number of motor vehicle collisions with deer on the state's highways, an increasing problem.

On this basis, increased hunter harvest is indicated for the future in some parts of Florida. This will probably involve liberalization of hunting regulations to allow more hunting of either sex deer. And who can argue it is not better for the sportsman to remove and use the harvestable surplus than to let nature do the job? The alternative is to relinquish control of the situation and watch one of the oldest natural laws on the books at work: survival of the fittest; death to the rest, for too many months to be fed means weakened animals and weakened, distressed animals mean greater susceptibility to the slow killers, disease and parasitism.

The hunting license buyer and his nonhunting counterpart are both on solid ground when they support liberalization of deer hunting regulations in specific areas when wildlife biologists recommend the thinning of a deer herd headed for overcrowding.

State harvest estimates for the 1969-70 season totaled approximately 42,000 deer—based on a random mail survey of resident licensed hunters at the close of the season. These deer were taken by some 130,000-plus deer hunters who spent slightly over a million, three hundred thousand man-days engaged in their sport. It required an average effort of a fraction over 31 man-days, or hunting trips, to kill a single deer, which underscores the considerable skill and luck a hunter needs to score—whether he's an old hand or a neophyte, a bowhunter or a gun hunter, or whether he hunts with dogs, still hunts, stand hunts, "ear hunts," walks, walks, or just stumbles around hoping for a shot.

We see all these methods being employed in Florida, plus a few others—like the unique airboat and halftrack hunting safaris in the Everglades during years when deer populations are normal. But two basic hunting methods are more popular, and, we think, most productive: stand hunting and driving deer with hounds.

John Marsman of Savage Arms offers some apt observations about white-tailed deer and about stand and still hunting:

"Ever watch a pair of deer feeding? The doe will display less caution, ROM action about, and tend to the business of satisfying her appetite. Not so the buck. He never relaxes..." Few hunters are a match for the buck in its own environment... It is essential, then, for sportsmen seeking to collect a fine rack of antlers to know the difference in behavior patterns and to hunt accordingly. The buck, unlike the doe, will not panic easily. More than likely, he will hear your approach and watch you pass from his concealed position. If the bigger fellow has the heavier cover. Don't expect a trophy buck to come prancing through the woods in an area where you can see 300 yards. Find good cover where you can't see more than 70 to 100 feet, not yards. You'll see fewer deer this way, but there's a better chance for a real beauty.

"If you plan to hunt from a stand, get there early. Bucks don't hang around to greet the dawn as does doe. They begin moving back into heavy cover early..." Marsman concludes, "and they emerge to feed later in the afternoon than the less cautious females."

A whole new and completely different approach to deer hunting is the traditional Southern-style deer drive with dogs. This method evolved not by choice, but necessity. That quality of the animal largely explains the thrill and challenge of every deer hunt—and the special satisfaction of a successful one.
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Here is a 12-in-1 gift that is perfect for your relatives, friends and the business associates who enjoy outdoor recreation in the Sunshine State...

Plug Casting

By CHARLES WATERMAN

There are varieties of ways to approach angling techniques and challenges based on the fish being sought, water conditions—and the location

POLING A BOAT has never ranked with sculpture or space walking as a glamorous pursuit but there's quite a bit to it. On two trips up north during the past few months I have encountered canoe polers—guys who stand up in the stern and use a lightweight pole when the water's shallow. Since many fishermen wouldn't stand up in a canoe without their swimsuits and life jackets, the business of poling one is interesting indeed, especially if the water's swift and the rocks plentiful. These guys can pole upstream, feeling their way back of the boulders that break the current and putting a lot of weight on the pole. One of the gimmicks is to know when to let the stick go instead of going into the drink with it. They usually have two poles along.

Their chief competitors in poling gee whiz are the Keys guides who practically plane their heavy outboard boats after bonefish, tarpon and permit. In years past the Seminole Indians and their slender dugouts were high on the list of boat polers, but I haven't seen them operating that way much lately since they seem to be happier with airboats.
A sinking lure, when actually headed down with no resistance by the fish, will often be to bass and panfish. Some of the most expert anglers will give complete slack at the moment a sinking lure hits the water. With a spinning reel or casting reel you can strip off a few turns to make the bait go down as freely as possible.

Few lures sink "dead." Most spoons will wobble. The true expert, they used to say, could cast a plug so that it was already headed back when it entered the water, a dive that was supposed to be especially attractive to the fish. Sometimes it is.

But the slack line sinking has a special appeal and is one of the attractive moves in the use of a jig for fresh or salt water fish. Often the slowly worked crappie (speckled perch) jig is taken as it sinks after being jerked upward a little. You wait for it to hit bottom and it just doesn't make it. It's easy to miss such a strike since it's on slack line and the fish may have spit out the jig before you can hit back.

This sinking business works especially well with the plastic worm or any other kind of soft bait because the fish is more likely to hang on to it after taking. The worm is generally fished with a "slow strike" anyway, and everybody knows a bass is likely to want to take a plastic worm home with him, even after he learns it's a plastic worm.

When fishing is good the unhampered sinking business is a help in locating the depth at which the fish are found and many casters use a counting method to allow the lure to get to just the right depth before beginning to retrieve it.

I have often used a modification of the unhammed sinked system when fishing with spoons or wigglers, especially over water with lots of obstacles. Where the grass or weeds appear quite thick I'll keep the lure working right on top, or nearly so, and then when I see it's over what appears to be a pocket in the vegetation I'll reel and let it sink for a couple of feet. Not only does this put it right on the nose of a bass that happens to be living in the pocket, but it varies the routine in what I like to think of as an exciting manner. Frequently a fish will grab the thing as it goes down, having noted the disturbance as it arrived on the scene. Other fish will wait. Having noted the thing again, apparently having had an eye on the lure as it descended and being startled into striking when it suddenly tugs once more.

Pretty good stunt.

The farther you go the more fish you expect to catch. That's human nature and we all feel we're being discriminated against if we go a long way and spend a lot of money, and then don't get a strike.

Last summer I made an Atlantic salmon fishing trip to Newfoundland. From what I'd heard—and rightly so—the Atlantic salmon is having a tough time of it and seems likely to give out about at the same time I do. The story is, you know, that we've polluted and ruined most of our salmon rivers and the Canadian fish are being abused by the Danes, who don't raise salmon themselves but are topnotch commercial fishermen and are working their slow, slack line, near the ocean shore where the Canadian and British salmon spend much of their ocean lives near Greenland, so it looks as if our buddies from Denmark are harvest ing what we're trying to cultivate in suspense. I went to Newfoundland and fished for approximately 14 hours a day for a week. The water was low and clear and you could see the fish plainly. I had three strikes and landed one gillie (a young salmon). Although I felt put upon for a time I recalled the tales of fishermen who have spent a lot more money and gone on a lot more trips without catching salmon at all. Atlantic salmon fishing has become something of a rich man's sport in most places and little swatches of salmon rivers in America and Europe have been leased for as much as $3,000 a week. That is not a misprint. Well, Newfoundland is probably the least expensive place to fish for Atlantic salmon in this country although you must have a guide if you get far from a highway. The guides charge $15 a day and one guide is permitted to guide two sports. You can drive to Newfoundland by using a ferry from Nova Scotia.

Atlantic salmon fishing is with flies only and he suggested. As you're reeling you watch the water carefully. If you notice a fish head up, you watch it carefully. If you notice a fish head up, the fish may have spit out the jig before you can hit back.
Each year hundreds of Florida hunting dogs disappear and are lost to their owners forever. Most of the missing animals are victims of dog-nappers who conduct a multi-million dollar operation that reaches into every state of the Union. A few of the stolen dogs are sold as pets or as work animals; the rest go to laboratories where they are subjected to often-distressing experiments.

A hunting dog without identifying markings will bring a top price and no embarrassing questions. The thief has only to slip off a collar bearing the owner’s personal property. They are registered with one of the registries, dog clubs, veterinarians, or the humane society will put you in touch with the file carrying the owner’s name, address and telephone number. All the services work cooperatively in the exchange of information, and each is familiar with the various numbering systems employed. Laboratories, dog pounds, and medical schools are constantly on the alert for tattooed animals and report these immediately to the proper registry.

A national law has done much toward slowing up the theft of dogs and has made it easier to recover dogs that have been stolen. This is the Animal Laboratory Welfare Act, passed by Congress December 19, 1966. Under this Act, which became effective in 1967, animal dealers are licensed and inspected by the United States Department of Agriculture. They are required to keep records that identify the animal, its former owner, and when and where it was purchased. These records must be kept on file for at least one year. In addition, the dealer must lodge the animals under humane conditions for five business days before selling them. This gives the owner and law enforcement officials greater opportunity to trace lost or stolen animals.

However, in spite of all local and national laws—one of which imposes a fine of $1,000 or one year in jail for transporting stolen domestic animals across a state line—dog-napping is on the increase. The hunter who has his animals tattooed with his personal identifying number can aid in thwarting the efforts of these most inhumane of criminals and possibly save the companion of his leisure hours from a fate which may be truly worse than death.

The tattooing is actually a final protective stage. Prior to that the owner must register the number selected for the tattoo with one of the dog registries. There are more than half a dozen of these. Their names and addresses are available through any veterinarian.

To date, there is no standardized system of numbering subscribed to by the various registries. Most recommend the owner’s social security number as the safest identifying mark. However, some suggest the animal’s American Kennel Club number (if he has one); or the United Kennel Club number, for hounds; or the Field Dog Stud Book number, for bird dogs.

Regardless of the system of numbers employed, a call to any one of the registries, dog clubs, veterinarians, or the humane society will put you in touch with the file carrying the owner’s name, address and telephone number. All the services work cooperatively in the exchange of information, and the faithful friend, who may be just as esteemed as a family pet as for his prowess in the field? The answer is yes—have the animal tattooed.

The tattooing is a painless process by which a series of numerals is permanently imprinted on the dog’s inner thigh. Sometimes—as with racing greyhounds and seeing-eye dogs—the number is placed on the dog’s ear. The numbers identify the dog as the owner’s personal property. They are registered with an organization where they are placed in a file, and they cannot belong to anyone else. A tattooed number will stand up as proof positive of ownership in any court in the land.

No animal shelter will destroy a tattooed animal. No pet shop or kennel will buy or sell one except upon proper authorization from the owner. No laboratory will buy an animal marked with an identifying tattoo. Most laboratories are high in ethics. They don’t want to work with stolen pets. And even if this were not so, every laboratory is liable to inspection without notice by an agent of the United States Department of Agriculture. The discovery of even one tattooed animal could have repercussions which no laboratory (many of which are subsidized by Government funds) could afford. The people who steal dogs will turn loose any tattooed dogs in a bunch rather than risk getting in trouble with the law. This is the reason many tattooed animals turn up as strays.

Tattooing is the one means of identification unreservedly recommended by dog clubs, humane societies, and veterinarians as the only foolproof method of foiling one of the meanest of all criminals, the dog thief.

By JOHN FIX
Most hatching success this year in a series of experiments will hopefully lead to the establishment of a resident gadwall population at Chassahowitzka National Wildlife Refuge near Homosassa on Florida’s west coast.

The waterfowl project is being sponsored jointly by the Bureau of Sport Fisheries and Wildlife, Division of Refuges, Southeast Region; the Wildlife Ecology Laboratory at the University of Florida; and the Delta Waterfowl Research Station, Delta, Manitoba, Canada.

Ducklings hatched at Chassahowitzka last spring are the first generation of gadwalls produced by “seeded” parent birds. The young may eventually establish a nonmigrating gadwall population that will fill an unoccupied niche in the South’s wetlands, thereby supplementing the Florida waterfowl hunt—many of which are now lost to hunting.

Our friends to the north had done their part. The rest was up to us—and to the gadwalls. The ducklings were trucked from the airport to a temporary holding pen at refuge headquarters to recover from the stress of their trip. After a few days, they were taken by airboat and skiff to their new home in the salt marsh.

Instead of producing species that would deliberately shock the system into action, it’s now time to take a step back and ask: How could birds that had been treated with such tender loving care have failed us? Was the climate of central Florida in some way unsuitable? Was the length of day in Florida different enough to have mysteriously stymied reproduction? Had wing clipping inhibited breeding? Was available food insufficient in either nutritional value or quantity? Was formation of eggshell somehow chemically inhibited by the relatively high salinity concentrations encountered in the salt marsh impoundments of Chassahowitzka?

Since it was impossible to identify the factor or factors responsible for nestling failure, everyone associated with the project was understandably apprehensive when our second shipment of 256 ducklings arrived from Canada at Tampa International Airport on August 12, 1969.

Like the ducklings from the year before, these gadwalls were hatched from eggs collected from nests by Cree Indians and placed in incubators at Delta Waterfowl Research Station. Patrick Caldwell and Allen Smart, two University of Florida graduate students who were at Delta for the summer, assisted station personnel as they cared for the eggs and mothered the young. Florida-bound ducklings reached adulthood at Chasehowitzka, the survivors of those, some 56 pairs, showed healthy sexual interest in each other—but failed to nest.

How could birds that had been treated with such clipping consists of trimming the primary, or flight, feathers on one wing. The result is that the duck is unable to fly. When he tries, he is thrown off balance. Birds rendered flightless by this method must be clipped once a year since these feathers are replaced by natural molt. (Wing clipping is often confused with pinioning, a process by which birds are made permanently flightless by surgical removal of a part of the wing. Because our gadwalls were to be set free eventually, wing clipping was preferred.)

Some of the ducklings arriving in 1969 were treated differently, however. Twenty-five pairs were left free-winged—who later formed a nonmigrating population of their own. The 36 pairs released on the unfenced artificial impoundments hopefully provide valuable information about the severity of predation on ducks in our Southern marshes.

Before release, all ducks were fitted with plastic, multicolored nasal markers, or “saddles,” which enabled observers to identify individual birds at great distances. Each saddle was made from a 3 x 1-inch

By JONATHAN EMMONS

Nothing sells like success—even moderate success. The fine breed of gadwall ducklings at upper left were among first hatched in a “seedling” program at the Chassahowitzka Wildlife Refuge. First nest discovered by researchers is shown at left—it produced six young. A well-hidden nest in thick grass, below, is marked for the records with a white flag.

Photos By JONATHAN EMMONS
strips, each of a different color, were sewn with nylon thread. Seven different colors were used, which permitted over 250 separate combinations.

The markers were placed over the upper part of the bill and held in place by a piece of nylon monofilament line beaded at both ends with a soldering iron. The saddles did not impede the ducks' normal activity in any noticeable way.

As an additional identification aid, all the gadwalls were banded with the familiar Fish and Wildlife Service aluminum leg bands, each bearing a number and instructions for return if found.

During the winter months of 1969 and early 1970, climatic comparisons were made in an effort to pinpoint the cause of the failure of the '69 nesting season. Using data collected at the study site and U.S. Weather Bureau information, average temperatures, temperature extremes, duration of temperature extremes, relative humidities, average rainfall, and even the average daily solar radiation of Chassahowitzka were compared with Delta, Manitoba, Canada; Bear River, Utah; and Pea Island, North Carolina. Delta and Bear River are both within the normal breeding range of the gadwall and Pea Island is the site of what was the most southerly breeding colony of the species. Although some differences were noted, of course, climate still could not be singled out as a definite limiting factor.

Behavior and movement of the gadwalls were closely observed and recorded throughout the winter months, the researchers using hidden blinds inside the pens.

Vigorous breeding behavior was first noticed in March, and although the ducks' behavior resembled that of the previous year, we still could only hope they would nest. Weekly searches for nests were made beginning late in April. Refuge and University personnel all anxiously watched and waited.

The first gadwall nest was discovered in late May. Others were found later. The first brood, of three ducklings, was discovered June 3. Three nests were washed out by an abnormally high tide, but this was no great surprise. It may take another season or two before our Florida gadwalls adjust to the fluctuating water levels encountered at Chassahowitzka.

By the end of June, more than two dozen gadwall ducklings had hatched at the refuge. Our efforts had been rewarded!

The gadwall has proved its ability to breed and nest successfully in the coastal habitat of central Florida. Climatic differences do not appear limiting. Some of the gadwall hens sat on their nests during some of the hottest, most humid weather Florida has to offer. Day lengths differ, but this appeared less important than some people expected. Although days during spring and summer here in the South are shorter, our gadwalls nested at approximately the same time of year as northern gadwalls.

Wing clipping apparently had little effect upon breeding; both clipped and unclipped ducks nested. And salinity can also be ruled out as a limiting factor. Our female gadwalls must have found the dominant cover of spikegrass, salt marsh cordgrass, and beakrush at Chassahowitzka acceptable; they nested in it. (In Canada, the preferred nesting cover for gadwalls is thistle. In Utah, oddly enough, giant sunflowers are preferred.)

Why then had the gadwalls not nested their first year as Chassahowitzka? Other biologists who have worked with the species found that reproductive success of first year males was noticeably lower than in older birds. This may explain our lack of breeding success. All our males in the 1969 season were yearlings. The theory is further supported by the fact that although yearling females were responsible for 30% of the nests this year, all were paired with older males.

The 1970 breeding success represents only the first step. Many important questions remain unanswered. For example, how important will predation be in the establishment of a resident waterfowl population in the South? Predation was severe on the 30 pairs of gadwalls released on the unfenced impoundment. Mink or weasels were responsible for most mortality, but some raccoon, owl, and alligator predation was also suspected.

These young, wing-clipped ducks were undoubtedly more susceptible to predation because they had been hand reared and, therefore, had not fully developed their natural wariness. And because they were wing clipped, they were deprived of their number one defense-flight.

Free-flying gadwalls of the same age suffered much less mortality. Of course, eggs and young ducklings are many times more vulnerable to predation than adult ducks, and our nests and young ducklings this year were not granted immunity.

Eggs are extremely vulnerable to crows and cotton rats, both of which are very common at Chassahowitzka, and everyone is probably familiar with the raccoon's taste for eggs of any kind. Eastern king snakes, banded water snakes, and Florida cottonmouths are common there, too, and will take both eggs and ducklings. In fact, our number one predator of gadwall ducklings this summer was the cottonmouth.

Migration poses a second question of importance. It is common knowledge that most of our North American waterfowl are hatched in northern marshes and spend their first summer there. Then they migrate south, guided by some mysterious force, to winter in areas with ample food and free from ice and snow. In the spring, when days get longer and warmer, the ducks return north to nest. Using methods as yet unknown to science, many important questions can be asked about the self-same birds. Do the same birds return to their summer nesting areas? Do they return to the same nesting sites?

It is likely the ducklings raised this year at Chassahowitzka may provide biologists with some important information about the natal marsh theory and migration instincts.

Although the gadwall project may not immediately be an overwhelming success, it is well to remember that biological investigations should not be. But the program will surely provide some much needed general information about waterfowl. And, with a lot of patience and work, plus a little more luck, we may be hunting resident gadwalls in Florida before long. At this point in the project, it doesn't seem too much to hope for. 

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Some, harmless and temporary wing clipping, left, insured study birds remaining on refuge—one was left unclipped. The ducks rendered temporarily flightless produced young as did free flyers. All had their bills cornely colored marked with a plastic "saddle," below, coded for distinctiveness.
I T'S HARD TO BELIEVE wild pigs could become stars of any show, but the untamed "razorbacks" are just that at Myakka River State Park, 17 miles east of Sarasota, where they gladly perform for the unusual night train in the park.

They're the star performers for the regular night wildlife tours operating on a five-night-a-week schedule, Tuesdays through Saturdays there—and more unusual stars can't be imagined. They bring down the house, or, more accurately, bring the house more unusual stars can't be imagined. They bring wildlife tours operating on a five-night-a-week usual night train in the park.

Myakka abounds with wild hogs, actually feral hogs descended from domestic stock of the ranching era, when most of the park was part of a cattle ranch owned by Mrs. Potter Palmer of Chicago. In 1943, the Potter family donated much of the ranch to the state park system.

The porkers—indeed, the entire wildlife performance—takes place in the remote areas of Myakka, which, with 28,873 acres, is the largest in the park system.

Until the advent of the tours, park visitors were confined to a few paved roads. For their own safety and comfort, they were not permitted to attempt to drive the ratted, often muddy, ex-cattle ranch trails in the park's remote areas. It was too easy to get stuck.

Now, you can't drive these "cracker roads," but you can see much more of the park via the "trackless train" operated by James Fox and his wife, of Sarasota. The train consists of a four-wheel drive truck which easily pulls three specially built, open-air coaches down the tracks and trails the cow-pokes once rode.

Myakka's wild porkers have learned that a blast on the "bull beller," as the truck's air horn is called, is an invitation to a free breadline. The pigs, obviously akin to the famous razorbacks, are fast on their feet and have overcome their shyness. They've also learned it's easier to gobble up free food than to nose around for roots and nuts, although it's also evident the wild pigs do plenty of that from the looks of the torn-up turf in the remote sections of the park.

It's hard to decide which of the porkers is the star. They all seem to be natural, stage-struck "hams," but, if forced to vote on the top act, most people would vote for Rosebud and Her Nightly Sprint.

Rosebud is a black sow that's been taught to race the "bull beller," as the truck's air horn is called, an invitation to a free breadline. The pigs, obviously akin to the famous razorbacks, are fast on their feet and have overcome their shyness. They've also learned it's easier to gobble up free food than to nose around for roots and nuts, although it's also evident the wild pigs do plenty of that from the looks of the torn-up turf in the remote sections of the park.

Unusual night-time trains tour at wildlife habitat is featured at Myakka State Park near Sarasota. White-tail, left, barred owl, above, are familiar to night train riders. A comic routine is stepped by wild hogs, below, as they race the train to accept bread scraps.

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By MAX HUNN

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**Waterfowl Guide**

After making the first choice offered at the top of the page follow the black lines to secondary choices until the correct identification has been made.

<table>
<thead>
<tr>
<th>Wing patch gray, nonmetallic or wing uniform in color</th>
<th>Wing patch iridescent blue, purple, green, brown or black or white</th>
<th>Wing patch white</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bill with two black-and-white rings, one at the base and one near the tip</td>
<td>Wing patch blue, purple, green, brown, or black</td>
<td>Wing patch blue or purple</td>
</tr>
<tr>
<td>Canvasback</td>
<td>Head rounded with angle at forehead and bill</td>
<td>Head not crested, feet yellow</td>
</tr>
<tr>
<td>White or white cheek patch</td>
<td>No white face patch, or if present, in front of eye</td>
<td>Head not crested, feet orange or cinnamon</td>
</tr>
<tr>
<td>Head flaps, slipping with straight line appearance from forehead to bill</td>
<td>No white face patch, or if present, in front of eye</td>
<td>Blue patch on shoulder of wing</td>
</tr>
<tr>
<td>Ruddy Duck</td>
<td>White wing patch without black or dark feathers in center</td>
<td>Bill blue and broad, feet orange or cinnamon</td>
</tr>
<tr>
<td>Ring-necked Duck</td>
<td>Black duck</td>
<td>Bill very large and broad, feet orange or cinnamon</td>
</tr>
<tr>
<td>Pintail</td>
<td>Wood Duck</td>
<td>Bill normed, feet yellow</td>
</tr>
<tr>
<td>Wing patch bordered on both sides with white</td>
<td>Mallard</td>
<td>Shoulder of wing gray or brownish</td>
</tr>
<tr>
<td>Wing patch bordered on both sides with white</td>
<td>Common Merganser</td>
<td>Shoulder of wing with white patch</td>
</tr>
<tr>
<td>Wing patch brown</td>
<td>Red-breasted Merganser</td>
<td>Common Merganser</td>
</tr>
<tr>
<td>Wing patch blue or purple</td>
<td>Hooper Merganser</td>
<td>Florida Merganser</td>
</tr>
<tr>
<td>Wing patch bordered on both sides with white</td>
<td>Redhead</td>
<td>Gadwall</td>
</tr>
<tr>
<td>Wing patch bordered on both sides with white</td>
<td>Mallard</td>
<td>Goldeneye</td>
</tr>
<tr>
<td>Mallard</td>
<td>Canvasback</td>
<td>Sculp</td>
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<tr>
<td>Wing patch bordered on both sides with white</td>
<td>Common Merganser</td>
<td>Florida Duck</td>
</tr>
<tr>
<td>Wing patch bordered on both sides with white</td>
<td>Common Merganser</td>
<td>Cinnamon teal is similar to blue-wing teal except that male cinnamon teal is reddish on head and underparts. The female is virtually identical to the female blue-wing teal.</td>
</tr>
</tbody>
</table>

**Guide For Hunters Duck Identification**

This pictorial aid is designed to assist in recognizing ducks in the hand after they have been shot.

Although occasionally seen inland, sea ducks are not included in this key. They are most frequently found in open salt water areas.

A more complete "Know Your Ducks" identification brochure, with point system facts, is available from Commission offices listed on page 3.
I significant rainfall. Relief had come to the scorched
fields, the empty wells, the parched timberland that
was ready to find the other
in the house. They're pretty bedraggled.

The skies had finally opened up after a period
of seven weeks during which there had been no
rains collapsed it. Undeterred, the owls set to work
to repair the damage—but their efforts seemed
fruitless. Bill decided to lend a helping hand. He
took a spade, shored up the restored burrow, and
learned while he was at the site that all three paths
took a spade, shored up the restored burrow, and

While I was at the site that all three paths
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By BETSY BATES ZEISS

A later communique: "Excitement today! One
of the owls had a mouse in his talons, and a couple
of grackles went after him. Despite the dive-bombing,
he kept a firm grasp on his meal, landed near
the burrow, ruffled his feathers, and spread his
wings. The mischievous grackles abandoned the
chase."

Early in May, faint and unfamiliar sounds came
from the region of the nest, which by now had
become a "local landmark." A little later, around
mid-May, five young owls at long last made their
debut, appearing one day at the burrow entrance.

I greeted the Mitchells and their
parents is perched on the wheelbarrow in the empty
lot next to their home in Cape Coral, near Fort Myers.

Early in March the owls first began to dig the
tunnel that led circuitously underground to a nest
beyond the reach of man. Their fierce little talons
were washed out. There is no sign of the
in the small drama of the owls. "One of the
parents is perched on the wheelbarrow in the empty
lot!"

Everyone let out a whoop of joy. Maybe this
gloomy Sunday was going to be a bright day, after
data. Ron then filled me in on what had happened
during the morning.

"I worried about the birds all night. At 7 a.m.

A DAY in

FRONT PAGE TO PROTECT THE MINIATURE BIRD SANCTUARY, BILL
SET UP AN OBSERVATION POST IN HIS GARAGE SO HE
COULD WATCH THE ACTIVITY WITHOUT MAKING THE
BIRDS SKITTISH. HE SOON DISCOVERED THAT THE INDUS-

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three "doors" to their home.

Shortly after the burrow had been completed, rains
collapsed it. Undeterred, the owls set to work
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took a spade, shored up the restored burrow, and
learned while he was at the site that all three paths
led to a common hallway beyond which lay the
nest.

By BETSY BATES ZEISS

We can't anywhere near them. They
scare easily and pop into the hole. They're all
different sizes—like five kids in a family. One is a
real runt—so bigger than my finger—undoubtedly
last to hatch."

These were the thoughts running through my
mind as I pulled into the Mitchells' driveway, pre-
pared to have my first look at what we now be-
lieved to be orphans from the storm. Camera in
hand, I glanced in all directions for some sign of the
adult birds. When I arrived at the door, my
despair had turned to elation.

"Good news!" I greeted the Mitchells and their
neighbor, Ron Tolles, who had now become a major
figure in the small drama of the owls. "One of the
parents is perched on the wheelbarrow in the empty
lot!"

"Do not disturb Owls Nest"—for
the burrow was just a dozen feet from the road.
In so doing, he gave the owls fame they otherwise
would never have known. Newspaper accounts of
their presence and activities attracted nature lovers,
who would park nearby to watch the antics of the
unique little owls.

The birds "intruded" more and more into the
Mitchells' lives—and mine. Bird talk kept our tele-
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nest.
I went out to see if everything was all right and found that it was. But when the torrential rain fell during the next hour, the thought nagged me that the birds could be in real trouble. I put on my slicker and went out to check again.

Ron found just what he had feared. The burrow entrances were plugged with washed-in sand. Fear of the young had gotten out in time, however! Three huddled together some distance away, and the runt was standing just beyond the burrow, as if its escape had been a narrow one indeed. There was no sign of the fifth owlet, nor of the parents. Ron had a good idea the missing youngster would not be found alive.

Picking up the shivering runt, Ron took the chick-size creature home and placed him in a box with a cloth to snuggle against. He tried to interest the hapless, drenched bird in a spider, but there was no response.

"In fact," said Ron, "I wondered if he knew how to eat by himself. The poor little fellow was about gone."

When his nursing ministrations proved futile, Ron went back outside to see what he could do for the other three storm victims. They were where he had left them, and, though full of fright and kissing at him, he managed to capture one, which he reunited with the runt.

It was at this juncture that Ron went to the Mitchells' door to say, "I thought you'd better know that I've been stealing your birds."

The Mitchells had practically jumped for joy! Their efforts to locate any of the owls had been fruitless, and they had failed to see Ron out there.

Within minutes the trio had gathered up the other two birds, all of which were now nestled against one another in a box in the Mitchells' living room, where I was introduced to them.

The birds were miserable looking. Too young to fly and too wet to move, they showed no fear of their benefactors. When they were photographed, they stared motionlessly ahead.

After they were back safely in their box, the four of us put our heads together and did our best to think like birds—specifically, like Burrowing Owls. How would we get the babies to eat? They had already spurned raw hamburger offered by Coretta. Bill concluded he'd have to go "a-frog hunting." He remembered seeing one of the parents shred a frog, and also a mouse, by holding the prey with its claws and pulling it apart with its beak. He had also seen a parent bird return to the burrow with a big spider, tearing the legs off for himself and mincing the body for the young.

We talked about keeping the owlets warm, which we knew was absolutely necessary if we hoped to save them from the effects of their exposure to the elements. Would it be better to house them indoors overnight and release them when the sun came out? That seemed the best solution since the downpour had turned to drizzle and it was raw outdoors that afternoon.

"Let's go outside and reconnoiter," Coretta said, and on the heels of her remark she cried, "I see the other parent!"

Our spirits soared. It looked as though the small family might soon be reunited—provided the adult would accept the "man-handled" babies, a thought that was a new and real worry for all of us. We all agreed we had better settle this question as soon as possible. Ron set to work half burying a pail that was to be a temporary home for the birds. We lined it with rags for warmth.

Meanwhile, since a break in the weather seemed promising, we unplugged the burrow and dug a small trench so that any future rain would not wash sand back into the opening. We looked inside for the missing owlet, but could see nothing in the darkness. We gave him up for good.

The parent bird first sighted, believed to be the female, watched the activity with interest, first from the wheelbarrow and then from a power pole guy wire some 60 feet away. Her eyes were riveted on the rescue party. She didn't make a sound, nor did the young, who were still apparently half scared to death.

Finally, the pail was secure and the burrow ready. Ron decided it would be best to release the youngsters in familiar territory—at the burrow.

As she dangled the food in front of their upturned beaks, the pair ravenously attacked and consumed the "delicacy." The runt somehow restrained himself while the larger bird gulped the first mouthful. (Perhaps it was because he had been rescued first and had better recovered from the ordeal; perhaps he wasaccustomed to waiting in line.)

Then something startling happened. The runt, who earlier in the day had shown no interest whatsoever in a proffered spider or in hamburger meat, suddenly assumed an aggressive manner. It must have been "Mom's cooking." He began to tug greedily at the food hanging from her beak long before she offered it to him.

It was a good sign, we all agreed. The runt had a will to live. We knew that if he could make it, so would the others—baring another calamity, of course.

In the ensuing days and weeks, the parents cared for their strengthening offspring in exemplary style. The young grew flight feathers and soon were foraging for themselves, always staying close to home.

The last to learn to fly was the runt, of course, but we all rather expected it would be. The day he soloed was a happy one for us, and probably for him, too, if owls have any thoughts about such things.

The last of "our" owls had finally won his wings.

How they scammed! They were out of sight in a twinkling, except for the shakily-legged runt of the family, who needed some assistance. He was the last to reach home.

It was mid-afternoon when we retired to the garage for some watchful waiting. It didn't take long for the final act to unfold. The mother owl swooped from her perch, surveying the situation from all sides, gradually working her way in closer to the burrow. Occasionally she dipped her beak, scuffling the ground.

Suddenly Bill exclaimed, "There she goes! She's flying in a little." As she got closer, her agitation visibly increased; her manner became more and more wary.

Did she make a sound we couldn't hear? Suddenly, surprise of surprises, the runt emerged from the nest as if to welcome her with, "We're home, Mom. Where've you been?"

Apparently satisfied with what she had seen and smelled and heard, the parent bird flew to Bill's sign, stretched her wings, flapped them a few times, and then returned to the burrow and entered.

Shortly afterward, she emerged with the remnants of a pale green frog that had been cached inside. She deftly ripped it apart as two owlets pressed close, awaiting their much delayed meal.

One was the runt, who had by now become our favorite.

Photographs

Photos By Betty Bates Zeiss

FRONT COVER

DO NOT DISTURB
OWLS' NEST

FLORIDA WILDLIFE

NOVEMBER, 1970
The Oklawaha River

The Oklawaha is one of the principal rivers of Florida. It has its source in several large lakes of the central peninsula, including lakes Griffin, Eustis, Harris, Dora and Apopka. It flows northward for some 50 miles and enters the St. Johns River about eight miles below Lake George. The great flow of water from Silver Springs joins the Oklawaha via the overflow from Orange Lake through Orange Creek.

The Oklawaha is a clean, sand-bottomed river, and its waters are clear, although stained with tannic acids from the bark and leaves of the dense swamp and hydric-hammock systems through which it meanders.

During its geologic life, the river has carved out a mile-wide valley through which it now flows. During the annual rainy season, the water flows over its low banks and spreads out on the valley floor. When the water is low, the flow from Silver Springs makes the Oklawaha run crystal clear for miles.

These rich, fluctuating waters have created dynamic conditions necessary for the maintenance of a productive sport fishery, which includes channel catfish, chain pickerel, panfish and largemouth bass.

The dense stands of hardwoods in the Oklawaha Swamp are adapted to the periodic flooding and drying. They consist, for the most part, of deciduous trees, including tupelo, water locust, water ash, swamp red bay, water oak, sweet gum, red maple, loblolly bay, water hickory, cabbag palm and bald cypress. On higher ground along the edges of the valley, and on many higher islands within the valley, the typical hammock hardwoods make up the forest—species such as magnolia, blue beechn, hop hornbeam and laurel oak.

This delicately balanced conglomerate of diverse plant communities provides ideal conditions for the survival of many wildlife species. Wood ducks, herons, egrets, gallinules and rails feed along the river's edge. Snakes, turtles and alligators sun themselves on downed tree trunks, and still present are white-tailed deer, wild turkeys, raccoons, otters, bobcats, black bears and Florida panthers.

The Cross Florida Barge Canal Project and its attendant development will bring drastic changes to these ecosystems and will affect their ability to function in a normal and dynamic manner for a quality environment in central Florida. These changes are now more accurately predictable, biologically, because of closer observations, broader research, and more comprehensive regulations of the subject.

Some of the changes which have occurred, or will occur, in this unique system as a result of construction of the Cross Florida Barge Canal are as follows:

The Oklawaha in its natural state is a cool, highly enriched, densely shaded, fast flowing, neutral pH river. As a river, nutrients in the system do not reach their full potential. However, when flow is obstructed by a dam, full utilization of the available nutrients occurs. The entire natural ecological system is drastically disrupted, producing a warm water, highly enriched, unshaded, shallow, and high pH system with little or no flow.

The ecosystem which formerly supported high quality fishing, hunting and esthetic values in jeopardy because the new system is a nutrient trap and functions similar to a sewage treatment polishing pond. Soluble nutrients in a polishing pond are utilized exclusively by algae—which are settled out and periodically removed from the pond.

In the barge canal reservoir system, soluble nutrients are utilized by higher aquatic plants or by algae, which die and contribute to the organic buildup, but, unlike polishing ponds, they are not removed from the system—which is detrimental to aquatic life.

Another critical problem which must be considered, along with its effect on the fish population, is the consistently low dissolved oxygen which has been experienced in the Rodman Pool since its creation.

Biological oxygen demand (BOD) in a newly-flooded impoundment will create an initial dissolved oxygen sag due to oxidation of inundated organic material such as crushed trees, terrestrial vegetation and humus.

Other factors which would prolong the dissolved oxygen sag in the barge canal reservoirs include the shading effect of large mats of aquatic vegetation, stumping and grubbing, which exposes additional bottom materials to further oxidation, and the decomposition of great matts of water hyacinth and aquatic vegetation, which will create a large BOD when destroyed by any means other than mechanical removal.

Problems of low dissolved oxygen conceivably could occur for a number of years, or possibly will (Continued on next page)
Another factor of great concern is the 3-to-4 years of continuous dredging required to construct the barge channel through these impoundments. The increases in turbidity, siltation, and fertility resulting from the construction of the channel mean that approximately 300 acres will fall victim to dredging. Therefore, even the most optimistic estimates will be of some doubt. Rodman and Eureka pools. It is important to note that the Rodman Pool has not met the state water quality criteria for dissolved oxygen (4 ppm) since its inception.

There are other factors which should be considered. Construction of the Rodman and Eureka dams will limit the yearly migration of anadromous fishes to the upper reaches of the Oklawaha River. One of the most important species is the striped bass.

The water discharge rates to the lower Oklawaha and to the St. Johns River will be reduced because of water storage for navigation, planned back-pumping for pool level maintenance, and evapo-transpiration losses. This will induce intrusion of saltwater farther up the St. Johns River and may aggravate pollution conditions from Palatka to Jacksonville.

A similar situation may result in that portion of the canal involving the Withlacoochee River.

Another factor: Completion of the canal would provide a direct infestation route and means of plant could spread, virtually unobstructed, through-the east coast, from where the desirable Asian clam, Corbicula, would start. A completed canal would also provide a route for the spread of the exotic fish Tilapia melanotus, now well established in the Tampa Bay area, and the undesirable Asian clam, Corbicula, to the Atlantic coast.

Heavy commercial utilization of waterways has historically caused pollution problems and degraded water qualities through bilge pumping, spillage, leaks, and barge sinkings. These conditions are inherent in this project.

Numerous other factors have not been included in this article but deserve consideration. Some of these involve esthetics, losses of upland wildlife and commercially valuable hardwoods, the impact of industrialization, ground water problems, and the effects of using herbicides to combat vegetation problems in the canal and reservoirs.

These and other ecological factors serve to point out the complexities of the Cross Florida Barge Canal Project, the need for consideration of all aspects, and the reason for concern by the Game and Fresh Water Fish Commission.

(Continued from preceding page)

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(Continued on next page)
timed study will show that the clay birds rise during the first portion of their arched, 50-yard maximum flight from the traphouse, then fall rapidly as velocity is lost.

Usually, targets will reach their apex at about 18 yards from the trap, or 34 yards from the flight is still slightly on the rise—somewhere becalmed. When the target starts falling, it definitely becomes harder to know the average length of your step. When walking back and forth, you can get a feel for the length strides, each 5 inches wide, instead of five of them, each 3 inches wide.

Mount the color-band card on two stakes that are sharpened so they can be stuck into the ground like a target frame. At each measured testing range, a plumbline must be used to erect the color card so that its left side is truly perpendicular, for it is against the left edge of the card you will align the left side of the front sight or the scope’s vertical crosshair, post or dot.

Do your aiming from a bench rest or from prone position, rifle fore-end resting against a sandbag. You don’t actually fire, remember. You are just determining the number of inches your front sight blots out, or covers, at measured distances.

By repeated sightings, carefully note how much of the color-band card the front sight or scope reticle will cover. Record the information for each range you measured. It will remain constant and useful for estimating hunting range as long as you use that same rifle and sight.

Where several different rifles of different barrel lengths and types of front sights are used, application becomes more complicated. Each must be tested individually. When, for future reference, a technical data card should be made and kept for each rifle.

It is virtually impossible to know the amount of coverage of distant target or color band to the fraction of an inch. Nevertheless, the visual evaluation just described is accurate enough to be quite useful.

Knowing the average size of adult game species hunted helps in estimating range, too. Simply correlate known front sight width and coverage against body size.

For example, an adult Florida deer measures 14 to 15 inches, back to brisket. Knowing how much your front sight subdents at measured ranges enables you to judge distance by noting how much of that portion of deer anatomy your front sight covers.

Take time to make life-size figures and set them up at measured distances. Then, when convenient to a wooded area again set them up at known distances and study their apparent size in relation to surroundings and your rifle’s front sight.

Figures of rabbits, squirrels, foxes and coons are available from sporting goods stores, or from Steege Arms Corp., South Hackensack, New Jersey 07606. Steege also has deer targets of useful size.

Scope sights are available with built-in rangefinders. Redfield makes one of practical application. However, it requires a knowledge of the average sizes of adult game species to use it to best advantage.

With the Redfield instrument, a distant target is positioned between two horizontal crosshairs in the approximate field. A dot is sighted through the top end of a scale seen in the lower portion of the field. Federal Instrument Corp., Jamaica, New York 11431, advertises a split image type rangefinder for hunters. It sells for $29.95, and is very compact and easy to use.

Bushnell makes an inexpensive rangefinder for golfers that possibly can be used for calculation of short and medium hunting ranges. It was specifically developed to assist golfers in making mid-course shots.

I don’t have one of the little rangefinders, so I cannot tell you if it can be adapted to Florida’s short hunting ranges. Will some reader owning one of the Bushnell instruments make test and report? I’ll pass along the information if adaptation proves practical.

At one time Marlin offered a plastic rangefinder card. It was remarkably accurate, when you correctly applied its working principle. It was designed primarily to be used in conjunction with the Marlin Sighting-In (bullet trajectory) Guide.

The post card size rectangle had six evenly spaced round holes of different sizes. Each represented a range in yards, the largest hole 100, the smallest 200. Hole 600 was exactly 24 inches from eye, each hole frame six feet of object height at its applicable distance.

Accuracy depended on the bullet being held exactly 24 inches from eye, and user’s knowledge of what six feet of height actually represents.

Any rifle caliber that has a low bullet trajectory curve—in brief, one that shoots relatively flat, like the .270 Winchester, .308 Remington and .300 Weatherby calibers—can take much of the guesswork out of range judging.

The secret of successful application of these calibers to both short and long range shooting is to sight-in to take maximum advantage of bullet trajectory. So sighted, at no time during bullet flight will the bullet travel more than three inches above or below the line of sight, whatever the minimum or maximum trajectory. This "zero" gives every rifleman killing accuracy on large game.

Keep in mind that retained bullet velocity at long range is a strong factor in imparted killing effect. As velocity decreases, sure killing quality falls off.

It is especially true in the case of lightweight bullets, largely dependent on velocity for expansion. What is the caliber that will not result in midrange misses.

Light and shadow can play tricks on a hunter attempting a shot at long range. Targets seen in bright light often look closer than they really are.

Under such illusory, it is easy to misjudge range and undershoot.
force the ordeal upon themselves. This season because they will have neglected to prepare for—everything except a compass of planned hunting expeditions. Guns will be cleaned, checked and rechecked, fancy clothes will be purchased, food and travel expenses will be included, extensive forays planned and paid for—everything except a compass and a map to guard against becoming lost. Don't need such safeguards. Experience has taught them to read their way back. Especially novices, who finding their way back.

The American public's Everglades National Park has at least a temporary reprieve from the potential effects of the non-planned jumbo jetport once slated for the Park's northern boundary. But with Florida's population growing by almost one-third in the last 10 years and predicted to accelerate, the fragile, complex ecology of southern Florida will inevitably be subject to large-scale transformation. Because the integrity of the Park is so closely linked with these peripheral activities, the outlook is pessimistic at best.

There is at least one bright spot. For perhaps the first time, the Federal agencies charged with protecting the public interest are really getting down to devoping the sophisticated ecological data necessary to lessen or minimize further destruction from peripheral activities. The Interior Department recently released two preliminary technical reports on the hydrological and limnological characteristics of Florida's Big Cypress Swamp to the north, which is essential to the Park's well-being. The reports were requested by Secretary of the Interior Walter J. Hickel in wake of the jetport fiasco.

A United States Geological Survey report, "Some Hydrological and Biologic Aspects of the Big Cypress Swamp Drainage Area, Southern Florida," demonstrated the importance of Big Cypress in maintaining an adequate water supply for the Everglades National Park; the expanding population of southwestern Florida; and the adjacent estuaries which constitute nurseries for fish. The following species of birds are included on the seven inch, 3315 r.p.m., "Bird Songs of the Mountain Lake Sanctuary," recorded by Bert Devitt. The record was written by Kenneth Morrison, director of the Mountain Lake Sanctuary. The narration is by Bert Devitt. The record begins with the melodious notes of a mockingbird, followed by an excerpt from a French--Canadian folksong, "O, Thou, Beautiful Swallow," played by Milford Myhrre on the Singing Tower carillon. The American public's Everglades National Park has at least two thousand species of fish listed in its waters. The United States and Canada under the auspices of the American Fisheries Society have put together a cumulative index of the names of fish edited by Richard L. Cheney, the title of the work is by Bert Devitt. And recycled into new bottles and jars by the nation's glass reclaim companies. The name of Fish Edition.

**Names of Fish Edition**

A REVIEW of all the names of fishes of the United States and Canada has been published by the American Fisheries Society. More than two thousand species are entered in this third edition which is a major enlargement of the second edition of 1960. The new edition includes all known species of the fresh waters of the United States and Canada together with marine species inhabiting contiguous shore waters on or above the continental shelf. Since first published, the book has become widely used. It has helped obtain uniformity and avoid confusion in nomenclature. The title is a List of the Common Names of Fishes from the United States and Canada. It was compiled by the Committee on Names of Fishes under the chairmanship of Reeve M. Bailey of the University of Michigan Museum of Zoology. Copies of the 150-page book may be ordered from the American Fisheries Society, 1049 Washington Building, New York Avenue at 15th Street, New York, N. Y., 10005. The price postpaid is $7 clothbound and $4 paperbound.

**Glass Reclaims Increase**

More than 42 million glass bottles and jars have been returned for remelting and recycled into new bottles and jars by the nation's glass container manufacturers during the first three months of an industry-wide recycling program. Richard L. Cheney, executive secretary of the American Glass Container Manufacturers' Institute, reported at the executive meeting held in the main building of the institute's Research and Innovation Center. The $2.75 million investment in the project has been more than doubled with just over $5 million of the 1966 total collection made so far this year. Mr. Cheney said the amount of glass returned for remelting has been increasing steadily since the program was announced in September 1965 and the market for glass bottle and jar tubing and cullet has been rising regularly. The institute's market for cullet is up 25 per cent from last year's level. Mr. Cheney estimated the increase in production of cullet at 100 per cent during the first three months of the program compared to last year, with a further increase expected in the second quarter of this year. The estimated increase in production of cullet is estimated at 100 per cent during the first three months of the program compared to last year, with a further increase expected in the second quarter of this year. The estimated increase in production of cullet is estimated at 100 per cent during the first three months of the program compared to last year, with a further increase expected in the second quarter of this year.
director of the Glass Container Manufacturers Institute, Inc., said that "enthusiastic public response arising from growing concern with environment problems" had resulted in the unprecedented volume of recycling, carried on at 92 glass container plants in 25 states from coast to coast.

Recycling coordinators at all plants reported that the volume of reclaimed bottles jumped sharply in each of the three months since the program was initiated on June 30—rising from 6.5 million in July to 13 million in August and to 22.5 million glass containers in September.

These recycled bottles and jars do not include returns from special drives now being conducted by community groups, scout troops and environmental organizations in several metropolitan areas, Mr. Cheney said. "We believe that our volume of reclaimed bottles will continue to increase significantly in October and in the months immediately ahead," he said. He noted that the number of reclaimed glass containers collected has nearly doubled in each of the last two months and parallels the growth achieved by a GCMI-sponsored pilot recycling project launched in the Los Angeles area earlier this year. The volume in Los Angeles has risen from 30,000 bottles the first week to a current level in excess of 1,300,000 per week.

More than $210,000 had been paid by GCMI member companies to individuals and nonprofit groups collecting and returning used bottles and jars by the end of September. However, said Mr. Cheney, the money being offered—approximately a penny a pound—is not the prime motivation. "Most of the people cooperating in our program are doing so as their personal contributions toward helping clean up the environment and reducing land pollution caused by people who litter," he said.

In fact, an unexpected bonus to our program has been that a significant portion of the glass turned in to date has been glass that was found in public parks and recreation areas and along streets and highways," he added. "One of our major objectives," Mr. Cheney said, "is to demonstrate the ease with which used glass bottles—previously considered 'waste' material—can be salvaged and recycled into new glass."

Glass container companies are using crushed old bottles, called cullet, in amounts of up to 50 per cent or more of raw material requirements. After purchase, they are ground up, melted and reused to make new glass containers.

GCMI's ultimate goal is to reclaim an estimated 11 billion bottles and jars a year for reuse in the bottle-making process.

Ownership of Firearms

In answer to a demand by sportsmen, conservationists, legislators and government agencies, the National Shooting Sports Foundation has grouped the best and most recent information on firearms ownership and use into one publication. Called Fact Pack II, the 100-page reference contains 13 scientific studies, papers and resolutions on the lawful ownership and use of firearms, the misuse of firearms, and firearms legislation. It was edited by Alan S. Krug, research director of the NSSF.

The second edition of the "Fact Pack" is twice as large as the original version, introduced in 1968. The first "Fact Pack" received wide acceptance from the public and was used extensively by those interested in working for fair and equitable firearms laws.

"Fact Pack II is available for $2.00 from the National Shooting Sports Foundation, 1757 Post Road, Riverside, Conn. 06878."

Mr. Denver Ste. Claire, Ocala

Conservation Awards

FOUR EMPLOYEES of the Game and Fresh Water Fish Commission were among 52 Floridians recently honored by Governor Claude R. Kirk, Jr., for dedicated and distinguished service to the state in the field of conservation. They were: John W. "Bill" woods of Tallahassee, chief of the Fisheries Division; Denver Ste. Claire of Ocala, retired director of the Youth Education Section; Information & Education Division; Arthur E. Rumbles of Panama City, regional ME officer; and Larry R. Shank, of Vero Beach, wildlife biologist.

The award recipients were honored by the Governor on behalf of their fellow citizens at the first Governor's Conservation Awards Banquet, held October 19th in Tallahassee. In making the presentations, Governor Kirk recognized the conservationists as "a small nucleus of concerned individuals who have worked tirelessly to awaken the citizens of Florida to the environmental crisis at hand" and credited them with having initiated the state's "environmental renaissance."

Woods was personally cited as an affable and dedicated public servant who rose through the ranks from fishery biologist to division chief and for providing enlightened leadership after assuming the additional duty of directing the state agency effort to control aquatic weeds in the interest of preserving Florida's fresh water fishery.

Ste. Claire was commended by the Governor for nearly two decades of determined, productive effort in pioneering a program of youth conservation education in the state, "with the full backing of his Commission but little funds." As longtime director of the youth camp at Lake Eaton near Ocala, for which he solicited funds around the state, Ste. Claire was credited with having given thousands of youngsters their first meaningful educational experience in the outdoors.

Rumbles was cited for a keen sense of the need for public involvement and understanding of the work of the Game and Fresh Water Fish Commission and for the excellence and educational quality of his written news releases. Kirk also recognized Rumbles' "exceptional talent for encouraging county officials to become aware of environmental needs."

Shanks, who has statewide responsibilities as a field biologist, was praised for his courage in speaking out boldly against "the environmental crimes he witnesses daily" in Florida and for his faithful monitoring and reporting of the ecological impacts of such works as the Cross Florida Barge Canal on the Oklawaha River Basin and the Kissimmee River channelization project for future fair use.

As a memento of the occasion, each award recipient was presented by the Governor with an engraved plaque bearing a map of Florida and the state seal.

Mr. & Mrs. Arthur Rumbles, Panama City

Governor Claude R. Kirk, Jr., and Mr. & Mrs. John W. Woods, Tallahassee

State awards presented to Commission personnel...
Game Management Notes

The newest public hunt area in Florida's 4 million acre wildlife management area system is La Floresta Perdida WMA in north Escambia County. The 31,906-acre tract was established by the Game and Fresh Water Fish Commission as a public hunt area in October, and opened for the regular 1970-71 hunting season. It is bounded on the west by the Perdido River and extends almost to the Florida-Alabama state line.

The landowners are La Floresta Perdida, Inc., a timber company with offices in Atmore, Alabama. According to L. K. Jeter of Crestview, wildlife biologist in charge of the area, it has good game habitat and good game populations. He forecasts a successful season there. The area has swamps, hammocks, flatwoods, and rolling pine-oak uplands.

La Floresta Perdida WMA is located approximately 35 miles northwest of Pensacola, from which it may be reached via U.S. Highway 29, State Road 196, and State Road 99. It is also accessible over State Road 99-A and a graded road westward from the Walnut Hill Community.

Hunt headquarters, where hunt maps and regulations will be available, is on State Road 99 near the Boy Springs Community. Jeter cautioned that a closed area of approximately 3,300 acres lies in the southern end of the management area. The closed portion has been properly posted, as has the entire management area boundary. He also noted that rifles are prohibited in La Floresta Perdida WMA.

All legal game, fish, frogs, and fur-bearing animals may be taken by properly licensed hunters who have purchased a 1970-71 public hunt area stamp.

Complete information and an area hunt map are available from the Game and Fresh Water Fish Commission, 226 Airport Drive, Panama City, Florida 32402.

Two wildlife research papers were presented by Commission biologists at the 24th Annual Conference of the Southeastern Association of Game and Fish Commissioners, held in Atlanta in September. "Roosting of Turkey Broods During Summer in Florida" by Larry H. Barwick, David H. Austin and Lovett E. Williams, Jr., and "Nesting Populations of Brown Pelicans in Florida" by William's and Larry L. Martin.

During spring and summer in 1969 and 1970, approximately 200 observations were made of wild turkey brood roosting sites, according to the abstract of the first paper. Most of the sites were found by radio-telemetry. The age that broods began roosting in trees varied from 12 to 19 days for the 14 broods monitored.

Most ground nests were located under forest canopies in sparse cover. After tree roosting began, broods utilized pines and cypresses more than all other trees combined.

The first night off the ground was typically spent about 23 feet up, but within three days the young turkeys were roosting higher in the trees. Most roost trees were over water.

The researchers noted that broods did not seek concealment in Spanish moss or thick foliage while roosting in the trees although this cover was readily available to them.

Reporting on the nesting population of brown pelicans in Florida, Williams and Martin recorded that aerial searches and mail questionnaires revealed 22 active nesting colonies of these birds around coastal areas of the state, including Florida Bay and the Florida Keys, between 1968 and 1970. The same nesting islands were usually occupied each year.

The maximum number of nests counted during the three-year span were 6,026, 6,100, and 7,690, respectively. These represented a conservative estimate of 12,500 to 15,500 adult brown pelicans in the nesting population. Pre-breeding age classes were not counted.

The pelican population appears to have been relatively stable in Florida during the past three years, say the biologists, but this does not reveal whether reproduction has been sufficient to sustain the population.

Prospects for the current hunting season for native game are generally good, according to Gorden Spratt, assistant chief of the Game Management Division, Tallahassee.

Deer hunting is expected to be at a level at least as good as the 1969-70 season, during which Florida hunters killed an estimated 42,000 deer, based on their replies to a mail questionnaire. This was down slightly from the 1967-68 season kill of almost 43,000 but well above the 1966-67 harvest of only 34,000 deer. (No survey was taken after the 1968-69 season.)

Wild turkey hunting should also be as good as in previous seasons in areas where hardwood hammocks and river swamps are still intact. Where extensive clearing and other land use changes have occurred, the turkey population has suffered correspondingly.

Quail hunts are reportedly good all around the state, so prospects are good for another harvest of approximately 3 million birds, as last season. •

FLORIDA WILDLIFE'S
FISHING CITATION

For that BIG ONE that didn't get away

FLORIDA WILDLIFE’S
FISHING CITATION

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

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

APPLICATION FOR FLORIDA WILDLIFE FISHING CITATION

The Editor, FLORIDA WILDLIFE
Game & Fresh Water Fish Commission, Tallahassee, Fla.

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

Name (please print) _______________________________________________________
Address ____________________________________________ State __________ Zip ____________
City ________________________ County ____________
Species ____________ Weight ____________ Length ____________
Type of Tackle
Bait or Lure Used __________________________
Where Caught ____________________________ Date Caught ____________
Date Caught ____________________________ Catch Witnessed By ____________________________
Registered, Weighed By ____________________________ At ____________________________
Signature of Applicant ____________________________

Cut out and save this application blank

ELIGIBILITY REQUIREMENTS

SPECIES

LARGEMOUTH BASS ____________ 8 pounds or larger
CHAIN PICKEREL ____________ 4 pounds or larger
BLUEGILL (BREAM) ____________ 1½ pounds or larger
SHELLCRACKER ____________ 2 pounds or larger
BLACK CRAPPIE ____________ 2 pounds or larger
RED BREAST ____________ 1 pound or larger

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

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

Any fish of the prescribed species caught from any county in the state of Florida is eligible for a Florida Wildlife Fishing Citation.