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THE PANTHER

Relatively few present-day people have seen a panther in the Florida wilds. The current population has been guessed to be from as few as 30 up to as many as 300. Reduction of suitable habitat and illegal killing have drastically reduced the population of this interesting and beautiful animal. A study is currently being conducted by state and federal wildlife specialists in an effort to preserve the panther. You can help. If you see a panther, report it to your nearest Game and Fresh Water Fish Commission office. Give details - where, when, who.
finding and recovering
fallen game is the
to of these specialists

Although the lab is often thought of
as a waterfowl specialist, as an
opposite page, the bird took with
enthusiasm to upright game
work, pheasant, in the case of dog
at left.

RETRIEVERS

By SILKY MONTALBANO

Wildlife Biologist Frank Montalbano, of Lakeland,
waited anxiously as Rocky hunted among the
fattails. Ten minutes later, she emerged from the
cover with a live-and-kicking woody held firmly
in her mouth.

That retrieve, an 80-yard “blind” past two “divers
ion marks,” may not seem much different or more
difficult than countless thousands performed by
well-trained retrievers each season. One factor
made this, and the 17 other retrieves Rocky made
that day, really stand out. These retrieving feats
were not performed in your average duck pond or
marsh pothole. Strait and Montalbano had set their
decoy’s on one of the many phosphate slime pits
which dot the central Florida landscape.

Slime pits are settling basins for by-products of
the phosphate mining industry. The “slime” is a
clay solution which approximates the consistency of
vanilla pudding. As a result, this 80-yard effort on
this last series of retrieves differed considerably
from the 3- to 4-minute swim required to cover
the same distance in the average duck marsh. In
contrast, it took nearly 20 minutes for the young
retriever to cover the distance in the slime. She had
been out of the boat 15 times already that morning.

Yet she would hit the slime with enthusiasm twice
more before the hunt was done.

Frank Montalbano, my husband, related the de-
tails of this performance to me. Frank has spent his
share of time in duck blinds in the coastal marshes
of his native Texas, here in Florida, and a lot of
places in between during a 5-year hitch in the Air
Force. He’s watched a lot of dog work, both from the
duck blind and as a judge in AKC-licensed re-
triever field trials. He’s trained several retrievers
himself to the finished gun dog stage, and is train-
ing a couple of young wild ones now. In short, he
knows enough about good dog work to avoid being
easily impressed. Even as he related this story, he
shook his head almost in disbelief. But the two
3-bird bag limits he and Don Strait brought in, and
the generous coating of slime on boat, decoys, birds,
hunters, and—heaven forbid—hunting clothes,
served to substantiate his story.

By now, you’re probably convinced that my pur-
pose is to fascinate you with wonder dog tales
reminiscent of Lassie and Rin Tin Tin. Fact is,
I’m just sold on retrievers and want to share some
thoughts and experiences on this subject with you.
These wonderful breeds make excellent family
dogs, and their use as guide dogs for the blind and
by police agencies for bomb and drug detection
lend testimony to their versatility. But I’m con-
vincing that their value as working breeds for
waterfowl hunting is their strongest and most in-
teresting selling point.

The American Kennel Club recognizes five
breeds of “retriever” and the Irish water spaniel
among the breeds eligible for its retriever field tri-
als. Labradors, goldens, and Chesapeake Bay re-
triever’s have established themselves solidly as the
most popular breeds in the United States. Curly-
coated retriever, Flat-coated retrievers, and Irish
water spaniel’s are generally less widely used in
this country.

Bird dog enthusiasts often express skepticism
concerning the need for a dog just for retrieving.
Without question, any reasonably intelligent dog
can be trained to fetch. Some, regardless of breed,
can become quite proficient at it. The whole concept
of development of separate breeds of dogs is based
(continued on next page)
The American Kennel Club in its licensed retriever field trials provide a convenient yardstick for measuring the quality of working retrievers. Dogs which excel in this competition earn titles of "Field Champion" or "Amateur Field Champion." These titles, abbreviated FC and AFC respectively, appear as prefixes to the names of dogs which have earned them. The presence in a pedigree of a substantial number of dogs bearing one or both of these titles provides the buyer with assurance that a pup comes from proven bloodlines. One word of caution. Dogs competing in dog shows earn points toward the title "Champion" (abbreviated CH). This title is based solely upon conformation, or appearance. It does not imply desirable working dog qualities.

Of course, a quality pup need not come from field trial stock. Fine gun dogs transmit their qualities to their progeny just as readily as do field trial competitors. What is important is that the pup be selected from proven bloodlines. Don't fall victim to idle boasts from disreputable breeders.

Retriever Field Trial News, published 10 times a year by the North Florida Retriever Club and the National Amateur Club, regularly lists a number of litters. Copies of this publication can be obtained from (412) S. Howell Avenue, Milwaukee, Wisconsin 53207. Rates are $15.00 (Annual) and $1.55 (single copies). Once you hear that new pup, you'll want to give him proper training. The quality of a retriever work is the perfect compliment to a good days hunting. But nothing spoils a day afraid quite like the tribulations of an untrained young dog. Your retriever should instinctively possess the qualities which enable him to accurately mark falls and seek out fallen game. Your task is to train him to basic obedience, and condition him to be steady to wing, shot, and the numerous other distractions encountered in the field. Advanced training prepares the dog for blind retrieves—retrieving restrictions and hand signals from his handler to find birds which he did not see fall. The ability to handle blind retrieves in conjunction with multiple falls is the mark of the finished gun dog.

The technique required to develop these skills in a dog doubtless seems complicated. In fact, it's much simpler than you think. Several books are on the market which furnish helpful hints on training. "Training Your Retriever," by James L. Free (Coward, McCann and Geoghegan, Inc., New York) is the most helpful for the beginner. After you've worked with the dog a bit, you'll find Charles Morgan on Retriever News, edited by Ann Fowler and D. L. Walters (October House, New York) an invaluable guide to advanced training and problem solving.

The owner who lacks the time or the inclination to train a dog himself can enlist the assistance of the professional trainer. For best results, most knowledgeable retriever people recommend a trainer who specializes in retrievers. Paul and Barbara Hentner, of Tealbrook Kennels, in Tallahassee, and John Broom, of Phantomshire Kennels, in Archer, are among the better known pros in Florida. H. G. Sherriff operates Ja-Ge Kennels, just to the north in Pavo, Georgia. Jim Rohm in Jacksonville, and John Kohl in Covington, Georgia, has recently made notable progress with several North Florida dogs.

No discussion of retrievers would be complete without a discussion of retrieving field trials and the trial-sponsoring clubs. The North Florida Retriever Club, at Tallahassee, and the Jacksonville Retriever Club at Primrose Lane, Tallahassee, Florida 32303, or Mr. James F. Rentz, Secretary, Jacksonville Retriever Club, 5806 Lake Lucina Drive, South Jacksonville, Florida 32218.

My husband tells a story about a bird hunting friend of his in Selma, Alabama, who just couldn't pass up an opportunity to buy a "trailing" field dog. While he was in Selma, Alabama, the dog he had just taken in the field and ranging to be of "much account" for the walking hunter. He naturally assumed that field trial retrievers were the same. A single morning of mallard hunting on a backwater of the Alabama River, with my husband and a black lab with the unlikely name of Lisa, changed that of all our mornings hunting. The tests which form the basis for field trial retrievers are designed to simulate the conditions often encountered in a day's hunting. As a result, the performance of an all-age class retriever in the duck blind or dove field will defy the imagination.
Just because you have been given permission to hunt, don’t think that allows you to be an army of buffaloes along. One or two pals might be all right, but not a platoon. While hunting, respect the owner’s rules. Be considerate of his crops, livestock and buildings. He has a large investment in his property which you should help protect. Watch where you walk, drive your vehicle, and especially where and at what you aim a firearm.

Exercise care when crossing fences, and be sure to shut and secure all gates you open. Leave all gates as you found them. One sure way to wear out a welcome is to make your host spend his time repairing stretched or broken fences or rounding up his livestock.

A true sportsman will also report to the proper authorities anyone damaging property or breaking the law. It might mean getting involved, but it is necessary if the future of the sport of hunting is to be preserved.

One of the last things to remember is to thank your host. Each time you prepare to leave his land, stop by and express your gratitude for the privilege he has given you. Share your game bag with him and perhaps send him a Christmas card.

The landowner’s ethic is consideration of the landowner’s property. He is allowing you to use his land and you should treat it with the respect you would want towards your own.

There are a few simple tips to follow to maintain a cordial landlord/sportsman relationship, none of which take very much time and can only add to the enjoyment of the hunt, for both of you.

The first is to be sum and ask permission each and every time you go on another’s property. Although you may have been told that you are welcome any time, it is always good to check in with the landowner and let him know when and where you will be on his property.

For a long time we have been worrying about there being too many fishermen. Now we are worrying about their being too good. Too many fishermen that are too good can change the whole picture in a hurry.

As science and persistence snare deeper and deeper into fish privacy it stands to reason that the fishermen are going to win in the end. After all, we are smarter than fish and now that we’ve really put our minds to it the game is getting pretty one-sided.

From the time Isaac Walton dunked worms for English trout until the boys came home from World War II there hadn’t been much real advancement in fish catching methods. Oh, the rods, reels and lures had gotten better all right but there didn’t seem to be much that was really new. We hadn’t really learned much about sport fishing in the past 200 years.

Spinning tackle came along and made fishing more democratic because it was easier to learn than other gear. Some said it should be outlawed because the new school.

... and fishing was no longer a gentleman’s game. A real fisherman had to have everything: a good rod, good reel, good lures.

Then came the heretical revelation that the black bass weren’t all living along the shorelines. Most of them, the new prophets revealed, were sort of bunched up and lying around near the bottom and if you’d troll deep and fast you’d find where they were and you could then use any kind of tackle you chose. Some of us old mossbacks said we didn’t want to do that kind of fishing. We'd still beat the shorelines. We did but we didn’t catch as many fish as the new school.

The plastic worm then appeared as the most deadly bass artificiai and is still developing. All of this time the other fish were having troubles too but it’s hard to get away from bass because they are the most popular game fish and because they don’t migrate much. We were getting their numbers pretty fast.

Once upon a time, overfishing with rod and reel was considered to be impossible. But now, with new methods, equipment, and a large, highly mobile, fishing population, overfishing becomes a real possibility.

A Painful Decision

we’ve made some great strides in learning the whys and wherefores of outwitting fish—it’s likely that we’ve even gone too far.
Saltwater bag and size limits have been questionable, because saltwater fish are hard to count and hard to follow and we have the commercial fishing business which provides a valuable source of food. Now all of this is aside from, and in addition to, the matter of habitat. It is, of course, more important than ever but you can take it from me that we are drawing closer and closer to the general concept of fishing for sport only and the release of fish once they are caught. This has been growing in freshwater trout fishing for years. There are thousands of expert freshwater trout fishermen who don’t kill and eat a fish a season. The catch-and-release business is being applied more and more to black bass and to saltwater fish.

There is something special about the freshwater trout fishing because put-and-take programs have long been working there. They fish are stocked and eaten and, at the same time, “wild” trout aren’t being kept by fishermen at all on many streams. It’s easier to keep your thumb on a trout population than on a bass population but I think real bass management is coming.

Here we meet a dilemma. It takes lots of fisherman and lots of license, tackle and boat sales to finance fish management, whether in fresh or salt water. How many of today’s fishermen are willing to fish for fun only without ever taking a fish home to eat? Just how much of sport fishing is the pure fun of pursuing fish and how much of it is show-and-tell?

Let’s make a wild and semi-educated guess. I’ll say that 90 percent of today’s fishermen would lose interest if they couldn’t take home a fish. Make all sport fishing a catch-and-release proposition and most fishermen would simply stay home or take up something else.

I would like to think that this is a simple matter of mental conditioning. I would like to think that the kind of people who will take long hikes and come home with no prize and the kind of people who don’t kill and eat a fish a season. The catch-and-release business is being applied more and more to black bass and to saltwater fish.

There are two routes when a supply suffers from overfishing. We can release what we catch or we can make them so difficult to catch that the population doesn’t suffer. I think the release system is the final answer.

A man with a few thousand dollars tied up in a bass boat with all of the gadgets is not going to be happy about restrictions that would put him back to rowing along the shoreline. In many cases the major part of his sport is reading a fishfinder and using his deadly gear.

Anyway, we come to a bit of advice that will be painful. Put them back.

There are some good cameras that fall between the really inexpensive models for backyard snapshots and the ones that serve professionals regularly. One class of them fits very well in a tackle box.

These are the “compact” 35 millimeter cameras. They take a full frame of 35 millimeter film and one of the smallest, the Rollei, is only 4 inches long. Some of the others are a mite bigger or a little smaller but not much. Most of them have built-in exposure meters. I wouldn’t worry about the lens quality as we don’t see many bad lenses any more.

Now the “pocket” cameras usually use only half of a 35 mm. frame. They’re considerably smaller but I’d put up with just a little more size for the added advantage of a larger format. Of course there are uses for the smaller outfit where space is really at a premium, but don’t get one for a saving in film costs.

These compact cameras can be kept in a plastic waterproof envelope while actually on a trip although I’d take them out for ventilation as soon as I got home. One model, the Leica, has interchangeable lenses but one as it is, it’s a little out of the price range I’m pushing. Forget the interchangeable lenses and I think you’ll get by for between $80 and $150.

Most of these cameras have slightly wide-angle lenses by old standards but the wide-angle lens has become so popular for general use that no one would object now if you called it “normal.” Traditionally, the “normal” lens for a 35-mm. camera is 50 mm. Most of the compacts have lenses around 35 mm. Don’t get all steamed up over lens length. The lenses are all right. All of them are fast enough for most outdoor photography.

About the only disadvantage I can think of with these little cameras is that they’re just a little awkward for big hands. Everything is pretty close together. If I were going to cover a riot, I’d like something I could grab hold of a little better, but for a handy picture taker you’ll have along, you can sacrifice that kind of convenience.

It is hard to beat the Nikonos underwater camera for rough and tumble use on a fishing trip but it is considerably larger than the real compacts and has no exposure meter. It’s also quite a bit more expensive but I still think it’s a wonderful gadget and I use one quite a bit.

The more I talk to fishermen about personal cameras the more I am impressed by the necessity for compactness. If you don’t take it along, you don’t take the pictures.

Useful cameras for photo-inclined fishermen include the compact Rollei, center, framed by a full-sized 35, left, and a Nikonos underwater camera, right. The latter is good for rough and tumble fishing trip use.

Photo by Charles Wallman
the traditional Southland-style dog hunting. Because of the degree of efficiency in hunting hogs with dogs, however, it become necessary, in 1973, to prohibit the use of dogs for taking hogs. Though the actual harvest of hogs has slightly declined since 73, efforts at sustaining a huntable feral hog population are greatly enhanced through this approach.

Over the years, turkey populations on the area have declined somewhat, as a result of heavy pressure combined with habitat changes, although the Aucilla WMA is still a good bet to produce a spring gobbler. Officers patrolling the area report a good turkey population, especially when compared to some other areas, but nothing to match the numbers of turkeys present in the early and mid-1960s, when flocks of 15 to 20 turkeys were commonplace on the Aucilla Area.

Game harvests for the past five general seasons and spring gobbler seasons indicate a good success ratio for hunters. An average of 175 deer, 299 wild hogs, and 15 turkeys were accounted for during the respective seasons. Although no harvest figures are available, small game hunters also find excellent squirrel hunting.

There is an added attraction to the Aucilla Area in the form of a 900-acre impounded marsh called the Hickory Mound Waterfowl Impoundment Area. Originally designed to attract and hold waterfowl in the area, the impoundment produces good duck hunting. The impoundment has provided an unexpected bonanza of outdoor recreation, however, in the form of excellent crabbing and fishing for both salt and freshwater species. A graded road on the dike forming the impoundment provides access to the area, and is routinely bustling with family outings on weekends and holidays.

To further emphasize the all-around capabilities of the Aucilla Area, mention must be made of the endangered species present on the area, the bird life, Indian artifacts, and approximately 33 miles of scenic rivers flowing through the area.

The Florida panther and southern bald eagle are (continued on next page)
Although most of the Indian mounds in the area have been destroyed by amateurs, it's still fairly easy to locate arrow points along the many graded roads. A recently graded road after a hard rain produces best results.

The 33 miles of waterways are the Wacissa, Aucilla, and Econfina rivers. All three are navigable only by small boat or canoe, and all are very scenic. Excellent freshwater fishing, especially for panfish, is provided by all three. Crickets, benett worms, cahina worms, and small artificial bugs all practically guarantee a string of redbreast and stumpknocker. A few small bass are also caught, but few people actually fish for bass. Bush hooks baited with cut mullet or eel produce some fine catfish.

Like most wildlife management areas, the Aucilla has the standard food plots, wood duck nesting boxes, etc. Most of the wildlife management work on the area, however, consists of working with landowners in habitat manipulation.

It cannot be overemphasized that without the cooperation of large landowners, such as Buckeye,
found in a variety of aquatic habitats from tiny roadside puddles and quiet sloughs to large rivers and lakes. The plants have broad, shiny leaves, dark fibrous roots, and range up to nearly four feet in height. The seeds of the hyacinth sink to the bottom and can remain dormant for years. Once exposed to the drying effect of sun and wind—as during a drought or a reservoir drawdown—for example—the seeds become viable and ready to germinate as soon as they are again exposed to moisture. A single hyacinth plant is capable of producing up to 60 thousand new plants in a single year.

The floating qualities of this weed lend themselves to spread by Mother Nature. A strong wind can force a patch of hyacinths through connecting waterways, carrying the nucleus of an infestation into new waters.

The water hyacinth offers some benefit to wildlife. It serves as a food source for wading birds and as shelter for fish food organisms. It may also function as a trap for excess nutrients in over-enriched waters.

This non-native plant is not as showy as the water hyacinth but is fast becoming a major pest. First noted in the wild near Miami in 1960, it is estimated that the acreage covered by hydrilla is increasing at a rate of 15-20 per cent a year.

Hydrilla has long branching stems coming up from its roots. In bloom, a tiny translucent flower tip each stalk. The plant, resembling a bottle brush in form, is brittle and scratchy to the touch. Like the hyacinth, it can grow in big masses, blocking water flow and interfering with navigation. Reproduction is mainly by formation of offshoots or runners. The plant is readily spread by fragmented stems which send out roots, become anchored, and grow into thriving new plants.

Eurasian watermilfoil (Myriophyllum spicatum)

Like the other two, this exotic is believed to have been introduced into Florida waters by aquarium owners. A submerged plant, the watermilfoil produces leaves that resemble a frayed feathered fan. A spike of tiny flowers two to four inches long protrudes above the surface when the plant is in bloom. It spreads rapidly and is a serious threat to Florida's waterways.

How these and other exotic plants got into our waterways and how they spread are just part of the mystery concerning aquatic weeds.

CONTROL

A simple, direct approach to clearing an area of aquatic weeds is to remove them by hand or machine. Over the years, several sophisticated machines have been developed for this purpose. Underwater mowers have been used with some success to cut aquatic weeds. Once clipped, the cuttings are gathered and removed.

Dragging a heavy chain through weed growth to uproot the plants is another technique that has been used in weed control efforts. The plants thus freed from their bottom attachment, float to the surface and are readily removed. A mechanical harvester has also been manufactured for use on shore or on the water. Cutting bars dislodge the vegetation which is then carried by way of conveyer belts to a collection point. When harvesters operate from the shore airboats are often used to herd the vegetation to the cutting blades. Mobile harvesters are sometimes advantageous since they can be readily moved to the site of weed infestations.

There are disadvantages to the mechanical harvester, however, not the least of which is the characteristic they have of fragmenting such plants as hydrilla. This may easily compound the problem since the small plant bits are readily moved about by wind and currents, further seeding the waterway.

No matter what mechanical control is used, the expense in equipment, operation and maintenance is high, and the procedures must be performed on a
plants from infested waters to clean ones. Another method seldom used today is total water treatment in which chemicals are added to destroy problem aquatics in bulk. This is not acceptable treatment in which chemicals are added to destroy noxious weeds could be treated before reaching the large scale problem stages. Small scale control methods, prior to growing season, would help reduce environmental damage caused by chemical spraying operations during the summer months. Using nature to control problems always has more appeal than manmade attempts. Studies are underway to determine what biological controls, whether insect, fish, bird, disease or animal, could be used to combat aquatic vegetation. Biological control can be described simply as using organisms to feed on other organisms. The control relies chiefly on whether the organism will act as a tool to control only the target aquatic weed. If it is not selective or does the job too well, valuable aquatic vegetation essential to the survival of other aquatic life could be destroyed.

Some biological control methods have been researched in the state and more are under study. The alligatorweed flea beetle, for example, has been used with success. The tiny insect feeds exclusively on the stalks and leaves of the alligatorweed. Work is also being conducted jointly with several agencies on the water hyacinth weevil as a possible biological control.

For submerged vegetation, like hydrilla, a re-search program is underway to find a fish to help curb the exotic weed. The grass carp, or white amur, has been touted as a cure-all for the problems of hydrilla; however, research has not yet resolved the fish’s final place in the aquatic weed battle. Intensive research on any proposed biological control is essential before any introduction takes place. Without weighing all the facts, the intended biological control organism could itself become a problem instead of a remedy.

The Commission’s Aquatic Weed Control Section offers assistance to anyone inquiring about, or reporting, noxious weed conditions. Persons who want to report water hyacinth problems can obtain information on control methods or obtain a vegetation control permit by contacting any Commission aquatic botanist at Commission offices in De Funiak Springs, Lake City, Leesburg, Lakeland, Fort Lauderdale.

The Commission's Aquatic Weed Control Section does not limit its work to treating the current problem, but is involved in extensive research on how to prevent such problems in the future. A long range study of the effects of grass carp on native fish populations and its ability to control noxious aquatic vegetation is underway.

The Commission also maintains three biologists stationed at the Research Laboratory who are assigned to conduct research on chemical, biological and mechanical methods of noxious vegetation control and determine the effects of them on the environment.

Undoubtedly, aquatic vegetation control is one of the more complicated and misunderstood problems facing the State of Florida. Only through a better understanding of these plants, how they spread, how they may be controlled, and the role of citizens in the fight can the Commission hope to turn the tide in the battle over our waterways.

WARNING
HELP PREVENT THE SPREAD OF WATER WEEDS
REMOVE ALL WEED FRAGMENTS FROM YOUR BOAT, MOTOR & TRAILER BEFORE LAUNCH & LEAVING
ASK ANY NATIVE FLORIDA SPORTSMAN and he'll spin you tales of exciting hunting trips at favorite hot spots that today are just memorable daydreams.

Hunting can still be a successful venture in Florida's backwoods, but more and more wildlife habitat suitable for quality hunting is rapidly disappearing. Wildlife habitat, home for many game and nongame animals, has succumbed to numerous uses and misuses. Residential development, in the form of subdivisions and housing expansion, has taken a heavy toll. Industrial growth, too, has consumed thousands of acres of habitat for industrial sites and facilities. Habitat converted to improved pasture and crop lands by agricultural interests has changed the complexion for many wildlife species. As a result of environmental changes, one of the remaining wildlife strongholds is found on undeveloped wild lands, or native range, presently utilized on a large scale for cattle grazing.

Native range is best described as undeveloped lands containing natural forage plants consumed by wildlife and cattle. It is these lands that have caught the attention of the Game and Fresh Water Fish Commission's Wildlife Management Division.

The Commission has embarked on a study of range management concepts with various livestock and landowners. These concepts are not new to the livestock industry and cattle production, but for landowners seeking to promote wildlife forage growth on native range, additional range management procedures may be required.

To the cattle industry, range management means management of desirable grasses as quality food sources for cattle production. Throughout cattle raising history, range management concepts have evolved into a complex science. Years ago large cattle herds along with native buffalo populations were free to graze on abundant grasslands. Roaming at will, these grazers found plenty of nutritional forage with grazing locations restricted only by geographical boundaries such as mountain ranges or rivers. As the country grew, open range was sold and divided into ranches and farms to accommodate agricultural needs. Endless grasslands were transformed into platted acres, and natural boundaries were replaced by fences. It was evident that to continue quality cattle production on limited range, management of grasses was critical.

Today much cattle grazing land has been adapted to improved pasture. Having limited value for few wildlife species, improved pasture has been planted with selected grasses, many of them exotics, strictly for cattle consumption. To maintain grass production, sizable investments of time, money, and manpower are required. These costs are often prohibitive to livestock owners. To combat the problem, many cattlemen have returned to native range for grazing use.

Native range contains many forage plants suitable for both cattle and wildlife. If managed properly, cattlemen could increase forage production for cattle with possible benefits for wildlife. With a trend among livestock owners to supplement their income with hunting leases, the management of forage plants for wildlife utilization could complement a lease program. Considering both wildlife and cattle uses, Commission wildlife biologists are researching range management concepts of cattle production, grazing methods, and forage plant growth.

For example, plants, like all other organisms, have growing seasons when production is best. Allowing rest periods for desirable plants during this season will aid production. At the same time, desirable grasses, managed properly, will out-compete and control less desirable plants. By shading out required sunlight, desirable grasses can severely restrict growth of unwanted vegetation. But when desirable grasses are grazed, controls must be present to prevent overgrazing. Simply closing fence gates is often the answer.

(continued on next page)
According to range management research, grasses grazed below 50 per cent of the exposed plant are slow to respond during their subsequent growing season. If grasses are overgrazed, range deterioration can occur. Both wildlife and cattle are then left with low-quality, less-nutritional vegetation. Continued overgrazing practices will eventually result in overcompetition and invasion by poor-quality forage plants.

Guided by range management data, the Commission, in cooperation with the U.S. Soil Conservation Service and the University of Florida, is developing a grazing program on native range to investigate possible benefits for wildlife. The program considers many factors, such as acreage, herd size, native plant growth cycles, and boundary fencing. Incorporating this data, cattle herds would be rotated from range to range according to forage growth characteristics. Desirable forage for cattle and wildlife could be utilized effectively, and the risks of overgrazing and undesirable plant invasion minimized.

Coupled with the grazing program are plans for prescribed, or controlled, burning. This management tool, used on designated vegetation in specific locations, can stimulate growth of good forage plants and reduce the loss of desirable forage by indiscriminate burning practices.

The Commission has made plans to introduce the project on the Green Swamp and Cecil M. Webb wildlife management areas and on several private ranches. Monitoring the project, Commission wildlife biologists will collect data to determine success. Employing native range management techniques, the Commission hopes to enhance suitable habitat for many wildlife species. To the sportsman, good quality habitat is the key to memorable hunting experiences.

The Commission has made plans to introduce this project on the Green Swamp and Cecil M. Webb wildlife management areas and on several private ranches. Monitoring the project, Commission wildlife biologists will collect data to determine success. Employing native range management techniques, the Commission hopes to enhance suitable habitat for many wildlife species. To the sportsman, good quality habitat is the key to memorable hunting experiences.

By Wayne Hook

The improved pasture (left) has limited value as wildlife habitat, especially for game species. Proper management of grazing lands can assure benefits to both domestic stock and wildlife.

An old sycamore, its roots laid bare by racing water, succumbs to a summer thunderstorm's gusts and topples down the steep bank of the Apalachicola River. The tree's crown scantly settles into the water before minnows are among the leaves, feeding on aphids and caterpillars and finding shelter among the submerged foliage. With time, the leaves are swept away, and the tree which once raised its milk-colored limbs 90 feet above the river hangs lifeless in the current—a snag.

In life, the sycamore was a productive component of the forest; in death, it has become even more productive within the aquatic environment of the river. The branches which once offered continuity to the forest canopy now offer diversity to the river channel. As the current gurgles through the branches, the water is aerated and mixed. Pockets of quiet water form behind the trunk and branches. As the current gurgles through the branches, the water is aerated and mixed. Pockets of quiet water form behind the trunk and branches, allowing algae and other small aquatic organisms such as mayfly nymphs to find attachment and refuge from the current. Juvenile fish are attracted to the snag, finding not only shelter but an abundant source of food. Turtles sun along the trunk, dropping back into the safety of the river at the first sign of danger, while a heron leans from a low branch to spear topminnows.

The heron is put to flight by the whine of an outboard motor, and moments later a fisherman angles his skiff into the snag's eddy and loops a rope around the branch on which his feathered counterpart was perched. Chances are that he's...
deer, bear, and turkey seek higher ground, bass made available to fish and other aquatic animals.

As the river rises, the entire flood plain forest becomes a swamp of the flood plain. Oak, hickory, tupelo, and sometimes as much as several miles, is the forested area that would be greatly diminished.

The commercial oyster landing of Apalachicola Bay provides a wealth of minerals and nutrients, creating one of the richest remaining seafood resources in the country.

Throughout the length of the river, however, the flood plain vegetation types share a common trait: that of being able to withstand prolonged flooding. As surely as winter and spring rains come to the mountains of Georgia and Florida's panhandle, the river will swell and flood each year. Plants, animals, and any people who choose to live within the flood plain learn to adapt to these seasonal inundations.

1. Steady bank erosion results in abundance of snags which are of major importance to the stream's fish. 2. A flood plain forest. 3. A meandering course, plus wide, heavily timbered flood plain are features of the Apalachicola. 4. Fruit of the tupelo, one of the major species on river. 5. Limerock shoals are ecologically important feature of portions of Apalachicola.
comprises 87 per cent of the state's total catch, while fish, crabs, and shrimp taken from the bay successful cross, the result is apt to go beyond the of the mixing of the river and the sea. As with any more useful and more productive than those from which it sprang. As a result, a better oyster factory could hardly be designed and could never be exe­ cuted. With a ring of barrier islands separating the bay from the open Gulf of Mexico, coupled with the profound effect of the river, the bay provides near­
the river, makes its living from the bay. Oyster­live in and around Apalachicola, selling their that more than 60 per cent of the economic base of men, shrimpers, crabbers-fishermen of all sorts Franklin County centers around the seafood indus­
Franklin

The bay can be thought of as a hybrid, the result (continued from preceding page)

Despite the river's acknowledged value as an economic and recreational resource, pressures are increasing to the point where it was no lo

channel, for the light barge traffic using the Apalach.

being brought to bear to drastically change its character.

Traditionally, the river has been a conduit over which man has transported his goods and himself. Indians traveled its watery road on their way to the bay, and its easily-obtained sources of protein. The red men, were replaced by Crackers, who rode large rafts of hardwood logs cut from the plain forest and hauled to the water's edge by oxen. But it wasn't until steamboats whistles were heard on the river that dependable two-way traf­

The early vessels were shallow-draft paddle wheelers; true riverboats adaptable to almost any mood of the river. Post World War II industrialization and the New South created a demand for deep-draft vessels which could haul more goods at a cheaper rate. In the face of this demand, a complex navigation enhancement project was planned for the Apalachicola and its major tributaries, the Chattahoochee and Flint rivers, by the U.S. Army Corps of Engineers.

The Chattahoochee and Flint rivers were subse­quently wired with a series of dams that provided hydroelectric power and deep, stable navigation channels. Man's ability as an earth mover had increased to the point where it was no longer neces­sary to design a riverboat capable of navigating a shallow, crooked stretch of water. Instead, the river was redesigned to meet the requirements of the boat.

Changing the characteristics of the stream has caused profound changes within the river system. Striped bass, sturgeon, and other anadromous fish found their range reduced to a fraction of that which existed prior to the damming of the rivers. Moving upstream from the Gulf to spawn, they find their way blocked at Jim Woodruff Dam, the low­ernmost in the system. As a result, the numbers of striped bass have decreased to the point where the game and fish commissions of Florida and Georgia conduct restocking programs, and a small, but once-thriving, commercial sturgeon fishery no longer exists.

Other channel improvement activities also tax the resources of the stream fishery. Rocky shoals, the feeding and spawning zones for shool bass, are also low-water obstacles to deep-draft barges and are being steadily removed. Snag, basic habitat of the low-water river, are "navigational hazards" in the vernacular of the Corps of Engineer, who claim to remove approximately 10,000 each year from the Apalachicola. And the river mainstream itself—sculptor, farmer, trader, provider that it is also is a wanderer, causing concern among those who would navigate it. This too, is a solvable problem in the mind of the Corps. En­tertainment dikes, fences of pilings and More rubble built by stealth at night, to help curb a more direct route to the Gulf. In places, entire oar­

In an average year, the Corps spends more than $1 million and dredges approximately a million cubic yards of Apalachicola River bottom in an ef­

to maintain the authorized 100-foot-wide, by 9-foot-deep channel. In high water years, such as 1975, the project is a smashing success, allowing unlimited year-round barge movement. In other years, whenever prolonged dry weather lowers the river level, deep-draft barge movement on the river is restricted despite the efforts of the Corps. Shop­pers are then advised to "light load" their vessels to 8 or even 7 feet, to avoid damage to the hulls of their barges.

In 1973, the Corps proposed to solve this problem by building a series of four dams on the Apalachicola. In an emotion-charged hearing at Marrianna, the Governor and Cabinet opposed the plan as an unjustifiable risk to Florida's natural resources. Joining the opposition to the project were various state and Federal agencies concerned with biological resources, as well as the elected bodies representing the six Florida counties bordering the river. The issue, seemingly, was dead.

While environmentalists celebrated their victory, however, Alabama and Georgia industrialists were already planning a counterattack. A Dothan, Alabama-based group, the Tri-Rivers Waterway Development Association, began an intense public relations campaign designed to rally support for one or more dams along the Apalachicola. Gaining impetus from a rocky economy, they claim that new industry will be attracted to the region by the building of dams.

Their opponents point out that the authorized 9-foot channel has been available for more than 80 per cent of the time since 1970, and that only 10 per cent of the vessels using the Apalachicola re­quire depths of greater than 7 feet. According to Corps records, 7-foot depths are sufficient to float 90 per cent of the vessels logged as using the river system, and have been available 100 per cent of the time since 1970. Despite the availability of a shipping channel, an average of only three barge tows per day travel the river, and new industry has shown little inclination to locate along the Apalachicola. Of the four industrial sites located along the river, all are at least several years old. Seemingly, Floridians have the least to gain and the most to lose if dams are built along the (continued from next page)
The well-being of the seafood industry as well as a small commercial freshwater fishery, both of which are dependent on the river. In fact, the shellfish industry will be lost or rendered unusable if even the water quality of the river is low. The commercial navigation channel that is available to commercial navigation of the flood plain is of significance and is growing, as are other uses, such as timber production, and these, too, would be affected by changes in the river's ecological system. And we already have a seafood industry at authorized depths for the majority of the time. Already, we have a system which provides a livelihood for thousands of people and a prime source for additional thousands, and, again, it doesn't cost us one dime. The decision of the Governor and Cabinet to oppose the dam proposal in 1973 was based on the opinions of biologists who are knowledgeable of the Apalachicola system. Although concrete proof is rarely available until after the fact, indications are that the proposed project will have a significant adverse effect on the river. As new information has come to light, it has been shown that even the current navigation enhancement program of dredging and desnagging significantly degrades the river as a fishery resource.

Florida is at the lower end of the tube. Whatever Georgia or Alabama choose to flush, we are forced to receive. At present, we have a natural sewage treatment plant, the river flood plain, which purifies the water to acceptable standards before it reaches the shellfish beds in the bay, at no cost to the taxpayer. Already, we have a system which provides a livelihood for thousands of people and a protein source for additional thousands, and, again, it doesn't cost us one dime. The dogs find a final resting place as the end of the hunting day approaches. Similarly, Ed McLaurin, after 23 years of writing this column, elects a final resting place of his own pertaining to gear for outdoorsmen.
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hunting gun you can own.

Among modern models, you can't go wrong choose

hunting shotgun from among the Remington 870 "Wingmaster" pump action repeater, or the

similar type Ithaca Model 37 or Savage-Ste
gens Model 30-D, preferably with ventilated rib and muzzle-attached selective choke features.

If you am

no recoil conscious, or have a heart condition, then I recommend a Remington Model 1100 gas piston autoloader.

Be sure to pattern your shotgun, so that you will know exactly where it places the main shot charge in relation to point of aim, and which particular shot size patterns most uniformly with the choke you used.

Big Game Rifle: I consider the Remington Model 700 in BDL grade one of the finest bolt action big game rifles to be had in proper caliber, you can use it effectively anywhere in the world.

For Florida brush country big game hunting, I especially like the Marlin Model 336-C lever-action Carbine in 35 Remington caliber. Some of the current-production Marlin 336's come to hand a bit rough on their interior surfaces, but par
tially disable and judicious application of a smoothing

erable polishing tip, chucked in hand-held Dremel electric tool, will give custom smoothness.

Keep in mind that a short overall length rifle can be

erable more quickly in thick brush, and be swung faster when put to shoulder, than a long one.

Gun Cleaning Rods: A flimsy or rough-surface cleaning rod can do more harm than good to a fire

arm. Don't compromise on cleaning rod quality.

I use Otters Laboratory's "Imperial" lifetime grade, swivelng handle, polished stainless steel rifle and pistol rods, and their anodized aluminum shotgun rod.

Get the rifle and pistol model in particular calibers used, and shotgun rod in correct gauge size.

Tools: Whether guns are your sole hobby or among others, to an industrial grade Dremel No. 281 Moto-Tool Kit. It will prove one of the most versatile tools you can own. Small gunsmithing job and hobby uses are virtually limitless. You have to own and use a Dremel No. 281 Moto-Tool Kit to fully appreciate it.

Add a set of quality screwdrivers, from watchmaker's matched set of miniatures to big blade, long shank versions capable of reaching deep into gunstock bolt recesses. Take care of them.

Binoculars: The hunter who uses binoculars regularly and efficiently will definitely see more game.

Don't make the mistake of purchasing a heavy instrument that will hang heavy from neck strap, or be bulky to carry afield. If you do, you will gradually fall into the habit of leaving your binoculars at home or in hunting camp, where you should have them with you.

I recommend Bushnell "Custom Compact" model binoculars of 7 × 26 optical designa

tions. They weigh only 11 ounces and are so compact that I can carry them in my hunting coat pocket when I'm not wearing them around my neck ready for instant use.

Silva "Huntsman" Compass: You don't buy a pocket compass every hunting season, as you do ammunition, so get a good one.

I swear by my accurate, compact, lightweight, cover-closing Silva "Huntsman" model compass, with luminous needle points. The needle works on a sapphire jewel bearing in a liquid-filled transparent housing. You set the revolving dial to desired course and then simply follow "direction of travel" arrow.

With cover closed, a "Huntsman" model compass is only 2 × 2 1/4 × 1/4 in size, and weighs just 2 ounces, yet the instrument is tailored to take hard knocks in active service.

Clothing and Footgear: I designed my hunting coat, and had it custom-made. Likely you have your own ideas about a hunting coat. Just get a good one.

In camouflage items, for cold weather wear, get yourself an "Antler" brand camouflage insulated coat, as made by M. Rubin Sons, 10 West 33rd Street, New York 10001, or closest equivalent in rival brand. For both hot days and quick conversion of any hunting outfit to camouflage, use a camou

lage net material parks, with turn-up hood.

You definitely should wear quality, comfortable boots and shoes. There are many good brands, but for Florida you can't go wrong with Red Wing "Irish Setter" leather 8-inch boots and a supple

entary pair of Converse "No Bite" combination leather and rubber boots, worn with pants legs outside.

I prefer the Converse model over the L. L. Bean "Maine Hunting" shoe because the Converse is lighter in weight per pair. Boots that weigh a pound more each than necessary will force you to lift an extra 2,000 pounds of weight every 2,000 steps. Just 8 ounces excessive weight per shoe will demand 1,000 pounds of extra lifting every 2,000 steps taken. And is the Converse "No Bite" model durable? I've had mine 13 years now. They show hard wear but are still sound.

Aluminum Frame Folding Stool: Most of the type are made of 1 inch diameter aluminum furniture tubing, painted dark green or olive drab, with under

luggage, zipper canvas storage compartment. For deer, duck, and dove hunting, these stools serve both as comfortable, convenient seat and carryall bag.

I highly recommend the L. L. Bean model of

binoculars. They are an invaluable aid to a hunter. Once you get used to using them, you'll consider them practically indispensable. For the Florida hunter, a 12-gauge shotgun is the most versatile hunting gun that you can own.

square "O" closed frame construction, that resists seat-fitting "dig in" that so often occurs with a four-legged stool set on soft ground.

Seat and underlunch carryall compartment are made of waterproof nylon canvas camouflage mat

eral that will take little of hard use.

Adjust the carrying strap so that, when the strap is slipped over shoulder, the stool tends to find comfo

rable position beneath your arm.

Books and Special Publications: If you like and use guns, there are certain book titles you should definitely own. Their reading will add much to your knowledge and shooting pleasure.

In the gunsmithing category, acquire Gun Owners Book of Care, Repair and Improvement, by Roy Dunlap. Home Gunsmithing, by Tommy L. Bush. NRA Gunsmithing Guide, and Bob Brownell's Gunsmithing Knacks. These books will provide technical how-to information for any gunsmithing job you are ever likely to attempt, and are literally worth their weight in gold to a person who repairs or refurbishes firearms used.

You should also have Robert Stack's Shotgun Di

gest, and the NRA's Firearms and Ammunition Fact Book. Any bookstore can order the titles from publishers if it does not already have them in stock.

Don't fail to subscribe to The Shotgun News, Hastings, Nebraska 68901. The semimonthly pub

ication is a worldwide trading post for anything that shoots or pertains to shooting. Issues will pro

vide with you highly interesting---and, quite likely, money-saving---reading, even though composition is totally display and classified advertising. I've been a subscriber for 29 years, yet I eagerly await the arrival of each new issue.

So long readers and good hunting, this season and every year.
Making the Most of Camp Meat

With the arrival of another hunting season, scores of outdoorsmen will be heading for campsites throughout Florida's wilderness to renew themselves amid nature's splendor. Aside from the obvious need to triumph as a hunter, one of the most important parts of an enjoyable camping trip is the preparation of meals in which freshly-killed game is the main attraction.

Contrary to popular opinion, camp meat need not be either tough or tasteless, but can be as deliciously satisfying as meals prepared in a modern, well-stocked kitchen. All it takes is a little imagination, a working camp stove, and a few basic ingredients, such as flour, onions, instant meat tenderizer, salt, pepper, and of course, the meat. A couple of envelopes of dried onion soup or chicken broth, beef or bouillon cubes, and some canned tomatoes, vegetables, and potatoes provide versatility and stretch a little meat a long way.

Since ease of preparation and adaptability are essential to planning camp meals, simple recipes are essential to planning camp meals, simple recipes are best. Besides frying, among the most popular methods of cooking camp meat are stewing, fricasseeing, and barbecuing. Once you've mastered the basic recipes, it is easy to adjust them to fit any situation.

Campfire Barbecue
(Or the Wiener Roast without the Wiener)
Any kind of game or wildfowl in serving portions
Salt and pepper
Barbecue sauce or garlic butter (if desired)
Bacon strips
Several long, sturdy green sticks (one per person), sharply pointed on one end
Toothpicks

To sharp end of stick, attach 1 steak, small bird, or serving portion of other game. Salt and pepper to taste, if desired, baste or dip in barbecue sauce or garlic butter. Wrap meat in 1 slice of bacon to keep moist, securing bacon with a toothpick. Bake some red-hot coals from the campfire to the edge of the fire and hold meat over coals, turning occasionally to cook evenly until desired doneness. For variety, omit bacon. (Hint: game birds are especially good when dipped in barbecue sauce.)

Fricassee Squirrel
(Or Other Small Game)
1 squirrel (rabbit, etc.), dressed and disjointed into 6 or 7 pieces
1/2 cup flour
Salt
Pepper
3 slices bacon
1/2 medium onion, sliced or chopped
1/2 cup chicken broth (reconstituted from dried soup or bouillon according to package directions)

Instant meat tenderizer
Sprinkle meat liberally with tenderizer and set aside. In medium or large skillet, fry bacon until crisp, remove and drain. Salt and pepper pieces of game to taste, dredge in flour and brown quickly in hot bacon fat. Reduce heat; add onions and cook till barely tender; return meat to skillet, add just enough water to cover meat, stir in crumbled-up bacon. Cook over medium-low heat about 25 minutes, stirring occasionally. Serves 6. (Hint: this is delicious served over rice.)

Stewed Rabbit
(Or Other Small Game)
1 rabbit (squirrel, etc.), dressed and disjointed into 6 or 7 pieces
1/2 cup flour
1/2 tsp. salt
1/8 tsp. pepper
1/2 medium onion, chopped
1-1/2 cups chicken or onion soup (reconstituted from bouillon or dried soup)
1 can tomatoes
1 can potatoes, whole or sliced
1 can mixed vegetables
1/4 cup cooking oil
Instant meat tenderizer

Sprinkle meat liberally with tenderizer and set aside 10 to 15 minutes. Mix flour, salt and pepper and dredge meat in mixture. In skillet, brown meat quickly in hot cooking oil; add onions and cook till barely tender. Stir in broth and tomatoes; cover and cook over medium-low heat about 20 minutes. Add potatoes and vegetables, cover and simmer over low heat until meat and vegetables are tender, about 30 minutes. Serves 4.

Venison Liver with Onions
1 venison heart and liver, trimmed and sliced into 1/2 inch strips
2/3 cup flour, more or less
1/2 teaspoon salt
1/4 teaspoon pepper
1 or 2 large onions, cut and sliced
3 pieces bacon
1 cup water, more or less

Fry bacon in skillet until crisp, remove and drain. Mix flour, salt and pepper and dredge meat slices in mixture, covering all sides. In hot bacon drippings, sear meat quickly on all sides to seal in juices, remove and set aside. Add onions to skillet and cook till barely tender; return meat to skillet, add just enough water to cover meat, stir in crumbled-up bacon. Cook over medium-low heat about 20 minutes, stirring occasionally. Serves 6. (Hint: this is delicious served over rice.)

Crispy Fried Venison
1 to 2 lbs. venison, trimmed of fat and cut in fingersized pieces
2/3 cup flour, more or less
Salt and pepper
Vegetable oil
Instant meat tenderizer (optional)

Salt and pepper individual pieces of meat to taste and sprinkle with tenderizer, if desired. Dredge meat thoroughly in flour, completely covering all sides. In very hot cooking oil, deep fry meat quickly until golden brown all over, being careful not to overcook. Remove, drain, and serve. Makes 4 to 6 servings. (Hint: fried meat loses its tenderness when cooked too long.)

By Kathleen N. Lamarche
If a deer herd is to remain stable, the annual increase of young stock must at least equal the total losses of adults, or if it is to increase, must exceed the adult die-off. By knowing the proportion of the various age classes among the adults present, one may determine the average life span as well as past reproductive success. Once the normal patterns of these population fluctuations are learned, more adequate regulations and management practices may be recommended.

Theoretically, when a legal spike buck law is in effect, the 1½ year age class should show up as the largest age class in the kill, with the 2½ year old age class next and so on down the line. When the 2½ year age class is greater than the 1½ age class, it is usually due to many yearling bucks lacking legal sized spikes, declining reproduction, or a difference in the peak period of fawn drop, or a combination of these and other factors. A declining population usually shows a high proportion of old animals while a stable population shows a more even distribution of age classes, and an increasing population shows relatively large numbers of young individuals. The aging technique is taken from "Tooth Development and Wear As Criteria of Age in White-Tailed Deer" by C. W. Severinghaus, published in the Journal of Wildlife Management, 1949a. 13(2): 195-216.

DEER SKULL

CONDITION OF TEETH OF THE LOWER JAWBONE IS STUDIED TO DETERMINE AGE OF THE DEER

By RICHARD HARLOW

At age up to 12 months, the study of the incisors can aid in determining the age of the fawn deer. During the fifth months of age, the fawn loses the two middle incisors (milk or deciduous pincers). By age 10 months, the permanent pincers are fully erupted. Milk or deciduous lateral and corner incisors are replaced with permanent teeth during the tenth or eleventh month. At age 12 months and older, close study of premolars and molars is necessary to determine age of deer.

DENTAL AGE CHARACTERISTICS OF THE WHITE-TAILED DEER

Drawings viewed from cheek side of lower jawbone Age class illustrations based on December kill.

FAWN

3-4 MONTHS OLD

First premolars (milk teeth) fully erupted. First molar barely visible at gum line. At 4 months of age, fawn would be dropped in August and have been conceived in January.

4-6 MONTHS OLD

First molar almost fully erupted, second molar not yet appearing above gum line. Animal dropped in June and conceived in November if six months old.

7-9 MONTHS OLD

First molar fully erupted, crest of second molar barely showing above gum line. Milk teeth showing wear. If animal 9 months old, would be born in March and conceived in August.

(Continued on next page)
1½-YEAR AGE CLASS (YEARLINGS)

1 YEAR 5 MONTHS

First three premolars (milk teeth) showing considerable wear near gum line. First and second molar teeth fully erupted with sharp crests. Third molar not full erupted, last crest partly hidden by gum line. Animal born in July, conceived end of December or January.

2ND AND 3RD PERMANENT PREMOLARS SHOWING BUT NOT FULLY ERUPTED

1 YEAR 6 MONTHS

First three premolars (milk teeth) shed and permanent premolars about ¼ erupted. Back crest of third molar still hidden by gum. Crests of all molars sharp pointed. Animal dropped in June and conceived in November.

1 YEAR 7 MONTHS AND OLDER

PERMANENT PREMOLARS FULLY ERUPTED—NO WEAR-SHAPED CRESTS

ALL BUT 3RD MOLAR WITH FULLY ERUPTED SHARP CRESTS

3RD MOLAR NOT FULLY ERUPTED

2 YEARS 6 MONTHS

All permanent premolars and molars fully erupted. Crests of first three premolars showing slight wear. Slight wear on first molar. Animal dropped in June, conceived in November.

3 YEARS 6 MONTHS

Noticeable wear appearing on first three premolars. Substantial wear on first molar and slight wear on second molar. Most posterior crest on third molar showing wear. Animal dropped in June, conceived in November.

3RD PERMANENT PREMOLAR PUSHING OUT MILK TOOTH

2 YEARS 6 MONTHS

Last cusp of 3rd molar flat.

3 YEARS 6 MONTHS

Lingual crests of 1st molar blunted—dentine wider than enamel.

4 YEARS 6 MONTHS

Substantial wear on first and second molars. Only slight wear on crest of third molar. Animal dropped in June, conceived in November.

CRESTS ON PREMOLARS SLIGHT TO MODERATELY WORN

5 YEARS 6 MONTHS

Considerable wear on first molar. Dentine wider than enamel on all teeth. Only a slight crest noticeable on third molar. Wear on all teeth. Animal dropped in June, conceived in November.

PERMANENT PREMOLARS MEDIUM TO MODERATELY WORN

CRESTS OF 1ST AND 2ND MOLAR SHOWING WEAR

7 YEARS 6 MONTHS

No crests showing on premolars or molars. Dentine wider than enamel on all teeth. Animal dropped in June, conceived in November. First molar worn to within 2-3 millimeters of gum line on cheek side and 2-5 millimeters on tongue side of jaw.

5 YEARS 6 MONTHS

PREMOLARS HEAVILY WORN

ALL CRESTS WORN—DENTINE WIDER THAN ENAMEL

7 YEARS 6 MONTHS

1ST MOLAR WORN TO WITHIN 2-3 MM OF GUM LINE ON CHEEK SIDE AND 4-5 MM ON LINGUAL SIDE

OVER 10 YEARS

1ST MOLAR WORN TO GUM LINE ON BOTH SIDES

Age of deer now estimated by the amount of enamel showing above gum line. Measurement in millimeters. At 10½ years of age, first molar worn to gum line, no crests, dentine much wider than enamel on all teeth. Premolars and molars worn to within 2-3 millimeters of gum on cheek side and 2-5 millimeters on tongue side.

FLORIDA WILDLIFE

NOVEMBER-DECEMBER 1976
CONSERVATION SCENE

The Cocoa, Florida, team ranked 5th in number of species reported. Forty-four other U.S. teams, in communities from Maryland to California, listed 150 or more species, but as was to be expected, the highest totals were posted by teams south of the border in lands to which many North American birds migrate for the winter.

E.J. for Moves On

Gene not only upheld the high standards set by long-time editor Bill Hansen but succeeded in launching a number of innovations which will go far toward helping make Florida Wildlife an even better, more interesting and informative conservation publication. His projections for the future of the magazine were set forth in an editorial in the October 1976 issue.

Gene's contributions to Florida and the Commission have been substantial. The best wishes of the staff go with him as he turns his talents to a new phase of outdoor publishing.

Editor Moves On

Gene Smith, Florida Wildlife editor since March 1974, has packed his pencils, style manual, and the rest of his editorial paraphernalia and headed up to Edgfield, S.C. He has assumed editorship of Turkey Call, bimonthly publication of the National Wild Turkey Federation.

Gene has been with the Commission since 1959 when he went to work with the Fisheries Division's lake and stream survey project. Four years later, he moved to the I&E Division and served as regional I&E officer, first at Panama City and then at Lakeland. Since 1967 he has been a staffer with Florida Wildlife and the Publications Section, serving as editorial assistant, associate editor, and finally as editor.

During his time at the helm of the Commission's magazine, Gene not only upheld the high standards set by long-time editor Bill Hansen but succeeded in launching a number of innovations which will go far toward helping make Florida Wildlife an even better, more interesting and informative conservation publication. His projections for the future of the magazine were set forth in an editorial in the October 1976 issue.

Gene's contributions to Florida and the Commission have been substantial. The best wishes of the staff go with him as he turns his talents to a new phase of outdoor publishing.

Bird Count

A GRAND TOTAL OF 124,651,593 birds were sighted in last winter's Christmas Bird Count by 28,688 qualified observers who were organized into teams, which covered 1,141 count areas from the Arctic to South America, reports the National Audubon Society. This unique and scientifically valuable annual event has grown so big that it took six months to edit and compile the data this year.

Each team makes a search of its assigned count area during one calendar day of the Christmas holiday season and compiles a species-by-species list of the numbers of all the birds it can find. (Where possible, the species count is exact; for large rafts of waterfowl, huge flocks of gulls, etc., careful estimates are made.) The 1,141 lists are being published in a fat issue of American Birds, the Society's ornithological journal; non-subscribers may find, (Where possible, the species count is exact; for large rafts of waterfowl, huge flocks of gulls, etc., careful estimates are made.) The 1,141 lists are being published in a fat issue of American Birds, the Society's ornithological journal; non-subscribers may buy this issue for $4.50 a copy from the Society, 950 Third Avenue, New York, N.Y. 10022.

The findings range from zero to the millions. Point Barrow, Alaska, was the zero, that team didn't find a single bird. Catemaco, in Vera Cruz, Mexico, spotted more species than anyone else (225), and Squaw Creek, National Wildlife Refuge, Missouri, with a huge concentration of wintering blackbirds, had the highest total of individual species, 38,568,401, although this represented only 58 species.

Outstanding Wildlife Officer

The U.S. Fish and Wildlife Service has announced plans to step up control efforts on the importation of injurious fish and wildlife species into the United States. A revised list of "high risk" species, plus appropriate legislation, make up the new approach.

The introduction of an exotic may take place accidentally or deliberately. Animals can escape from containments in transit, while being processed through customs checks, while in pet stores or zoos, or while being held by private owners. Many exotic birds are first noted in the vicinity of major airports. Aquatic organisms sometimes escape with their containers in transit, due to flood or leak. Deliberate introductions are often made by persons hoping to establish populations of game species or to provide some control for pest species.

Examples of injurious wildlife species introduced into the United States are the walking catfish, African clawed frog, mongoose, Japanese oyster drill, snail, starfish, ruby-throated hummingbird, monk parakeet, and grass carp; there are many more.

Present regulations that implement provision of the 1977 act are still awaiting the final regulations, which will provide a means of listing new species as required under the rules of the state record program. The big war was taken on a shinier from an unnamed lake in Brevard County. It reportedly weighed in at 37 pounds and measured 61 inches total length and 21 inches in girth.

National Parks Improvements

A 10-YEAR PROGRAM to expand and rehabilitate the National Parks, wildlife refuges, recreation areas, urban parks, historic and archeological sites has been launched under President Ford's $1.5 billion Bicentennial Land Heritage Program. The project got under way with an appropriation of $141 million for fiscal year 1977. The appropriation will provide $110 million to acquire lands in authorized areas of the National Park System and $31 million to be used for acquisition of wildlife refuge lands.

Eleven areas of the National Park System will benefit from this fund request. They range from $627,000 to organize a land acquisition program and prepare initial land appraisals along the 2,000-mile Appalachian National Scenic Trail in the eastern states to $37.4 million to purchase the 49,534 acres of Texas' Big Thicket National Preserve not covered by previous budgeting. Also included is $30 million for Big Cypress National Preserve, Florida, a watered vital to Everglades National Park.

Ray Sting Aid

A NEW FIRST AID KIT, "Sting Ray Eze," which utilizes heat to relieve the intense pain inflicted by the sting ray, the kit contains an antiseptic and two "Fast-Heal" packs.

(continued on next page)
In an initial test of the idea, Justensen installed a Cadillac automobile engine as a replacement for the aircraft engine commonly used on air boats. The immediate savings was substantial—a $900 automobile engine compared with about $3,500 for an aircraft power plant. The results of this testing were excellent and Justensen submitted the idea for consideration by the awards board.

Justensen’s cash award represents about 10 per cent of the estimated savings to the Commission in the first year of putting the idea into practice. Besides initial cost, maintenance is expected to be much lower. Labor costs for repair work should drop substantially as auto mechanics are much easier come by than qualified aircraft engine specialists.

**New Game—"The Chase"**

RECENTLY WE HAD THE OPPORTUNITY to check out an interesting new game called "The Chase." The large playing board pictures a colorful array of Florida wildlife. Object of the game is centered on a hound and rabbit chase through the wild kingdom of the Florida Everglades. It starts at the point where the hound jumps the rabbit from his form and circles through the forest, around a lake, and back to the finish point. A guide book develops the scene much wildlife information. Sounds like a good Christmas gift idea. This is a nature study game that could get a budding naturalist off to a good start. Available from Chet Chentnik, Games Unlimited, Inc., 7916 Skipper Lane, Tallahassee, Florida 32301. M.W.

**Burning Permit Required**

SECTION 596.12. FLORIDA STATUTES, has been amended to read: "It is unlawful for any person, either willfully or carelessly, to set fire to or cause fire to be set to, any forest, grass, woods, wild lands, or marshes, or vegetative land clearing debris owned or controlled by such person without first obtaining authorization from the Division of Forestry."

Failure to obtain authorization to burn can be punished by a maximum sentence of a $500 fine and 80 days in jail, says Dee Paffos, Panama City. Landowners may obtain a burning authorization permit free of charge from any Division of Forestry field office or from their local forest fire control unit, either in person or by telephone.
Give something really special this year—gift subscriptions to the new FLORIDA WILDLIFE, with sparkling color illustrations and articles about outdoor Florida that are bound to appeal to every member of the family. Use this page to fill in your order, or just send us a complete list of names and addresses, with ZIP Codes, along with your own name and address and your check or money order in the correct amount. Each recipient will receive a hand-signed card announcing your gift.

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FLORIDA WILDLIFE Magazine
Game & Fresh Water Fish Commission
Tallahassee, Florida 32304

(Please print or type all forms)

Common or American Egret, Above and below

Florida is blessed with a great quantity and variety of watery habitats, ranging from tiny trickles coursing jungle thickets of wax myrtle and hibiscus to vast open boggy prairies. It's of little wonder that we also have an array of long-legged wading birds that fit into these various types of wetlands. To the casual outdoorsman, the all-embracing name "crane" may be good enough to identify the group. To those of a more probing mind, simply crane, pond scoggin, squawk, or shikepoke won't do it. Here's a pictorial guide to the heron family that may help you sort out this confusing array of long-legged birds.

White plumage coupled with yellow bill and black feet and legs mark oft-encountered common or American egret, above and at right.
The tri-colored heron frequents the large coastal marshes. It is encountered less often inland. The great blue heron’s large size—about 4 feet high—helps identify it. The cattle egret is an exotic that’s now at home here. It has a short neck and a short heavy bill for an egret.

Along with other species, the snowy egret was once avidly sought by plume hunters. It’s a common bird in Florida. Its white plumage coupled with black legs and contrasting yellow feet readily identify it. The little blue heron is common on both salt and freshwater marshes. The slaty blue body coloration with a darker head and neck and bluish bill with a black tip make this species easy to identify.
LEAST BITTERN

Smallest of our herons, the least bittern favors marshes with heavy stands of reeds, cattails, and similar growth. Another small heron, the green, is a widely distributed species, inhabiting both fresh and saltwater marshes throughout the country. The black-crowned night heron is active mainly during hours of darkness. The yellow-crowned is frequently abroad during the day, actively seeking out crustaceans, such as crayfish and fiddler crabs, which it favors as food.

BLACK-CROWNED NIGHT HERON, Adult

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The Editor, FLORIDA WILDLIFE Game & Fresh Water Fish Commission, Tallahassee, Fla. 32304

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