FLORIDA WILDLIFE'S

Fishing Citation

"for that BIG ONE that DIDN'T get away"

ELIGIBILITY REQUIREMENTS

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 fly, spinning, or bait-casting 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.

Application for a Florida Wildlife Fishing Citation must be made within 10 days of the date the fish was caught. Application must be made on the prescribed form as shown on this page. Requests for additional forms should be addressed to: Florida Wildlife, Game & Fresh Water Fish Commission, Tallahassee, Florida.

Citation, showing recorded data of the catch, will be mailed to the applicant upon receipt of application form that has been properly filled out and signed.

The receipt of any and all photographs pertaining to the registered catch, including the applicant and the fish, will be appreciated by the editor for use in Florida Wildlife Magazine.

Florida Wildlife Fishing Citations are available without charge, to any and all subscribers to Florida Wildlife Magazine, and to their immediate families, who catch one of the following fresh-water game fish of the prescribed size requirements:

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<th>SPECIES</th>
<th>WEIGHT REQUIREMENT</th>
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<td>LARGEMOUTH BASS</td>
<td>8 pounds or larger</td>
</tr>
<tr>
<td>CHAIN PICKEREL</td>
<td>6 pounds or larger</td>
</tr>
<tr>
<td>BLUEGILL (BREAM)</td>
<td>1 pound or larger</td>
</tr>
<tr>
<td>SHELLCRACKER</td>
<td>2 pounds or larger</td>
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<tr>
<td>BLACK CRAPPIE</td>
<td>2 pounds or larger</td>
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<tr>
<td>RED BREAST</td>
<td>1½ pounds or larger</td>
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APPLICATION FOR FLORIDA WILDLIFE FISHING CITATION

The Editor, FLORIDA WILDLIFE

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

Name:
Address:
Species of Fish:
Weight:
Length:
Type of Tackle, Bait Used:
Where Caught:
Date:
Catch Witnessed by:
Registered, Weighed by:

[Signature of Applicant]

FLORIDA WILDLIFE'S PUBLICATIONS

VOLUME 10, NO. 2

JULY, 1956

Dedicated to the Conservation, Restoration, Protection of Our Game and Fish

BILLY HANSEN, Editor
MORRIS NAGGAR, Associate Editor

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3
**FISH WASTE**

Gentlemens—An article appeared in the Florida Guide Issue of the Saturday, July 27th, 1957, under the heading of Florida Salt Water Laws, which is of much interest and is probably unknown to many people other than anglers. This article in part is as follows:

"The fish, no fish kill may be kept which the fish does not intend to use. Any fisherman not using any of his fish, because of size or any other reason, shall immediately release and return such fish alive to the water from which it was taken, if such fish may be placed or deposited on any bank, shore, beach or other place out of the water."

I suggest that the above be reprinted in an early issue of Florida Wildlife and effort be made that the public be made aware of the fishing laws.

In connection with the above it has been repeatedly noticed that this practice is widespread on the St. Johns River which crosses the Ocklawaha River south of Panaca. New "catwalks" were recently installed on this bridge and the safety and convenience of anglers.

I recently noticed a pile of 17 catfish in one place swimming with flies and maggots in the water. On other times I have seen small trout and even bass left to rot. Frequently stingers and crabs are scattered about the bridge. Some of the catfish seen were the topgal cat or schoonerfish, which is an excellent foodfish.

If the public is made aware of the seriousness of the above from a conservation standpoint and also the fact that leaving fish, broken bottles, broken fence posts, etc. on the right of way is unlawful and dangerous and also a total stoppage of fishing privileges from our bridges, it is believed that this practice would be reduced to a great extent.

C. L. Davis
Crawfordville, Fla.

**FARMERS AND WILDLIFE**

**STRIKES and Bellies**

Dear Sirs:

Florida Wildlife is one of the best magazines I have ever found for use with sports. I am a subscriber of Tope 39 in Fort Myers and we look forward to each issue with pleasure.

I would appreciate particularly on starting a Junior Conservation Club in my troop. The subject was discussed with my Junior Leaders Council and they are all for it.

William Watkins
Tio, Florida

**WADING FOR BASS**

Gentlemens—Enclosed is a picture of a bass caught while wade fishing. Although most of my fishing is done with Byrod, I have recently been catching large bass on spinning tackle using the Black Eel Bait.

I look forward to receiving Florida Wildlife each month, thanks to a friend who sent me the subscription. You can rest assured that I am a permanent subscriber.

R. V. Van Driver
Daytona Beach, Florida

**SCOUTING AID**

**WATER DISAPPEARING**

Gentlemens—Enclosed please find my check for my subscription to your magazine for the next year.

In the same breath I would like to discuss a situation that was mentioned in the April issue of Florida Wildlife.

My father retired in 1931 and moved to Clermont, Florida with my mother. I made my first visit there in 1957 and have been going to this area once or twice a year since then. Being an avid bass fisherman, the story around Clermont was the answer to a bass fisherman's prayer. About 1949 several of my brother officers got tired of hearing me lug about the love of Lake County bass and insisted on being taken there so they could find out for themselves. The afternoon had been made up of spending a day and a half on our front trip down to our "second house" every year since then.

Now we come to the question at hand. These large grove owners are constantly closing more and more land. To keep on fishing, I feel I am a gross injustice to the fishing public and it is our belief that it is high time the State of Florida took into consideration either limit the amount of water these groves can close in or limit the size of the lake so that we can close or force them to allow access to the lake surrounded by their groves.

We have heard various discussions along this line, that they cannot close lakes over a certain acreage and also that they cannot keep your name on a section. Perhaps we certainly would like to see this matter discussed in future articles in Florida Wildlife the importance of water in Florida. As an example, of the above statement is being true.

We hate to see our fishing grounds being reduced to a smaller area. The fishing trips are a ritual with us and we fish from March until March every year. Fortunately we are still catching fish. I own a nice lake that puts on a better fight to the griddle.

Have your grandpa ever been interested in fishing? It takes all a little time and it is worthwhile. Our children like them all. We really never paid too much attention to them. I have been following a small hatchery. We had too much business and your fish are doing quite well.

**OREGON DEER RECORD**

Dear Sirs:

We were fortunate to have your brochure which was super but no one was able to see the photos. We enjoy every bit of it.

In the May issue I read a letter "Turkey Hunting in Oregon" that I'd like to see in Florida Wildlife. It's called "Deer Dep.".

Last October my husband and I went on their annual hunting trip. On the way back to the camp spot we saw another deer. The oldest one was running up and said, "Dad, let me have your gun, quick." He fired and we saw a doe go down. They had two guns and the other shot got both deer. Quite a feat, huh? Dad said, "I haven't got the competition hardly; I've believed it was possible."

This hunt was in Eastern Oregon.

C. G. H. Metcalf
West Palm Beach, Florida

**OKEECHOBEE FISH**

Dear Editor:

The enclosed picture is of Sam Gray, Conservation Aid of the U. S. Department of Agriculture in Okeechobee.

**BOAT RAMPS**

Gentlemens—Enclosed please find my check for renewal of Florida Wildlife. I enjoy it too much to miss any of it. More stories by such as Phil Francis and Chuck Schilling.

**HOC數 CAKE RECIPE**

Dear Editor:

I can't let you know that Okeechobee's recipe for hooch cake. Whoever heard of any real Kentuckian or any Soothem for that matter using yellow cornmeal. Here is a recipe used by my family.

1 pint corn meal (water/ground)
2 teaspoon salt
2 teaspoons bacon grease or melted lard
Scald with sufficient hot water to form

**FLORIDA WILDLIFE**

A month ago I retired after thirty years in the Military. Does get a trailer instead of towing around my tilling boat on top boat. Only trouble now, nobody makes any place where I can go to warm up before coming to the canal. I understand that Flood Control money is allotted for the little part use of flood control. I think of REACTOR. For my part, I'd like a few house boat ramps on the canal. Certainly it do not cost more than a few dollars to get in a ramp once in a while for launching a boat. I have seen to board popularity growing as it is, such things would be an advantage in the area. There are still a few of us who haven't given up in dinghy because of Florida's house boat and so few bass. Maybe some day we'll get the electric launching device up from the Tamiami Canal and kill off a few hundred tons of our rough fish.

Wore topped off the pipes opposite Slim's Fish Camp at Belle Glade and left the boys for a trip and to ruin the boat landing. You boys are doing a wonderful job with the magazine and up the good work.

C. H. Metcalf
West Palm Beach, Florida

**TRIAL RUN OVER**

Dear Sirs:

We have liked our six month trial subscription so much we are enclosing a check for the next year.

That story about Old Bob and Gator although we thought about the Sorensen and his books. The author is worth your time to just sit down and relax.

Mr. and Mrs. R. J. Brown
Fort Myers, Florida
At a war this column during the end of May for the July issue, I realize that by the time July rolls around next year, you will be attending the Junior Conservation Camp or will be planning to spend a week, or more, in the sun and fun rations.

The weeks scheduled so far at this writing (May) have been set aside as follows:

Girls’ Week—June 10-16
5th Annual Conference Week—June 17-23
Boys Ages 13-18 Week—June 24-30
Boys Ages 8-12 Week—July 1-7

That’s as far as we have scheduled because we want each week to have a full complement of 75 members and a maximum of 100. If our registrations for camp reservations keep up as they have been in the past few weeks, there is a possibility that we will operate perhaps another three to four weeks beyond the dates we depend on you members and other interested youngsters.

Those of you who have attended the camp the past four years will remember our cook, Mr. Angus Kemp. He will be back with us again this year. I know that all of you will be happy to hear that; so many of you gained so much weight with Mr. Kemp doing the honors in the galley.

AND HERE IS GOOD NEWS:

A grant-in-aid of $1,134.96 has been received by the Junior Conservation Camp Construction Fund from the National Wildlife Federation and the Florida Wildlife Federation. Breakdown of the figures are as follows: $850.53 from the national organization with matching funds of $853.51 from the Florida Wildlife Federation.

The request for a grant-in-aid from the National Wildlife Federation was approved by the State Federa-

dation at Daytona Beach in October.

Dr. H. R. Wilber, DeLand, and Sam DuBon, Miami, represented the state organization at the Na-
tional Wildlife Federation convention in New Orleans in March, 1956. The grant-in-aid was then approved by the national federation.

Fred W. Gill, Zephyrhills, treasurer of the Orlando Junior Conservation Club, transmitted the matching funds to the Junior Camp Fund.

Dr. Wilber said that I can say a big “Thank you” from all of you young people out there who are interested in the welfare of our enterprise to Dr. Wilber and Sam DuBon and all those who helped to make this possible. We accept it with deep humility.

SOMETHING NEW HAS BEEN ADDED

The camp is starting off right this year with its very own mascot. Yes, we have a brand new little fawn. The little buck is about four weeks old and is doing quite well at nursing very well on his bottle. Look for him when you come to camp. Perhaps he will have a name contest, and have all of you attending camp this year submit a name for the little fellow.

LEAGUE DUES

July 1, 1956, is the beginning of another fiscal year, and is the time for you to check with your club and see if dues are paid or if they are in the arrears. For your information, you will not the clubs that are paid and who are members of the Junior Conservation Club League: Junior Anglers Club of Ft. Lauderdale, Allapatth Optimist Junior Conservation Club, Miami Dade Mother Junior Wildlife Club, Ocala, Archbishop Curley High Junior Conservation Club, outside of Tallahassee, Orland Junior Optimist Junior Conservation Club, Tallahassee, Orlando Junior Conservation Club, St. Petersburg Junior Rod and Gun Club, Leon Junior Conservation Club, Shady Grove Junior Conservation Club, and Stuart Junior Conservation Club.

On May 1, I was invited to attend a meeting of the Lakeland Club. I was very impressed with the young group for they have been doing a bang-up job over there. We only didn’t hear from them—no reports. Anyhow, the meeting brought out that they are working very closely with the State Forestry Service in that area. In fact, they have taken money from their treasury and have purchased fire-fighting equipment and are now on call for brush fires and other fires outside of the city limits. It’s a wonderful idea, and shows an avid interest in really helping conservation. Sure glad our forests and timber is REAL CONSERVATION. They are really doing something constructive. More power to you Lakeland members.

Keep up the excellent work. But please let me know what you are doing. Send me a report from your meetings.

AROUND THE STATE

Eustis

Tommy Anderson, over in Eustis, writes and tells us that the Club which is operated by the young people in great fashion and that the club hopes to be in the thick of things very soon. That sounds like a watchdog club.

Tommy thanks us for all our support. Let’s be on our toes. All of us wish the club every success, however many thanks we have heard by the person by the name of Tommy who believes wholeheartedly in the Conservation Education program.

Clearwater

To the Optimists in Clearwater for a great big thank you for some wonderful cooperation. There isn’t any doubt in my mind that the Club will own its way in no time. And speaking of Clearwater, I would like to mention Mr. Pigeon, Principal of the Clearwater Junior High School, for his deep understanding and sincere en-

Shady Grove

Eleven young members of the Shady Grove Junior Conservation Club, Ft. Pierce, Florida, spent an enjoyable week-end on the pine camp April 28 and 29. The boys had been visiting clubs for several years, and this was the first visit assisted by Wildlife Officer Bob Cook and Mabel. The group planned to visit Silver Springs, Salt Springs, Juniper Springs, and the Glen Silver Springs. One of the most delightful things about the group had experienced the young group had experienced the twenty-five mile trip along the St. Johns River.

Lakeland

On May 1, I was invited to attend a meeting of the Lakeland Club. I was very impressed with the young group for they have been doing a bang-up job over there. Only we didn’t hear from them—no reports. Anyhow, the meeting brought out that they are working very closely with the State Forestry Service in that area. In fact, they have taken money from their treasury and have purchased fire-fighting equipment and are now on call for brush fires and other fires outside of the city limits. It’s a wonderful idea, and shows an avid interest in really helping conservation. Sure glad our forests and timber is REAL CONSERVATION. They are really doing something constructive. More power to you Lakeland members. Keep up the excellent work. But please let me know what you are doing. Send me a report from your meetings.

Williston

Last Thursday (May 15) I spoke before the Lion’s Club of Willistown. They are in their second year in organizing a club over in Willistown. Perhaps this fall they will have a fire-fighting club of their own. In the meantime, they intend to send some young campers to our campsite.

Ocala

The Girls Junior Conservation Club affiliated with the Dea n Mother group have elected their officers which are as follows:

Director: Lillie Buchanan
Assistant Secretary: Pauline Irwin

Sgt.-At-Arms: Sonya Pode

Return of camping questionnaires to all Junior Conservation Club members who attended the 1955 session. Out of the approximate 189 questionnaires were returned. Answers were so few that it must be remembered that all campers did not answer all questions.

1. On the whole did you enjoy your week at the Junior Conservation Camp? Yes 111, No 5, Yes and No 1.

2. In general, the accommodations were?

Excellent, 46, Good, 60, Fair, 11 Poor, 3

3. Do you think the Lectures were?

Excellent, 68, Good, 43, Fair, 7

4. Did you have enough free time to do as you wished? Yes 91, No 16

5. Did you like the Counselors who worked at Camp this summer?

Yes 102, No 7, Same 1

6. Did you like having a Junior Conservation Camp along with your own? Yes 109, No 7

7. Did you like your particular counselor? Yes 106, No 10, Same 3

8. From your point of view was the camp camp? Yes 149, Unfair 8.

9. What did you like about the camp and what did you dislike about the camp? We have all these concerns? Camp attendance up Fair 110, Unfair 8.

10. Did you feel that you had a suf-
ficient quantity of food to eat? Yes 113, No 2

11. Did you like the type of food you served? Yes 112, No 6

12. Was the food which was served in the camp your favorite type of food? Yes 116, No 3.

13. Did you have enough time to swim, fish and go boating? Yes 82, No 0

14. If you are qualified, would you like one overnight camping trip this summer to an area which does not have campsite areas? Yes 116, No 4.

15. Do you like to participate in team sports? Yes 113, No 6

16. Was the particular team sport which you played at Camp the sport you most enjoyed? Yes 79, No 49.

17. If not, please write in the name of the sport? Baseball, Football, Basketball. 13. Other various others we received camp was a definite back seat to the above.

18. Do you plan on attending camp next summer? Yes 89, No 9.

19. Are you interested in coming to Camp this next summer? Yes 118, No 9.

20. Opinion: It may be observed from the above that since approximately 64 percent of the campers found Camp very useful, and in view of the indicative answers, that the Camp Session of 1956 was very successful. As with any group of people, there was a certain degree of criticism, of course, shows up in the answers but not to an extent that it was alarming in any respect.

Since the questionnaires were sent out only to the Junior Conservation Club members, it is impossible to analyze to what extent it was sent out among the non-club mem-

bers. This will be possible to judge only when we receive the final tabulation of the Camp Session. However, it is to be expected that the tabulation will come in just $15.00 for non-club members (club members $7.50) that every club member will get a true picture of this also.

END
When the Indians first arrived in Florida thousands of years ago, they found some animals that are now extinct, such as the elephant-like mastodon, an early type of horse, the camel, and the giant sloth. There are indications that some animals, the mastodon for example, became extinct because men hunted them out. We know that these ice age animals had traveled the pathway to oblivion by about 2000 B.C. Since there is little indication of climatic and environmental changes in Florida since this early time, the evidence seems to point to the possibility that the presence of man in the state might have been a major factor in their disappearance.

For hunting the larger animals, the Indians used a throwing stick and spear. With the throwing stick the Indians were able to fling a spear with great force, great enough to penetrate the tough, thick hide of animals as large as a mastodon. This spear throwing device was simply a two foot long stick with a handle on one end and a hook against which the spear was placed at the other.

The remains of a pre-extinct flightless bird, the great auk, were found in an Indian village located near Ormond, Florida. This village was occupied two thousand years ago. The finding of bones of this species presents something of a mystery. All other finds of great auk remains have been limited to the northeastern states. How did this flightless bird get to Florida? It is difficult to say. Since there was little, if any contact between the Indians of New England and the Florida Indians, it is likely they probably did not bring or trade it in. Possibly the natural range of the bird was more extensive at this early date than we formerly believed.

Many of the Indian village sites, especially on the west coast of Florida, are now under several feet of water while still others are daily being eroded away by the ocean. Two or more factors are involved here. We know that in the last few thousand years, the southeastern United States has risen. Combined with this, the Gulf side, the coastal area has been and is still being eroded by the water. Many ancient village sites dating to prehistoric times have been destroyed by the erosive action of the waves.

A rise in level of the Gulf and a shifting of the Indian population, many of which depended to a great extent upon the oyster as the mainstay of the diet, are very sensitive to changes in the salt content of water; as salt water gradually creeps up the lagoons and rivers, the oyster beds moved and so did the people. Also, at a relatively late time there was a gradual movement of the population by their villages being "cut out" from under them.

Man's activities have also affected the oyster beds of the state. With intensive agriculture and the resultant erosion during heavy rains, many tons of silt have been carried down the rivers and into oyster beds by the salt water. The Anabachee Indians traded smoked oysters obtained from Wakulla County oyster beds with inland Indian groups in Georgia. Many of the early roads of Florida were made from shells obtained from old Indian villages. Some of the shell mounds were over forty feet high and covered several acres in extent. Many of the areas that at one time yielded many shellfish are now many miles away from oyster beds.

The coruina shellfish were used extensively in some places by the prehistoric Indian. The village that was occupied about 3000 years ago, the coruina shell was found to be twelve feet deep and covered two or three square miles. The present time this prehistoric village site is over a mile from the sea beach where these shells can be obtained, reflecting a drastic change in that particular section.

When the mastodon and other early forms became extinct, the white-tailed deer became the principal resource of meat for the Indians. After the coming of the Europeans, deerskins were one of the major trade items and thousands were sent to Europe.

It is believed that the Indians of the Florida east coast around 1565 and some time before did a good deal of whale hunting. Their method of capturing the whales, which occurred in great numbers along the coast, was to kill the animal with a stake and mallet. From their dugout canoes they would tow on the back of the whale and drive the stake into its spine. The stake drove the whale and waited on shore until it suffocated and was then hauled up by the water. Sometimes the whales were herded into shallower water where they surrounded themselves and were dispatched by the stake and mallet method. This same technique was used to kill the manatee or sea cow.

The Indians utilized the bones of fish and animals in many ways. The bone arrowheads were made from deer antler, split deer leg bones, sting ray bars and sawfish bills. Many bone arrowheads were used on unfeathered shafts for shooting fish. Numbers of these points have been recovered from the springs.

For working leather, the ancient made scrapers from fish jaws, deer antler and leg bones. Needles and sticks were ground out of split deer antler. Deer antler was also used to make picks and adzes, while chisels and hammers were made out of mamals' leg bones.

Fish hooks ground out of bone were also used. In shape they are similar to modern steel hooks. With a white bone hook, fish could be caught without having to add bait; the whiteness of the bone acted as a lure.

Sharks' teeth were useful in making cutting tools. Often the Indians would set a row of the teeth in a piece of wood. This method also was used in making toothed war clubs, formidable weapons.

For sandpaper, the Indians employed the skin of the shark. This material was useful to rub a smooth surface on bows, dugs, spears, arrows and other (Continued on Next Page)
Shells as well as bones of birds and mammals were useful raw materials from which the Indians made ornaments and tools of various kinds.

Tracing back the history of the use of Zamia, we learn that in relatively recent times—during the late 1800's and early 1900's—the plant was commercially cultivated for food processing plants located on the shores of Biscayne Bay and the Miami River. The value of the flour at that time lay mainly in the Key West and the West Indies trade. Some of it was packaged for use as a cheap face powder, but most of it was sold as human food. During this time and before, the Seminoles were selling Zamia to the white settlers of Florida. When the Seminoles were driven into the Everglades by the American army, costie assumed major importance as a source of food for the harried tribesmen. The soldiers who did not utilize the plant were forced to have all their goods shipped in, and therefore were not free to move about as were the Indians.

We do not know exactly how extensively Zamia was used by the Indians prior to the arrival of the Seminoles in the state. Some archaeologists believe it to have been a very important part of the earlier tribes' diet. We do know that when the Europeans came into Florida, costie was growing in abundance about the old village sites.

What is the importance of this plant to the archaeologist and how have recent changes affected it? The distribution of the various types of Zamia in Florida is, according to botanists, an unnatural one and suggests the Indians carried the plant from village to village as they moved about. The technique of flour manufacture is the same as that used in South America and the West Indies for the processing of manioc, the plant from which our tapioca is derived. This seems to indicate a prehistoric connection between the two areas. Shell from many Indian village locations has been removed for road building; since one of the species of Zamia flourished in and around shell mounds, the number of plants growing wild has been greatly reduced by this disturbance.

Bison were at one time present in Florida. Various historical accounts mention them in the eastern as well as the western portions of the state. In 1675, Bishop Calderon from Cuba visited the various missions in north Florida and reported the Timucua Indians hunted the bison in that locality. Torres de Ayala and Don Carlos de Siquenza y Congora tell of the abundance of bison in west Florida in the territory of the Apalachee, Apalachicola and Pensacola tribes.

Bison became extinct in Florida by about 1750. The animals were never numerous here and probably did not move into Florida from the country to the north-west until about 1500 A.D. There is archaeological evidence to indicate that the bison did not cross the Mississippi River from the plains until a relatively late date, sometime around 1400 to 1450 A.D.

During the Spanish period in Florida, great peach orchards were present. The peach was introduced by the Spaniards and grew well in the new land. Archeologists have found peach pits in their investigations of the early Spanish-Indian missions and settlements. In some of these places vast counts of peach pits have been unearthed, indicating a bumper yield. Citrus trees were also introduced into the state by the Spanish. Many of these trees were planted about their missions, forts, plantations, and towns. When the Spanish property was destroyed, the citrus escaped cultivation. The sour oranges were often eaten with honey. Citrus was grown in abundance north of Jacksonville prior to the big freeze of the 1890's.

Diseases also have affected various plants. For example, grapes were grown in vineyards in northwest Florida during the 1860's, but a plant disease eliminated them almost entirely. The Spanish introduced grape plants to Florida, and we know that the French who settled on Lafayette's land grant in 1831 brought grapes with them to establish vineyards. However, all of these plants died out within a very few years.

Evidence of climatic change is reflected by early descriptions of the vegetation in various parts of Florida. William Bartram in 1773-74 noted royal palms growing in the St. John's area near Astor, Florida. Bartram also recorded that in some portions of central Florida there were vast stands of cane. In fact, he mentions riding miles through nearly solid cane thickets. About ten years ago native cane was a relatively scarce item and in the Tallahassee area was almost extinct. This resulted from the heavy utilization of the tender young shoots by cattle which roamed freely in pre-fencing days. Cane brakes were also cleared as man brought more and more land under cultivation.

Various forms of wildlife served as the decorative motif for many objects of utility and adornment. The vessel above, dating from about 500 B.C., features a dog.
it can be more harm than aid if you don’t use judgment.

Spinning is increasingly popular on schooling grounds, especially when the bait is small. Baitcasting is the best technique, but it is not too popular because of the time usually required to get into action. In fact, most light tackle is called for. Ten-pound test line is about right for the plug rod and 5-pound monofilament is a good choice for spinning.

It is competition that makes the school bass vulnerable. When four or five excited fish are after a single minnow they may be in a mood to hit everything that moves—and some things that don’t move.

When a single fish has just gulped one big minnow and the experts feel he’s not apt to take a ten-pound plug that has landed in the splash. He’s probably half way to the bottom with a snarplook on his face. However, if another fish was right behind him and missed his lunch it’s apt to be a good bet to throw at the single splasher anyway.

In either case, throw at everything that moves, even if it’s a needlefish.

The perfect setup is a shower of minnows followed by a handful of solidly striking fish, definitely moving in one direction. Throw just ahead of this skirmish line and retrieve slowly. If you don’t catch a fish, you can try a different kind of bait as it moves past you.

Usually, the fish “pop” over a considerable area and seem to be going in no particular direction, even though the minnows were plainly visible and in good formation a moment earlier. The explanation is simply that there is a school scattered at the first strike, and as you throw, the area where the action seems to be heaviest.

Once you’ve retrieved past the busy zone, you reel in gently and hope they are going to get in another cast before the rally is over. Some of the serious operators have two or three rods rigged up. When the lure gets out of the way, they leave it the way it is and try to hook it without rod control, generally to slip the hook and grab another outfit.

I once noticed Bob Budd and Doc Wilber glaring at a clay shovel with red tips sticking out of their boat. If the initial cast hooked a fish, the operator would stick the busy rod between his knees and try another one.

With several fishermen throwing into the same spot, it’s hard to get in another strike, especially as the weather is extremely interesting and some of the heaviest strikes I have had came from other fishermen. Unless you’re going to get in another strike, try to reel in for a brief rally but once you get the fly over them you can keep casting back to the same spot with a rapidity that would be unbelievable to anyone. I tried to fly rod at once but would rather not discuss the matter.

How long does a rally last? Seldom longer than a minute or a minute and a half. Sometimes you just keep hitting. In that case you’ll either catch the fish or throw a nervous breakage. In the PHO.

Sometimes you can watch the gentle ripple of a big school of bait working toward a spot where you know that the fish are in and can get all set. In this case you cast with the click on, have a monumental backlash or miss your mark by 30 feet.

You’ve got to be a trigger: If the fish have been coming up in good numbers and you cast the initial strike, you may be fishing on the edge of the school. If the fish are moving through fishes water while the surface erupts a few feet away.

That’s the reason why schools are so fickle because they have a life of their own. The minnows are not consistently the same size and color and the bait’s their basic choice. However, you must look and act like something that swims often have a popularity that may last for a year, only to give way before something entirely different. A lure that proves a killer for a week may slowly lose its charm and you can try it frantically for years under conditions that seem exactly like those when you did all the damage.

It is seldom that school bass can’t be caught all. If they’ll come up and hit, you’ll be able to find something that will take them.

However, when striking very small minnows in thickly packed schools, you can give a bad time. I’ve had good results under such conditions by putting two or three very small streamer or cork-bodied bugs on a flyrod. My theory is that they are confusing several minnows at a time and are apt to prefer a “cluster” rather than a single lure.

The baitcaster or spin fisherman usually goes to a smaller trailer lure fastened behind a big plug or hookless less casting weight. Such a trailer is hard to cast without practice and is apt to lack the big lure but as I take off the hook, Grandpa Sanders in with the youngsters and ponders my hookless plug.

A large plug with trailer is not likely to scare striking fish as the big streamer that wants the little lure probably thinks the splash of the big one is simply another feeding fish. Monofilament is nearly always used for attracting fish. Monofilament is nearly always used for pedaling fish.

When the larger school fishing is better big, the larger school fishing is better big.

When the larger school fishing is better big, the larger school fishing is better big. The big torpedos plus are often good. Anything big can be a good school bass and the trailor is just a way of getting over six or seven pounds in unusual condition.

Most of the time I am not too happy when the schools are constantly simply lying under the strikers looking for binged-up bait or even the smaller school looking for binged-up bait or even the smaller school looking for binged-up bait or even the smaller school looking for binged-up bait or even the smaller school looking for binged-up bait or even the smaller school looking for binged-up bait or even the smaller school looking for binged-up bait or even the smaller school looking for binged-up bait or even the smaller school looking for binged-up bait or even the smaller school looking for binged-up bait or even the smaller.
Many "jump" fishermen use two or more rods. Here the author picks up a nice perch by using a shoe hook that took the previous cast.

(Continued from preceding page)

bass. Sometimes the big ones join in the fun, though, with gratifying surface explosions.

Successful school bass fishing is usually a fraternal proposition unless you have a great deal of free time for it. All of the good schooling spots are well known and it is usually by contact with your friends that you learn where the hot spots are at any given time. Friends can save you a lot of cruising.

Guide boats don't work the school grounds much because, no matter how experienced a fishingerman may be, it is unlikely that he will get going on the railroad without a little practice.

At first, river schooling grounds seem haphazard but most of the locations fall into one of several categories. Many of them are located at the mouths of creeks, at the points where lakes join the main river and over bars that adjoin deep runs. Other areas that seem to have no distinguishing characteristics have bottom attractions, that a diver might locate almost immediately.

"Catching them off the bottom" under a schooling area requires a knowledge of lure performance and bottom conformation. Some school fishermen love that kind of fishing and others won't even bother with it. It has been my experience that such angling is apt to be feast or famine. Most popular lures are small jigs and spoons and the fish are apt to be in very small areas.

Artificial eels have done good work in such locations.

It is considered perfectly fair to fool passing boats if you have the fish located but, once another angler steps, the early arrivals usually help him get located so he will have some fishing and won't "block the bait."

I've heard some sour remarks on striking grounds, usually by a newcomer who is asked to move from a given spot where the fish are known to be lying. If he "gets right over the fish", the fish may move and change their routes. He may end the day's fishing for all present.

I remember the time when, on one of my earliest school bass fishing expeditions, I was busily playing a bass when my partner told me to "sit down and quit fooling with that fish."

I sat down and pretended nothing was happening as a boatload of fishermen cruised slowly past looking for rising fish. Have you ever tried to look bored while a bass attempted to take you rod away from you? The passersby probably took my rod dipping for the work of the biggest of all live shiners. Anyway, they didn't stop.

The lakes that line the St. Johns are something else again. When bass are schooling in a lake they're apt to chase the minnows all over the blamed place. The approved method is to chase the bass. Then, before long some other fishermen will start chasing you.

Lake fishing for widely scattered and fast moving schools doesn't require much knowledge of the bottom or of last year's activities but it does place a premium on a fairly fast boat and constant vigilance. A pair of binoculars is invaluable and with good glasses you can spot a big rally half a mile away.

When you sight a school on a lake you have two methods of approach, both of which require a motor. I have a knack for choosing the wrong method pretty consistently.

The most obvious plan is to hurry to a spot a little out of casting range and then try to sneak up on the breaking fish with an idling motor or with oars. When I do this, they generally get through striking and submerge before I can start fishing.

The other way is to tear right up alongside and cut the engine with one hand while you make a hurried cast with the other. Your sudden arrival is likely to spook them but they may not leave until you've had a cast or two. However, bait and fish are almost certain to move away from you if you make a big fuss upon arrival whereas they might come right to you if you approach cautiously. If other boats are chasing the schools you have no choice and must stick to the high speed approach.

That type of fishing is much less popular than river fishing and it is guaranteed to make you feel like a jerk as you pursue a 2-pound bass with a 30 or 40-horsepower motor or an inboard launch. It gets to be a lot of fun, though, and you will find yourself giggling like a kid on Halloween as you take off for a distant slashing.

The other day a laughing resort operator on a lake near DeLand was telling me about the goofy gyrations of some guy in a red boat who chased fish all over the lake. I laughed with him. I don't thing I'll ever forget. He had a 40-horsepower outboard red boat.

Not all lake fishing is for moving schools. Some of it is done just as the river fishing is done—out decks and banks and bottom conformation to give the idealized feeding spots in some lakes and you simply anchor and wait. Not everybody likes school bass fishing and I'm glad of it.

END
Animal Tracks

ARTWORK BY WALLACE HUGHES

By size alone, the track of the black bear (above) is distinctive among Florida mammals. The hind track of an adult black bear will measure about 7 inches in length by 3½ inches in width. The print of the front foot of the same animal will measure something like 4½ inches in length and 3½ inches wide. All five toes show distinctly as do the marks left by the claws.

Above: The opossum's hind foot track shows all five toes, with the widely separated "thumb" marking a distinctive characteristic. Track patterns of a walking opossum will show a front foot and rear foot print side by side or with a back foot track a bit behind that of the front. Normal step ranges from six to eleven inches.

Below: The tracks of the raccoon resemble nothing so much as miniature hand and foot prints of a human. The illustration shows the typical appearance of the raccoon tracks.

The exact shape of deer tracks varies somewhat with the pace of the animal and with the nature of the ground upon which the track is made. In general, the deer leaves a neat, clean-edged, more or less heart-shaped track as shown in the illustration above. The tracks of the domestic sheep (below) shows both segments of the hoof about parallel with each other. The outside margin of the print normally shows a distinctive recurve.

The track of the domestic hog (above) consists of two more or less kidney-shaped segments, much broader and more rounded than either the sheep or deer.

In dusty roadways, along the muddy banks of lakes and streams, on sand bars, in the fresh earth about in every place where the earth is not too firm to take an impression—animals leave tracks. Of all the "signs" that mark the passing of wild creatures, none are more conspicuous nor more certain of positive identification than these impressions in the soil.

The bird watcher has merely to venture into the field at the proper hour and with the aid of a good pair of binoculars he will observe at least a goodly portion of the feathered wildlife at that time present in the vicinity. On the other hand, it is unusual to observe more than an occasional mammal by the same method, squirrels and a few other forms excepted. For one thing, many of the furred wild creatures are shy and elusive by nature. Many of them venture away from the security of burrow or den tree only under cover of darkness. Once in a while you may pick up the glowing eyes of one of these nocturnal ramblers in the headlights of your automobile but at best you may only glimpse their owner and be left to guess or speculate upon the true identity of the animal.

Hunters and trappers have a practical reason for being able to identify with certainty the tracks they happen upon during the course of their respective pursuits. To what avail a long vigilance on what appeared to be a well-used deer trail should the pathway prove to be merely a convenient route used only by domestic sheep or hogs. What trapper could properly locate his sets if he was unable to identify on sight the track recorded left by passing furriers?

As with other outdoor pursuits, there is a good deal of satisfaction to be derived from being able to prop-
In general appearance, the track of the otter (left) is somewhat similar to that of the mink (right), but it is a heavier, larger print with a relatively larger pad. Except on a very firm surface, there is usually at least a fair indication of the hind foot web. In sand, the average length of the track of a mature otter is 6 inches. The mink’s track is somewhat similar to that of the house cat but claw marks show as hind tracks are imposed over the front. Pace is normally from 12 to 25 inches, the mink track but not on the cat. In the usual gait, the hind tracks are imposed over the front. Pace is normally from 12 to 25 inches.

The tracks of the bobcat (above) are round in general outline without claw marks. The impressions of the pad is distinctive, showing two toes on the outer margin and an indentation on the front. An average front foot track measures about 1½ inches.

The tracks of the domestic cat are roundish in general outline, with oval-shaped toe marks. The claws ordinarily are not extended therefore tracks lack claw marks.

The skunk makes a distinctive track with the claws of the front feet showing prominently, as in the illustration above. In a normal walking gait, the skunk’s stride is about 5½ inches. The track of the hind feet averages about 1½ inches in length.

Panther tracks (above) are roundish in outline with a distinctive three-toed pad. The claws are usually retracted and therefore leave no marks. The panther’s front feet are larger than the rear ones, as in most cats. An adult animal’s track will measure something like 2 inches long by 3½ inches wide.

There is a considerable variation in the size and to a lesser extent in configuration of the tracks of the dog. The illustration to the right shows a typical track.

FLORIDA WILDLIFE
JULY, 1956
The Beaver is the world's second largest rodent, exceeded in size only by the capybara of South America. The wide flat tail, the large, webbed hind feet and the conspicuous incisor teeth are prominent physical characteristics of the beaver. -hh-

SUNSHINE

FLAT-TAILS

The beaver lodge at the Eglin Field site is typical of such structures elsewhere in the country. In general it resembles a haystack compressed of sticks, dead branches, roots of aquatic plants, pooled sticks, and small poles. -me-

THE BEAVER has long been accepted as the symbol of the northern wilderness. There is a good deal of justification for this situation for there was a period not too many years ago when the northern back country was the main remaining stronghold of an animal which played a major role in bringing about the early exploration of the territory now encompassed by the United States.

Prior to the intensive commercial exploitation of the beaver, the species was widely distributed throughout practically all of North America. The original range stretched from northern Florida and extreme northern Mexico northward to the limits of tree growth.

Although the population was greatly reduced from that of former times, the beaver was not especially uncommon in northwestern Florida as recently as fifty years ago. They were eventually eliminated from this portion of their range and for a number of years the animal was unknown or at best, of very rare occurrence.

During the early summer of 1950, the Eglin Conservation Board made arrangements with the Georgia Game and Fish Commission to secure fifteen beaver for restocking purposes. These animals were released in groups of five each at three separate sites on Eglin Air Force Base. Of the three releases, only the one made on a tributary to Davis Creek, a stream which enters the northeast side of Choctawhatchee Bay, has settled down and established themselves in traditional beaver style.

By the early fall following their release, the Davis Creek animals had constructed a main dam which, incidentally, flooded out a road which had to be re-routed. The colony has continued to thrive until now there are at least 10 dams of various sizes impounding the waters which drain from the gently sloping pine forested hills common to that portion of the Eglin Field reservation. In addition to several bank dens, the beaver have constructed a good sized lodge at the upper end of the main pond. Besides providing themselves with a suitable place in which to live, the activities of the traditionally busy animals have wrought some drastic changes in the immediate vicinity. A variety of aquatic and wet land plants have become established and flourish in the quiet ponds and backwaters created by the fur-coated engineers. Waterfowl have found the ponds to be excellent feeding grounds and make use of the place in increasing numbers each fall and winter. Both mink and otter have discovered a haven amidst the formerly dry, high pine lands. Both bass and bream, introduced into the recently created ponds have found a highly desirable type of habitat and have increased accordingly, providing some excellent angling.

Water seeping slowly through the series of dams maintains a steady, more even flow in the creek below the colony site, assuring a reliable source of drinking water for a multitude of wildlife forms. The sub-irrigation effect of the impounded waters encourages the growth of plants, shrubs, and trees in the immediate vicinity to the benefit of such game species as deer and turkey.

In addition to benefiting a multitude of other creatures, the beaver and its workings are themselves interesting in their complexity.

The beaver is our largest rodent and is exceeded in size among the multitude of the world's Rodents only by the capybara of South America. An average mature beaver weighs something like forty pounds although

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are the three most prominent characteristics of the beaver.

The tail serves several important functions. When the animal is swimming, it acts as an efficient rudder. When the beaver is cutting down a tree, the tail is used as a prop to give additional leverage and support to the working animal. When running the animal gallops with a clumsy gait, thudding the ground with considerable force with its tail. This helps to propel the beaver forward. As a signalling device, the tail is important. Upon the appearance of an intruder, a beaver spotting the potential danger slaps the water a resounding blow with its tail. This violent splashing or popping of the water communicates the signal of alarm to a considerable distance.

The large muscular basal portion of the tail is covered with dense, soft underfur overlain with the coarser guard hair as is the body but most of the appendage is flattened and scaly in appearance. The outside of the tail is covered with a tough, blackish-brown skin superficially appearing to be scaled like a fish, but actually it is merely folded in an intricate, overlapping pattern.

Secretions on this skin help to prevent odors from escaping. The secretion acts as an extremely effective repellent to other animals. As a beaver swims, the tail is spread across the surface of the water to prevent the entrance of air and water into the lungs. This secretion has been tentatively identified as a fish and is used by many species of aquatic animals as a protective device. The secretion is used by many species of aquatic animals as a protective device.

For the beaver, the tail is a valuable appendage; about

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occasional specimens may attain eighty pounds or even more in weight. Beaver continue to grow throughout their life, although after the third or fourth year, and perhaps before, the rate of growth slows down considerably. Indications are that a ten-year-old beaver has reached relatively old age. One animal is known to have lived for 19 years as a captive in the wild, predation, disease or other factors would undoubtedly have cut down this particular animal long before it had attained such advanced age.

The large, flattened, but hairless tail, the large, webbed hind feet and the conspicuous incisor teeth

commonly make smaller dams above and below the main one, thus adding a series of ponds and dams with connecting trails and channels. Such a set up provides what might be considered a thoroughfare highway making a larger foraging area much safer and more readily accessible.

The dams require steady maintenance...
Film Fun In Florida

Florida residents who tote movie cameras or stills will get a lot more out of their hunting and fishing than the lads who seek only fresh meat or a hefty string.

Photography can be a stopgap when the fish aren’t biting or game is scarce, providing additional pleasure on any outing. But it can be more than that.

The camera has proved itself a powerful tool in preaching the gospel of conservation. As a defensive weapon to back up fishing and hunting tales, the camera is an invaluable accessory to rod, reel and gun.

Choosing a camera is a lot like picking a wife or a new car. It’s chiefly a matter of personal taste. Some fellows are perfectly happy with a fixed focus job and a minimum of knobs to turn or buttons to push. Others like lots of built-in this-and-thats, and when they set out to film, they load up like a Christmas tree.

First maxin of any sportman filer should be to travel light.

For this reason, the 35mm camera has proved to be a happy choice. It has all the qualities of minimum weight and compactness, and shoots many exposures with a single loading. Cost per shot is low. The film itself takes up little space.

Such cameras sell for from fifty to several hundred dollars, depending on the lens, shutter speeds, added refinements and reputation of the manufacturer. Most of them will take slip-on or screw-on filters, and the better ones are adapted to fit accessory wide angle and telephoto lenses as well as special lenses for extreme closeup work.

Fitted to an everready case, the camera can be carried suspended from the neck, allowing hands to be free for rod-wielding and gun-handling. The outfit can be swung into action on a moment’s notice.

Equally popular is the 2¼x2¼ reflex, either single lens or twin lens. Such groundglass focusing cameras add further fun to photography since they enable one to compose the scene before clicking the shutter.

Since focusing is done visually up to the moment of taking the picture, it is almost impossible to wind up with an out-of-focus shot. With the single-lens reflex, the viewing lens is also the taking lens, but with the twin-lens outfit, sighting is done through the upper lens which always remains at its widest aperture to admit more light for critical focusing.

The 2¼x2¼, 3¼x4½ and 4x5 cameras are for the more rugged lads, who don’t mind taking on a little extra poundage to produce a larger negative size. The 3¼x4½ outfit is a happy medium for both bulk, price and cost of operation. Many editors, including the calendar people, still prefer the larger transparencies, although there is some leaning once more towards the 2¼ squares and 35mm.

If there is any doubt in your mind which type of camera to pick, consult with local professionals. Most of them have their own ideas of what they like and dislike, but their suggestions may prove helpful. If possible, ask your local camera store owner to let you try out two or three cameras under varied conditions. Check for ease of operation, compare price and picture results, then pick the one that fits your pocketbook and gives you what you want.

Once you have made your camera selection, what next?

There are certain accessories which are essential, like a medium yellow filter to enhance clouds and give artistic snap to your pictures. A green filter is good for brightening foliage in wooded country, while the red disk gives even more dramatic results, blackening skies and rendering red objects white.

A sunshade is also a useful accessory, preventing the lens from picking up extraneous light and resulting in sharper pictures. Some sunshades are of the screw-in or slip-on type, others fold up when not in use.

If your camera permits, a screw-in type cable release is more desirable, since there is less chance of camera movement when manipulating the shutter.

The brand and type of film you use depends upon the individual likes and the particular assignment. A fully panchromatic film is needed since this produces colors in their correct tones of gray. With "color-blind" films, red photograph black, blue skies white. For this reason, panchromatic emulsions are desirable for bird subjects.

Slower films are usually finer grain, but there are times when, filming under difficult conditions, film speed is more advantageous than grain. Some photographers use supersensitive stock almost exclusively for both outdoor and indoor work with flash.

While prize-winning pictures have been taken with lowly box cameras, the beer-bottle lens and slow shutter speed eliminates it from consideration by serious workers. The sportman’s camera should have at least an f/4.5 lens, and f/3.5 or faster is even better. Shutter speeds of 1/50 or 1/100 will be ample for scenes or wildlife shots where game is standing still or birds sitting and there is little movement. But if you want to halt fleeing deer or antelope or "freeze" ducks or geese in flight, better plan on 1/300 or 1/500 second.

To film Florida’s leaping bass successfully, 1/500 or 1/1000 second may be needed, although bigger fellows, like marlin, sailfish or tarpon which seem to stay out of water longer, may be halted with a somewhat slower shutter speed.

Florida bass are natural camera subjects, but filming their leap is usually a two-man job, with one fellow handling the camera and the other brings (Continued on Next Page)
the fish within closeup range.

When the strike is felt and the fish is hooked, pump him to the surface as quickly as possible so he will have plenty of fight and leap left in him. As soon as back-fines and the surface, chances are the bass will break skyward to throw the hook. Focus at the line cuts the water, centering this spot in the viewfinder. Shoot at the fastest shutter speed, with an aperture no smaller than f/11. 

If the fish decides to rest momentarily beneath the surface, a sharp upward tug on the line will usually make him jump. Because human reaction time is slow, there may be a slight time lag between the moment when the fish leaps and the shutter clicks. For this reason, many fish filmmakers click when the fish starts upward jump, thus catching it in midair. If you wait too long, you may wind up with only the final splash.

Don’t be disappointed if first results fail to please the experts figure that one good shot in six to twelve tries is a pretty fair average.

When you set about to film the day’s catch, don’t string your fish through the gills and hold them up. Such pictures will point you out as just another meat-hunter, and nobody is really impressed by your prowess in taking a suckless.

Instead, out several nice specimens and arrange them in a rustic or natural background, stroking the fish with water to restore scale luster. Perhaps the rod and the tackle box and a pair of old wading boots, worm-eaten stump or the bow of the boat on shore, might figure in the composition of the picture. Study the work of other successful fish filmmakers, then try to make your pictures twice as good.

To supplement your piscatorial picture coverage in the Summer State, try a story-telling photo series built around an actual jaunt. Take a flash shot of the family in the den looking over vacation literature or a road map. Show the packing of the car, wild flowers sprawled on the ground, and dad scratching his head doubtfully. Take a scenic or two along the way, working in the composition. Have your camera ready on the car seat beside you, waiting to take any unexpected wildlife scene along the road.

When you arrive at camp, show the family piling out, unloading camp gear, setting up the tent, putting fishing rods together.

It’s planned to take a shot of the lake for your vacation album, but don’t stand on shore with your toes in the water and shoot out over the broad expanse. Instead, step back fifty feet and frame a shot of the distant scene beneath palm branches or other foliage. Have some member of the family in the foreground silhouetted against the water, perhaps tossing out a fly or plug. Or admire the rising or setting sun.

Informal shots may be made at least as often about the camp, while the kids and others cast from boat or shore. Preparation of an outdoor meal, especially the fish fry, offers interesting picture possibilities, too. The lingering sun provides a fitting finale to a busy outdoor day.

Salt water angling offers problems to the photographer who prizes his filming gear. Ocean spray, even the salt air itself, tends to corrode metal and rust or mildew. Salt water droplets on the lens itself can cause endless trouble.

Keep the camera in its case, well-protected from water, sand or sun, when not in use. Be sure to wipe it thoroughly after every deep sea excursion. The filter photographers sip an inexpensive light yellow or orange color spray on deep over the normal lens to protect it from fogging.

Flash photography has gained great momentum since the early years of flashpowder and try. This is the day of high-speed electronic flash and powerful bottles of sunlight, dozens of which may be stowed away in the jacket pocket, ready for instant use. Amateurs should get over the idea as quickly as possible that flash is intended only for after-dark picture clicking. Synchroflash daytime photography is now widely used in bright sunlight to fill in dark shadows and add another clue to closeup work. If you really want to be impressed with the possibilities daytime flash offers, try a shot of your fishing partner with light directly overhead or on the side and back—without flash. Note how shadows cast by the nose and mouth spoil the portrait effect. Showing the same closeup with flash brightens the darkest corners, adds modeling to the face and gives depth.

The alert photographer may come upon unusual shots like this cleanup of the birth of a wild duck. Note freshly hatched bird, with straight neck and no markings on the back of the head. Young ducks are equipped with egg tooth to aid in escape.

**Continued from Page 45.**

**The family pot makes an interesting camera subject, too. You can build a complete picture series or movie around a typical day in the life of a dog. Here is an appealing study.**

**FLORIDA WILDLIFE**

**JULY, 1956**
America's largest freshwater snail, Pomacea paludosa is preyed upon by limplinks, the rare Everglades kite, and a multitude of other birds, mammals, and fishes.

The large, dark brown bird moved silently—almost without ripples. Clear shallow waters reached nearly to the knees of its long legs. Neck forward and head lowered, the bird searched, occasionally probing into the soft bottom with its long bill. The bird's movements were quick and jerky, but for long periods of time it stood still and surveyed the bank, the river, and the sky.

Satisfied that it was unobserved, the limplink continued the search along the shallows of the east bank, where the late afternoon sun lighted the water. Suddenly with a quick thrust into the water, a large snail over two inches in diameter was caught and held aloft. Jerkily turning its head around, the bird made sure the coast was clear and then waded towards the bank. The brownish-green snail was pushed securely into the mud with its opening upward. Then the limplink worried the two halves of its shell in on either side of the horny plate the snail had pulled tightly into its shell opening. With a quick twitch of head and bill the snail's armored door was gone.

Once again the limplink looked around—quickly this time. The capture of its prize had not been noticed. Deftly the body of the snail was removed from the shell and swallowed. The bird moved on. Left behind was the shell. In the mud around it were empty shells of other snails that had come to the same swift end.

Unaware that the universal drama had transpired less than two yards away, a slightly larger snail moved slowly under water up the broad green ribbon of an eel grass leaf. Pomma, the snail,obbled quantities of algae as though trying to satisfy an appetite of long standing, as indeed it was. Almost a week of unusually warm weather had wakened Pomma from a stuporied burial in the river sand close under a rotting log. It was mid-March. The dogwoods were white clouds caught in nets of bare gray limbs back in the forests on either side of the river. Tender green shoots in many shades tentatively tested the spring air. A white sliver of moon rode high against the blue west.

It was the time of awakening.

How Pomma felt the warmth, or whatever had stirred its being from hibernation, is a wonder. The river waters gushed forth deep in the earth only a few miles upstream from where Pomma now grazed. Gushed forth millions of gallons of water each day, and after day after day the water remained the same temperature. But without knowing why, and probably without knowing that it was doing anything at all, Pomma dug down into the bottom when the weather grew cold each fall, and emerged with a rapacious hunger when it grew warm each spring.

A minute passed while Pomma edged two inches further up the eel grass blade. Having reached the balance point of the leaf, the burden of two ounces of sand weighed down the leaf tip until it rested against the trunk of a sunken Cypress that had lost its struggle against age and weather. Long interred in its watery grave, the cypress trunk supported an alfalfa crop to feed a host of small aquatic creatures, including many snails.

Several minutes and a few inches later, Pomma reached the log and turned slightly. Long along this rich food source, The slow-moving measured pace was continued. The difference in the leaf and trunk movement was hardly noticed by Pomma. Near the front of a flat muscle or foot on which the snail moved was the small gland that secreted a slime. Underwater high was invisible, but it was there. Later, when the white moon, silver turned pale gold and then deepened and brightened, when the blue behind it flamed red and then darkened slowly from mauve to purple velvets, Pomma would leave its shell resting above the water's surface on whatever it visited during the night.

Tinight Pomma had a mission. It would be fulfilled, as was so many others, unconsciously. For Pomma was blessed with only enough senses to lead a snail's life. Had it possessed more than enough it would have been unhappy. From a human point of view a snail's lot could scarcely be considered a happy one.

Because Pomma's real name is Pomacea paludosa, the largest freshwater snail in America, it is a worthwhile meal for most all animals larger than itself. Here in the Wakulla River, Pomma is hunted relentlessly, not only by Aramus the Limplink, but a multitude of other birds, mammals, and fish. A smooth fish55 removes a peck at its sensitive flesh when they find it extended from its whorled shell.

Pomma's little eyes, located at the back of the long feelers on its head, were not sharp enough to see danger at a distance. Its pace makes escaping its enemies by speed impossible. Only the touch of danger on its long feelers or moist body tells Pomma of potential danger. As it is already present the does big mollusk fold back into its shell reverently, like a fragile plate pulled into the opening of its shell. Withdrawn into the shell it is protected. Pomma is at the mercy of claw, beak, and tooth. Those strong, sharp edges of the alfa lumber, or a used ingeniously enough are rewarded with several inches of tender snail flesh is not a secure one.

Now does Pomma know commimal bliss, or the joys and pleasant worries of parenthood. Pomma is hermaphroditic and reproducible both the sexes. Mating is a casual affair. Meeting one of its kind per chance on some other snail, it did not naturally notice the difference, but, nevertheless, the guilt-like breathing marks that had supplied Pomma with oxygen beneath the water's surface was rested and the long-life sac that took up half of Pomma's respiratory area continued the job.

At that fine line between Pomma's two worlds, the silver highway the snail had been laying down between the surface and the moon had been older, it would have glistened on the shiny record of Pomma's labored journey up the snail. Tomorrow's sunshine would reveal the track and all other evidence of Pomma's visit.

About three inches above the water, Pomma began the complete process of laying eggs. The proper interval had passed since Pomma's casual affair with the other Pomma. From under the shell beside the fleshly body of the snail, a thick heavy mucous began to flow and then a round bead the size of an English pea. It was the time of egg laying. Another and another followed until there were 37 in a cluster on the cypress snail. Each contained an embryo Pomma snail.

Completing another function as unknowingly and as it accomplished the function of breathing, Pomma moved away from the egg mass. There is no maternal hovering. When the small snails emerge from the eggs they are capable of making their own insecure way. They begin the arduous task of feeding themselves prepared as their parents, except that their smaller size increased the danger that can destroy them. As the years pass, bodies and shells grow together until those that survive reach the dubious safety of about the size of a tennis ball.

There was enough light to see the steam rising from the mud, mist that had formed on the surface. The Gulf, Pomma's egg stood out as a light blotch in the surface mist. Near the shore where the blue flags (Continued on Page 47)
A dark, indistinct, undulating blob moved across the whitecapping water toward the southeast. As he watched, the blob resolved into three separate forms. The hunter slipped the heavy wooden glove from his right hand and reached for the pump gun leaning against the side of the pit.

On they came, the rapid, steady beat of their wings propelling the birds directly toward the boat and out of the water in front of the blind. Now he could hear the faint rhythmic whooshing of air through the rapidly beating pinions. The birds swung to the side, banking in a wide arc to get downwind from the shot. Wings cupped, feet extended, the ducks dropped toward the area of open water in the middle of the spread. The long, slender tail feathers of the lead bird caught the hunter’s eye. “Pictail,” he muttered under his breath, momentarily pausing in the smooth, practiced swing. The birds caught the movement in the blind and flared. The mireded quickly decided to take the shot; perhaps the “cans” wouldn’t fly today after all. The dull boom of the twelve was whirled away by the rising wind as the load of chilled 6.5 sent the trailing bird plummeting to the water. With a strong tail wind, the survivors were borne out of range before the hunter could chamber another shell.

A few minutes later, the man reached over the side of the pitching skiff and grasped the floating bird. He could scarcely believe his eyes as he held up for closer inspection an Old Squaw duck, a fowl he knew well from many a boyhood hunting trip along the rocky headlands of Pennant Bay, Nova Scotia. There the Old Squaw had been the most common and the eastern harlequin and other northern waterfowl. But this was Gulf Coastal Florida, a mighty landflight below the usual winter haunts of the garrulous north country bird.

Every season it happens; a hunter or two downs a bird that has defied the edict of tradition that says such and such a species winters no further south than this or that particular place. Actually, some of these wintering waterfowl are more common on Florida waters than may be generally realized but gunners seldom shoot in the particular places these fowl favor. The scoters, for example, stay for the most part on the open, offshore salt waters. Many waterfowl hunters

(Continued on Page 43)

KEY MADE FOR UNCOMFORTABLE SITTING. The north wind sweeping across the expanse of choppy gray water carried the bitterness of the arctic in its icy breath. It was cold, but the hunter felt a lift in spirit; after days of bluebird weather, here was a dawn that promised to usher in some real deep water duck shooting.

THE DISTANT LAND was a low, featureless line, misty and indistinct against the rose-tinted grayish curtain of the early morning sky. The hunter squirmed about in an attempt to slip deeper into the comforting folds of his heavy gunning coat. The damp clammy walls of the pit blind on the tiny shell and salt grass

The Old Squaw is a typical bird of the coastal waters of the north. A few of these birds have been seen within the state but they are decidedly uncommon this far south, even during the most severe winters. -wh-

The White-winged Scoter is a bird of the more marketable saltwater areas. It is known to Florida only as an occasional wanderer, mainly to the offshore waters. -wh-

FLORIDA WILDLIFE

WEBFOOT WANDERERS

The American Scoter is another bird of the offshore salt waters. Although it is not in occasional concentrations off the Georgia coast, the species is comparatively uncommon in Florida. -wh-

Although the Black-bellied Tree Duck, shown in the photo above, has not been reported from Florida, the closely related Palermo Tree Duck, a bird similar in appearance, has been reported as a "very rare straggler" to the state. -wh-
Collecting Butterflies

By LARRY J. KOPP

URING THE PAST DECADE, butterfly collecting has become an increasingly popular nature hobby for both young and old. There are good reasons for this, of course. For one thing, it is a pursuit which takes you outdoors at a time when nature is at its best, but more than that, collecting butterflies provides thrills equal to those found in hunting and fishing.

There is something about capturing a new, or very rare butterfly that invariably sends a rush of joy through the collector. In a sense, it is comparable to owning your first buck; or catching a large fish.

Moreover, since rare butterflies as a whole are really found unexpectedly, many collectors feel that this element of unexpected surprises is the very essence of the hobby.

Then too, it goes almost without saying that a collection of properly prepared butterflies is a beautiful thing to have. And certainly there is no place where one can expect to find more colorful, and a greater variety of butterflies than in Florida.

In addition to these joys, a collection of butterflies can also be very educational. To make a collection most valuable from an educational viewpoint, the collector should always carry a notebook and pencil to record various observations which will include a note of the particular flower on which a specimen is captured; the kinds of flowers seem most attractive to certain butterflies; and of course a note should be made of the date and location of capture. The latter can be the name of a nearby town or similar landmark.

Naturally a butterfly would be almost meaningless unless you know its name; therefore a good field guide such as Guide To Butterflies by Klots is of paramount importance. This field guide may be obtained from the National Wildlife Federation, Washington, D. C., at a cost of $3.75. It is well illustrated with both black and white and color plates which make it possible for anyone to identify all species of butterflies found in North America.

Probably the collector’s most important tool is the collecting net. To make a good net, secure the following items; An old broom handle, a 40-inch piece of 1/4 inch wire, and about one square yard of green net material. Proceed to bend the piece of wire in the form of a circle, but with two straight and parallel ends. Bend the last 1 1/2 inch of each of these ends towards the other.

Next, measure the distance around your wire circle, and if this is thirty-six inches, fold the square yard of nylon net directly in the middle, and with scissors, cut an oval end for the net. If the wire circle is larger, it must be made smaller, or one must secure a larger sheet of nylon. The oval end of the net is then sewed along the edges.

The next step is to get a strip of heavy cloth, 36 inches long and about eight inches wide. Fold this twice around the wire ring and sew it thoroughly all the way around the loop. Then sew the net itself onto the cloth around the wire loop. The final step in making this net is to attach it to a handle. To do this, cut narrow grooves along the sides from the cut off end of the broom handle, then bore a small hole through the handle at the end of the grooves. Into these small holes, insert the bent ends of the two parallel ends of the wire loop so that both fit snugly into the grooves; then tape securely with friction tape to hold them in place.

Another important tool is the killing jar, because a butterfly must be killed as soon as possible after being netted to prevent it from damaging its colorful wings. To do this, you must first knock the killing jar under the folds of the net, and towards the butterfly until it flutters into the jar. In a moment the specimen will be stunned by the poison in the jar; and thus properly preserved. A good killing jar can be made by taking a quart size glass jar having a wide mouth, and placing about one inch of cyanide in the bottom. This is then covered with a half inch layer of dry sawdust; and finally a similar layer of liquid plaster of paris is poured on top of the sawdust.

When the plaster of paris has become thoroughly dry, you have an effective killing jar that will last a whole year, or longer, depending on how often you use it.

It must be remembered however that cyanide is extremely poisonous, and therefore not always easy to obtain unless you are an experienced collector. A very good, non-poisonous substitute is carbon tetrachloride. This stuff is also sold as cleaning fluid, and to make a killing jar, you merely saturate a piece of cotton and place this on the bottom of a jar. To hold it in place, a tightly fitting piece of cardboard can be placed on top.

The number of killing jars that one needs depends on how much collecting is to be done. Since only live specimens should be placed in the killing jar at a time, you might need as many as four on a full day’s field trip when many butterflies are on the wing. This does not mean however that you could collect only four specimens. Actually, after a butterfly has been stunned in the killing jar, it can be placed into another which already contains one or several. The usual procedure is to have killing jars of various sizes; that is, jars for small butterflies, and large jars for large specimens.

Until old camera bag, or similar, is quite useful as a collecting bag in which to carry killing jars.

When butterflies are dead, they should be removed from the killing jar, and placed inside paper envelopes. Any pumpkin seed envelope will do, and these in turn must be kept in fairly tight boxes such as cigar or similar boxes. Of course if you wish, butterflies can be spread immediately from your return from the field.

In this case, they need not be placed in paper envelopes. But in most instances, spreading collected material is not immediately possible.

Therefore the butterflies must be stored safely until the collector finds the opportunity to engage in this important phase of the hobby. Many collectors do not spread and mount their collected butterflies until winter when no field work can be done. This means that butterflies will have to be relaxed, for you could not spread a butterfly that has become brittle without damaging it. A relaxing must then be made. For this, you can use an old bread box, or any other tin box which has a fairly tight lid. The first step is to place one or several inches of sand in the box. The sand is then thoroughly wetted, after which a thick sheet of cardboard is placed on top of the sand. A good idea is to punch holes in the cardboard. To relax butterflies, you simply place the envelopes containing them into this box. Within three or four days the moisture from the wet sand will have relaxed them sufficiently to allow spreading without opening delicate antennae or wings.

Spreading butterflies is perhaps the most difficult part of the collector’s work, but it is surprising how simple it becomes after one has experimented.

(Continued on Page 41)
SQUIRMLING

An earthworm is a bi-sexual animal; any two worms can mate. The worm breathes from each of many eggs after about 21 days.

DOLLAR SIGNS

By EDMUND MCLAURIN

The St. Petersburg worm-rancher's basic equipment today consists of twenty covered breeding pens, each 12 feet long, 2 feet wide and 16 inches deep. They look like graves in a cemetery and open like caskets.

I F YOU SHOULD EVER APPEAR ON A TV quiz program and be asked what kind of fish catches the most fish, you can safely answer “Worms.” Among the smorgasbord of baits which fishermen consider to tempt fish appetites, worms have rated as an all-time, sure favorite.

To get the squirmers, anglers have long resorted to ambitious digging with a shovel; vibrating a thick board driven two feet in the ground; pouring various chemical solutions on promising spots, and venturing forth with flashlight and pail to graveyards after cessation of a summer evening rain.

But the quickest and easiest way of acquiring the number of worms needed for a day’s fishing, anglers have learned, is to buy them from a live bait vendor. In Florida, where almost everyone fish and the bait worms demand of lazy or time-conscious live bait fishermen have made worm-ranching big business! Even the 10 yellow, classified business sections of local telephone directories now carry listings under “Bait—Fishing” or “Worms.”

Among the more successful of Florida worm-ranchers is Harry C. Martin of St. Petersburg. Martin is considered such an expert in the highly specialized business that other worm-ranchers come to him for both select breeding stock and advice.

Martin began his worm raising venture six years ago with a breeding tank of Tennessee reds, and gradually filled the other beds as his breeding stock multiplied. It was during the early months of his new enterprise that the worm-raiser suffered his major stock losses from sudden drops in otherwise normal Florida winter temperatures and raids by rats and mice. From these losses his present concrete pens, with predator safeguards and built-in heating coils, were developed.

Later, when research had given him a better knowledge of worm culture and fishermen worm-bait preferences, Martin changed his basic stock to California orchard worms. He now sells the big reds at a ratio of 506 to 1 over the 2-1/4-inch long Tennessees. Although Martin started his worm business with only four home-made tanks, his basic equipment today consists of twenty covered breeding and housing pens, each 12 feet long, 2 feet wide and 16 inches deep, that look like identical graves in a cemetery and have hinged tops that open like the covers of the books. Besides being filled with a mixture of two-thirds rich top soil and one-third granulated peat moss, ground decayed hay is added as a fertilizer. Dehydrated blood is also added as a protein. The specially treated soil is a 50-50 mixture of calcium phosphate and lime, the water source is the St. Petersburg Municipal Aqueduct and the temperature is maintained at 72 degrees.

Each pen is equipped by a strategically located water faucet, to be sure that the moisture factor of each bed constant and to conveniently wash off removed worms before re-bedding in fresh dirt. A sprinkler-head nozzles on a length of hose gives Martin even, gentle distribution of water. He uses pump water only, claiming that city water contains toxic elements must be changed to a fresh sanitary reason. Water must be changed every 14 days and tank fresh dirt every six months. As dung and tank fresh dirt every six months. As dung and tank fresh dirt every six months.

Earthworms have many different aliases; to many they are not known by that proper name. In its many forms, worm, clams, wormlows, garden worms and, appropriately, fish worms.

The pan fish and black bass delicacies reproduce by laying eggs, the adults being bi-sexual animals, any two worms can mate and reproduce. About after about 21 days, the young worm hatch from each egg. Four to five months later, given an abundance of nourishing food and protection from predators, the worms will have reached marketable length—roughly about four to five inches for the California variety. While writhing, or twisted in lazy curves, fully grown California worms give the impression that they average only about six inches long; actually, they have a measurable length of up to twelve inches when stretched out.

Depending on size, 150 to 1,000 worms weigh a pound. A worm’s vital organs—brain, heart, mouth and gizzard—are in its forward section; therefore it is not true that a worm cut in half will live two as long as a whole worm. Martin says. While the tail half may exhibit wriggling life for several days after severance, the head half has no way of feeding. Provided no vital organs are injured, the head half will usually live but will not grow a new worm. Those with two tails adjoin, the head end to body and feed by one mouth are unnatural.

Worms breed the year around and each worm will have an average of six young a year; consequently, Martin’s’s basic stock of 760 selected worms as re-established last April, now contains an estimated 50,000 to 60,000 worms. The stock has increased by 60,000,000 worms. The meager stock of 45,000 worms, the fact that the 50,000 worms reproduce to a million and a half, established in 1954.

In the penned worms usually do not remain in their respective community houses from time to time. For beginning to the days they are received for their purchasers. For beginning to the days they are received for their purchasers. For beginning to the days they are received for their purchasers. For beginning to the days they are received for their purchasers. For beginning to the days they are received for their purchasers.

(Continued on Next Page.)
Dirt, well aerated, is the key to maintaining healthy, rich soil. Then, when permanent resident specimens were taken from normal pens and

Penred worms are fed daily, each tank being allotted about two pounds of chicken feed mash.

(Continued from Preceding Page)

the side of the pen, but at the final moment Martin saw that 'Blackie's objective was not the worm but a

Do not hallucinate.

The movement of life within an individual pen is a sight which cannot be seen on a through Florida highway. The moment he removes a cover from a pen, Martin, the subconsciously aware whether or not worm life and pen traffic are normal or some unusual condition has developed. What would appear to a casual observer to be just a bed of worms with a few visible worms on its surface, tells Martin much.

An example of his intensive study and acute observation was when worms taken from a certain bed showed an unexplained expansiveness. Martin tested the soil but could not find any uncommon chemical condi-

tion nor the presence of worm-irri-
tating mites in greater than tolerated numbers. But one thing he did notice was that single worms lifted from that particular bed for examina-
tion made a sudden, pronounced contortion whenever he picked them up with tacks still touching the dirt's surface. He made the same patient searches for the other beds and found that only in the one bed did the worms act so pe-
culiarily. Martin then took some of the neurotic worms from the ques-
tionable tank and used them as guinea pigs in the others. When either placed in the soils of the re-
maining beds or touched to their sur-
faces while held in the hand, the test specimens reacted normally. But when permanent resident specimens were taken from normal pens and

FLORIDA BIRD LIFE...

White Pelican, Pelecanus erythror-
ynchus.

Occurs throughout the state as a regular winter visitor although some nonbreeders remain the year
around. Plumage of the adult com-
pletely white except for the prima-
taries and about half of the second-
aries which are black. Young birds are similar in appearance but have grayish rather than white lesser wing coverts and a brownish-gray
crown. Bill and feet orange-red to

yellow.

One of Florida's largest birds, hav-
ning a wingspread of from 8 to 9 feet, secure their food by herding schools of fish into shallow waters where they scoop them up with their huge, pouched bills. Foods consists of small
crustaceans and aquatic plant forms.

When traveling they fly in straight
line or V formation, alternately flapp-
ing and sailing.

Eastern Brown Pelican, Pelecanus
occidentalis carolinensis.

Large bird with wingspread of from
8 to 7 feet. In flight, identified by the large bill and slow steady wingbeat alternating with rapid "whoop" sound. A year around resident of

Florida coastal waters. Nest in large colonies, usually on small islands along coast.

Breeding plumage silvery gray above, underparts gray brown, neck brown with whitish stripes. Winter
plumage similar except for neck

which is white. Feeding birds make spectacular dives, angling into the water with a precision.

Double-crested Cormorant, Phalac-
crocorax auritus auritus.

Large, black-plumaged bird with longish tail and long neck. In flight the outstretched neck is held above the horizontal. Flocks fly in long
strings, sometimes mistaken for geese, although the occasional sail-
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ALL IN ALL it had been a bad day for the hunter. The first thing was his buddy's last minute decision not to join the quail hunt. The second thing was the extreme dryness of the high pine ridge which meant the birds left little scent and the brush and leaves crackled loudly underfoot. And then the third thing was Buck. That promising puppy of last season had shown himself to be the unpromising novice of this one.

Not having anything with which to compare his field performance, Buck thought he had been wonderful. Wriggling and hassling happily, he clambered unabashed onto the back seat. The dog's unflagging enthusiasm was communicated to his master who, though sorely disappointed in Buck, immediately began to find excuses for him—a thing not infrequent among quail hunters and their bird dogs.

Shifting into reverse, the hunter backed his car up to get enough room to turn around. The right rear wheel dropped down about a foot and there was a dull thud accompanied by a frame-jarring percussion. The hunter shot the gears into low and jabbed down on the gas. The left rear tire spun and off a lug of futility and buck rubber. All in all it had been a bad day and it wasn't over yet.

The hunter got out to survey the situation as the sun fired it's farewell salute high into the sky. The rear right wheel was loosely suspended in a small mound of yellowish sand out of which the bottom had seemingly dropped. The wheel was held up by a low stump on which the rear axle rested securely. Mentally the hunter ran through his vocabularies for both mixed and unmixed company, using inventive adjectives to modify the noun salamander. He looked around and a score of other low sand hillocks caught the last red rays of day and winched back—almost maliciously.

Taking advantage of the afterglow, the hunter began to look around for limbs to plug the hole. Buck, who had climbed over the back of the front seat and jumped out the driver's door, thought this a great new sport and threw himself into a series of heavy-footed contortions, mostly U-shaped.

A couple of feet beneath Buck's antlers Geomys stirred in his bedroom and decided it was time to begin its nocturnal activity. Geomys was unaware of the events transpiring above his labyrinth of tunnels and the wheel now blocking one passageway. He was also unaware of the vengeful thoughts being projected in his direction by the hunter. Geomys was the pocket gopher (Geomys bursarius) that had dug the tunnel. Like most Floridians, the hunter called him a salamander, a name supposedly derived from the "sandy mounds" the gopher throws out of his burrows.

As the hunter looked for limbs, Buck scouted this way and that, a little puzzled as to what quarry he was supposed to be seeking. His master's mood was foul, that much Buck knew, but the reason was a mystery to him.

There was mystery underground too. Geomys highly sensitive nose told him something foreign was in his house not far away. It wasn't vegetable smell or insect smell. Neither air nor water was the stuff of which tunnels were made. Not only was it completely new to Geomys, it was also new to the whole store of gopher instincts Geomys possessed—the instincts that told him what to do when he was unable to draw on his own experience.

Nothing told Geomys to run away from the smell of curiosity got the better of him. As he approached the origin of the smell, however, apprehension was born. Buck was the fresh air pouring into the tunnel around the tire. Fresh air meant holes in his underground fortress. Holes meant enemies.

Geomys never got to the tire. Just before he reached it he began a new side tunnel. His speed was astounding. Between sunset and sunrise Geomys was capable of digging a trench 17 inches in cross section and 7 miles long in the same period.

The gopher spread his hind legs wide apart and attacked the side with downward strokes of his powerful, sharp-clawed hands. His little eyes were tightly closed and the lids fit closely to prevent grains of sand from getting in. The end of each stroke brought the loose soil under his belly. After several pounds of the soft sand had flowed through, Geomys kicked the small pile of dirt further to the front. When a cup or so of dirt fell back with his hind feet, Geomys went through the end of each stroke again, breaking up the soft soil under his body horizontally at the same time he twisted his body horizontally. By this gymnastic movement Geomys brushed himself quickly from the back and the sand fell away. With the help of slightly angled back legs that had closed in his surface and kept it open, the sand started to form a new side tunnel. As the little hind legs did the pushing and Geomys shoved the dirt out of his new tunnel, turned and piled it in the part of the old one leading to the automobile tire. Without wasting time, Geomys returned to his digging and repeated his actions until the old tunnel was well plugged.

The hunter had found an armload of solid lightwood knots. With Buck scampering ahead he returned to the car, dropping his picnic basket into the truck, opening the trunk and took out the car jack. Geomys, meanwhile, had finished his by-pass tunnel and had firmly plugged the old tunnel on either side of the place where the car wheel had broken through. Unplugged or loosely plugged holes are an invitation to danger. A pocket gopher's sweet meat is a treat for bull and king snakes and they will examine the small sand mounds where the gopher dumps his excess soil in hopes that the little fellow had been careless in placing that last handful of dirt with which he plugs up the hole.

Feeling safe once more Geomys set off on his nightly tour and tunnelling in search of food. In a crouch he ran down his network of tunnels until something indicated food might be in another direction. In a flash Geomys had begun a new tunnel towards food. Long before he was pulling at the slender roots of the rough grass. Having bitten off a long root with his sharp incisors, Geomys began stuffing it, end first, into the fur-lined pocket that gave him his name. The pockets began near the corner on each side of his mouth and run all the way back to his neck and shoulder. When the end of the root reached the end of the pocket, the root began to coil around until the whole long piece was neatly stored.

Next Geomys found a tuft of grass. Though small, it was still too big to fit into the pocket. He ate it on the spot. It was a rich food tunnel and in a little while Geomys had both his pocket full. He backed out of his new tunnel with his hairless and very sensitive tail tip exploring the way, warning him of all irregularities. Once out he raced back the way he had come, using the new by-pass around the car wheel.

The hunter would have been surprised if he had

(Continued on Next Page)
The hunter put the jack in the trunk, opened the car door for Buck and himself. The sound of the roar of the engine which he let run a few minutes before he cautiously slipped the gear into low drive position. With a silent prayer he pressed slowly but firmly on the gas. A quick lung and grating sound as the ax hit the trunk. His hands trembled and the dog were on their way home, leaving the pine forest to Geomys and Tecuver, the gophers.

Geomys pushed aside the last bit of dirt in a new tunnel and emerged from the ground. Something told him in what direction he must now go and off he went, scurrying between the roots which covered the ground under his weight. How Geomys told when he was above the female’s tunnel was a puzzle. But before long, burrow down he did.

The female knew almost at once that he was there and went to her underground house. If it had been at any other time of the year, she and the intruder would have fought to the death or injury. Geomys found her near the rear of a group of storerooms. By her manner he knew she had not been visited before this season and stopped in time for her to complete the mating.

Sometime later, Geomys left his mate and returned to the conclusion of his own house. Chances were great that he would not see another female until the following year. He resumed the daily routine of sleeping, digging, eating, searching, and staying alive. It was also likely that he would never see the offspring he sired.

The female, Flori, with whom Geomys had mated, started in a few days to prepare for her coming young. For almost four months she was busy gathering and storing food and preparing for the babies. As the new born were about nine inches in diameter, she ventured about on two long dark nights to dry leaves. She shedded until they made a soft, almost fluffy bed to receive her young.

As the new year arrived, so did the offspring of Geomys and Flori. There were three, two females. Flori did not see them in the darkness. Her knowledge of them was smell and feel. She did not see their fat little bodies and short limbs until all excused in naked dark pink skin that was almost twice too big and hung in wrinkles and folds. They weighed about a fifth of an ounce apiece. The cheek pockets for which they were turned were just little lines in the skin. The brother and little sisters were almost two months old and eating green food before the pockets were big enough to be called such.

Flori fed her brood from the store she had collected and from freshly gathered vegetation until they opened their eyes. This great event happened for them about five weeks old. Actually, it meant little to them for there was nothing to see in their dark home. However, they began to forage for food on their own, using their mother’s tunnels. For two or three weeks they enjoyed this life of comparative ease. They were not quite two months old when they went into the world. The companionship of the litter abandoned forever.

The male, except for mating, and the females, except for mating and rearing their young two years, never met and prefer to be strictly alone.

Geomys son was the first of the litter to venture forth. On a cloudy night in mid-January he pushed aside one of the blocking plugs to his mother’s burrow and scrambled away above ground to find a deserted clump of wire grass. He came upon an excess mound that seemed to be quite old and started digging. As he dropped from the spur into the main tunnel Geomys knew he had been correct. Now the young gopher could correct no mistakes, an older gopher approached face to face. Young Geomys flitted in a somersault with speed and agility and sought the tunnel where the mother had entered, but not before old Geomys had reached him with those strong chisel-shaped teeth. The speed with which the adolescent raced down the tunnel almost made him miss the spur, but he made it. The matured gopher plowed the hole in which the young one had entered and then resumed his foraging and burrowing. Geomys had met his son without recognition. The offspring was only another gopher to be driven away.

The would-be intruder crawled into the wire grass a moment, habitually turned over his fright and when his heart stopped pounding the exposure was forgotten. Only the rule of gopher conduct, “don’t invade another’s territory.”

Not having found a deserted burrow, Young Geomys went a short distance and began to excavate his own. Before he had dug more than a few feet, his tunnel pulled through another’s of his father’s runs. Quickly, Young Geomys filled the breach and changed the direction of his tunneling.

When daylight came he settled down to sleep. His tunnel was a short and shallow one, but it was a start. It would grow and grow until it was as complicated as his father’s. In time when the Old Geomys died, quite from old age or in the mouth of some predator, his son would probably join other tunnels with his newer ones. In this manner Geomys would leave his son an inheritance, much of family ties, but just because they happened to be neighbors. And like his father before him, Young Geomys would live out his lonely life here on the sandy ridge of pine forests.

The famous Douglas fir tree is not a fir tree. It is a false cypress. Neither is the red cedar a cedar. It is a true cypress.

* * *
COLLECTING BUTTERFLIES 
(Continued from Page 32)

perimented with several specimens. To begin with, you need a large and sturdy box. Such boards can be purchased from scientific supply houses, or you can easily make your own. To make one, select a piece of white pine plywood about eighteen inches long and approximately five inches wide.

The next step is to cut grooves, crisscrossing the box. These should range in size from one eighth to about one half inch in width and depth. To make them, you can use a saw and a drill or cut the grooves with a knife. The entire surface of the board must be covered with a thin layer of liquid glue so that the butterflies will easily be spread easily without fear of damaging the fragile wings.

To spread a butterfly, you stick a pin through one of its wings and pin the specimen fast in one of the grooves. This will hold it in the fixed position while the wings are being spread.

The next step is to place a strip of paper over the butterfly's wings as shown in the accompanying photograph. First you pin the paper strip fast at the top, then slide it down to the upper wing. Then while holding the strip, you fold the wings together so that the lower wing is pulled up until its lower edge forms a right angle with the main body of the butterfly. This makes the pin holding the butterfly in the groove can be removed. The wings are then folded so that they lie flat across the thorax of the butterfly but right against the pin, and in this way they are held in place while the pin is removed.

The thing to do is to form a dry place where no ants can reach them. When the butterflies are dry, they are ready for mounting.

There are several ways that butterflies can be mounted. The oldest and most popular method is to place them in riker mount. These are composed of two parts. The bottom part contains a sheet of cotton upon which the butterflies are neatly arranged. The top part is a box-like lid containing a clear sheet of glass which is placed over the butterflies. This process permits the cotton on which the butterflies are mounted to be left in place once the whole mount has been sealed together.

Such mounts are made in varying sizes, and can be hung on a wall or placed in a drawer or box. They can also be used in scientific supply houses and are available from many dealers previously.

However, the most modern method is to mount butterflies in transparent mounts. These are simply two identical sheets of transparent plastic which, after the butterfly has been mounted between them, are sealed together with acetone applied with a small brush. They are manufactured in various sizes so as to accommodate all species of butterflies, and since each butterfly is mounted individually, special panels are also made for the purpose of displaying, and storing your collection. Two or more of these plastic mounts are that you can view a mounted butterfly from both under and upper side. And if you wish, you can trade individual specimens with other collectors.

The mounts of butterflies may be obtained from the Butterfly Collection Supply House, 339 Walnut St., Irwin, Pa. Complete instructions for their proper use are included with all orders. Costs for these mounts range from twenty-five cents each for the very large size.

Interested readers should write to the aforementioned supply house and request a price-list and further details.

There are also less expensive though not so permanent ways of mounting butterflies. For example, they may be mounted on insect pins stuck in a box lined with sheet cork. However, it would be to mount the butterflies under glass against a double layer of cardboard with slots placed between to accommodate the body of specimens.

Just where one should collect butterflies in the South is a problem that has long intrigued the collectors. A large number of the most fruitful collecting spots can be found right at home among the trees and shrubs.

Some butterflies prefer to fly along woodland trails. Others like to hang about the leaves of tall trees. Butterfly alert collector therefore searches everywhere.

PHOTOGRAPHY AFIELD by Or- mal I. Sprungman, Published by The Stackpole Company, 450 pages, illustrated with photographs and diagrams. Price $7.50.

Photography Afield is a most complete guide for every camera-owning sportsman who is interested in nature photography. Prepared by Ormal Sprungman, long-time photo editor of SPORTSMAN AFIELD and author of several volumes of the Little Technical Library series. Photography Afield can be recommended by both amateur and professional photographers as a highly authoritative reference and guide.

The 450 page large volume deals with still photography and movies involving all phases of color and black and white film, the uses of flash and filters plus the required camera handling techniques so necessary for successful outdoor field photography. More than 400 beautiful photographs illustrate over 200 fact-loaded chapters on the Camera as a Weapon, Flash Photography, Camera Angling, Natural History, and the Joys and Miseries of Outdoor Movie Making. Even the photographing of dogs, snakes, spiders, birds, people, and Africa are adequately covered.

Of special interest to the Florida outdoorsman are green forests devoted to leaping fish, water sports, underwater photography, birdlife, and night hunting with animals.

"Photography is a great and wonderful hobby," claims the author. "At any rate, hunting and fishing and the outdoor life, it can change the whole world for you. It can add to your power for posterity the sparkling beauty of clean unpolluted waters and the clear blue sky, the things we can capture, momentarily at least and without bloodshed, that are little creatures that live in creeks and streams and live in the woods and live in the sea and live in the trees and swim the lakes and trace their patterns in the water. All these are part of a Godgiven heritage which must not be wasted." Photography Afield is in shape so that several pages of review would be necessary to discuss even small portions of the many factual chapters so expertly presented for the camera-taking sportsman. A small example of what Photog- raphy Afield contains can be found elsewhere in this issue under the title "Film Fun in Florida" prepared especially for FLORIDA WILDLIFE by author Ormal Sprungman. Whether you are sportsman, nature lover or just plain photography minded, Photography Afield is a worthy and highly recommended addition to the library.


Swift in the Night is a collection of stories on nature and wildlife in Florida, written by naturalist-writer William B. Mowery. Written in a lively, entertaining, and highly individual style this book conveys some of the best reading on an assortment of nature subjects that has come our way in a good while.

The author tells of the fox and its cub, "who writes its books"; of muskrat rooms and taming wild birds; and he recounts the saga of the "wolves." He follows the winged jay's flight, or the blackbirds that are a detriment to the Southern states. He describes the flight of the swift and the good work that was done.

The section devoted to the swift is an especially enlightening and thrilling chapter, with descriptions of their sporting ability which after centuries of persecution yet displays a desire to maintain the same instead of sinking. That there are places where the wolf should be destroyed is uncontroverted; but where the presence of the animal can not even be tolerated Mowery points out as he concludes and for the pres- entation of a remnant of one of our most useful native mammals.

The articles in the whole book are based on the author's wide experience and observations of any age interested in nature and wildlife. The author's great love of animals is a source of much fascinating new information, and as an exciting story of every-day happenings in the outdoors. It is recommended for all nature lovers.

FLORIDA WILDLIFE, NORTH AMERICA. Edited by Durward L. Allen. Published by The Stackpole Company, 490 pages, illustrated with photographs, $7.50.

The Pleasures in North America is another of the authoritative and comprehensive books in the Wildlife Management Institute's publications series dealing with specific North American wildlife species and their management.

All but unknown in the United States, the bald eagle is today a vital bird in Oregon in 1931, the plumes for fashion have diminished. The Asiatic is again to this country, however, and for many years will be adapting itself to this country. The present population is now, however, as is the case with many other species, a group largely dependent upon one open region for its habitat. The floral and animal life that is now so rare, but may be saved through the efforts of those who see the need.

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FISHING

By CHUCK SCHILLING

SMALL WORLD!

On a cruise, my wife and I
and I drove from Kingston, Jamaica,
across the mountains and
along the famous Titchfield
Hotel. The following morning,
we came in on a bamboo
raft ride down the rapids
of the Rio Grande River to get back
to the hotel just in time to
have our lunch served on the
terrace that overlooks beautiful Falm
tonio Bay. We were already
seated when the people at the next
table called a cherub, "Hello, Chuck!" in
a very un-Brith accent.

Holly Hollenbeck and his wife,
Helen, had arrived at the hotel
while we were shooting the rapids.
Hollenbeck is a famous Keys guide
and is presently Dock Master
fishing expert at the Ocean Reef Club
at Key Largo. I can honestly
say I was surprised.

I'll make a small wager that if
you journey to Tumbaku and then
find the most out-of-the-way place
to fish, the first person you'll meet
will be another Florida Croaker.
I'll lay two to one, he'll have
a spinning rod in his hand.

NATIVE GUIDE

Last year, I fished for trout in
the scrub country of northern Michi
gan. The fishing was with a hired
native guide, an "Old-Tim-
er" who really knew the ropes.
I fished this guide one afternoon
and from the beginning felt a little
puzzled about how he talked, how
he rigged his tackle, and
fish finally, I asked, "Have you
ever tried to fly fish for trout?
-no, I've never caught one."
finished, I said the native guide
and my wife both said, "I can't
believe it."

I'm from Sarasota, Florida.

In Jamaica, at last I saw, is prac
tically unknown. Hollenbeck was busy
a dog trying to learn that
boat and motor and, possibly, a
guide to take him fishing. I spotted
a 14-ft. plywood boat with a
hobby horse rider, being used as a
tender between the hotel's dock and
our cruise ship anchor. I went
asked the boat who was running it

if it could be rented to go fishing.
He said it could for "$3.00 an hour." sports fishing in these islands. I saw
the prices and by the
Chinese who owned the outfit. I
know now what they mean by the "Wade Out." We left Port Antonio before I
learned how Hollenbeck
boat I'll bet he found a boat (not solid
gold), caught a lot of big fish on
light tackle, and had a wonderful
time.

HOLAROPEZIAL

While on this West Indies cruise, we
visited Haiti and Dominican Repub
lic as well as Jamaica. Jamaica
is, roughly, 700 miles south of
Miami. If it is safe to assume these
West Indies islands are truly trop
cal then so must be Florida, and,
especially, south Florida. Except for
the mountains, you could easily
imagine you were in south Florida
as you drive along the roads on any
of these islands. Except in rare in
stances, the trees and shrubs, the
flowers, palms, and bamboo, the
meadow, wild life, and farm crops are
just the same. One exception is the
breadfruit trees that grow every
where. We eat it fresh and found it
good. I'll bet I can grow it in my
own south Florida yard.

Nowhere did I see evidence of
a few tackle shops fitted up with
the latest tackle and more
home at commercial fisher
men. I saw plenty of fish and plenty
of water, but not much fresh and salt.
If anyone is looking for
some near virgin waters to pi

DRAINAGE DRIES OUT

The ground cover in the Florida lea
sheds its green leaves in the fall and
we get a new flower blanket. We
areJune, 1956

FILMFUN IN FLORIDA

(Continued from Page 37)

Once you have mastered your
camera and get the proper feel of it,
then swing from black-and-white
to a new level of color
will be pleasantly surprised at the results.
You will find that color film
a different aspect from mono
chrome work, yet infinitely more fun.

Eventually you will find yourself
shooting 8mm or 16mm movies,
and many of the camera accessory
vessels available for the
there is no need, the compact 8mm
is ample. Footage is less costly, and
the initial investment is less. On
the other hand, 16mm can be projected
up to 121 feet, and since the frame
size is four times larger than 8mm,
greater sharpness is possible. Far
more lanes library films are avail
able for public showings than 8mm,
and this fact should be considered
when projector asists in showing
wildlife conservation
films program. One important rule which concerns
consideration.

Which size to choose—8mm or
16mm—depends on individual needs
and the sportsman's budget. For
showings before small groups and in
the house, where a large screen size is
the norm, the compact 8mm
is ample. Footage is less costly, and
the initial investment is less. On
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consideration.
muzzle flashes

BY EDMUND McLaurIN

For several recent issues, hand-
gun students have been
restricted to perfectly relaxing
silently shooting procedures. Gripp-
ing the handgun, assuming a
shooting position affording na-
tural alignment of handgun and
grip, steady holding, aiming
and trigger squeeze exercises have all
been "dry firing" operations with little,
if any, attendant noise.

But for this month's lesson, get
your gun and a shot and we are going to a safe range to
shoot.

As a student, you're not going out to hurriedly "bang-bang-bang!" at either tin cans or a regulation round
buckeye, instead, your target will be a
striped, narrow, vertical target
like the one in the illustration.

We cannot buy such a specialized targeteady-made, so let's construct one before leaving for the firing range.

An easy way to make this spe-
cial training target is to take a
board that is six inches wide and
six feet long and paint it solid black
on one side from base to bury. Next, let's cut a companion strip
exactly five feet long from standard
1/2-inch lumber and paint it after.
A lower piece solid white for its full
length. When the two pieces are dry,
we will lightly sand the narrow white
strip down the center on the wide,
black board. Then, a top end of the
black board flush with each other. Let's see that the white strip comes straight down the center of the under
ground.

The finished job will represent a
six inch wide black board with a
super-imposed contrasting white
strip down its center for a length of
five feet, and an unpainted twelve
inch extension of base to bury in
the ground to hold the target
upright. In setting up this very prac-
tical training target for fire-con-
trol, we must remember to check to
see that it stands at a 90° angle and
at a true right angle to the ground.

In making the training target, you
can, of course, take a wide board
and paint alternate and
colored stripes on it, but it is much
easier to paint a board solid black
and super-impose on it a narrow,
white colored strip. Further, when
the white strip gets pretty well shot up all along its length, you can knock
out the white spot to reveal the black
strip and put on a prepared
replacement. The wood strips are also cheaper by two inch width adhesive tape or auto-
mobile masking tape, for creating the target.

As you view it as a target, the
black base board will no longer appear as a six inch width of solid black, but it will appear as a striped painted
post that starts with a two inch
band of solid black, changes to a
two inch parallel band of solid
white and then has another two inch
band of black area. (See the illustra-
tion.)

Your aiming mark is the narrow
white line that runs down the length of the black plank. Move
back from it until the white band
appears to be just a trifle wider than
the width of your front sight
as you take aim.

You aren't concerned with rear
sight elevation in this specialized firing because the handgun's
elevation adjustments can be left
alone for the time being. Your sole
objective now is to have that white
center line somewhere along its length, for shot after shot. To do it, you have to perfect your trigger control
so that once your black front sight
intersects the white line it will
remain aligned until after your shot.

If viewed objectively, this accomplish-
ment may seem relatively easy; in actual shoot-
ing, it is quite difficult to do con-
sistently at a distance from which
the width of the front sight appears
about as wide as the white strip. Jerk the trigger at the final instant of firing, hurry your shot, or anticipate
noise, and you're likely to veer off
the white line and your bullet will
hit somewhere in the bordering
black—if it doesn't miss the tiny
strip altogether.

As stated in a previous text, al-
though mechanically the same as
an operation, properly squeezing a
handgun's trigger in actual shooting is
a much harder task to do than
with an inanimate ammunition, the
anticipated noise and recoil, and
anxiety to make a perfect shot, combine to make the trigger pull
ملك the trigger at the final moment
of release. Very often, too, noise of
firearm and barrel whip will cover up serious shooting errors.

Therefore, it is a good idea to
"dry fire" the gun and simulate a
shot with an empty gun, between periods of live ammunition burning, to
close in on one's perfect trigger
control mastery. If the handgun
used happens to be a revolver, par-
tially emptying it and spinning it
Russian roulette fashion before taking aim accomplishes the same. Indicate whether your aimed shot will be a
real one or not until the hammer
falls. If the particular gun shot does hap-
pen to be a "dud," you will be acute-
ly conscious of exactly where your sights are in relation to the white
strip when the trigger is pressed.

In carrying out this very bene-
eficial type of practice firing, take
only time and patience. You aren't con-
cerned with how many times you
shoot, but how many bullets out
of the total number of rounds of
ammunition fired hit the narrow
white line.

When taking aim, select a particu-
larly narrow area of the white line
within that area of the target board
until registered and then formed a
cluster of shots—to further indicate
how well you're holding (controlling your shot group dispersion). Then
select a fresh spot on the target and
fire your second string of shots. It's
better to start at either the top of the
vertical white line and work down
by successive shot strings, or begin
at a point somewhere near the bot-
tom and work upward. This method
also tends to give you a better picture of the longer life and surely guarantees
its usefulness for at least a full prac-
tice session.

At the most, fire not more than
five strings during a single practice
and try to spread out your firing over a period of two hours. In this training phase, concept experimentation and
more thinking and analyzing of your
operations than firing. You can do this
only if you budget yourself on allotted
ammunition—something you can
surely do if you will take only one box
of ammunition to the range and leave the rest at home—spread your own time and to make
each shot count.

No person can have a handgun
with enough steadiness for shot
after shot, but of all the many little errors that can enter into your ultimate accuracy those of lateral effect seem to be most pronounced.

Eliminate sidewise barrel move-
ment and you are well on the road
to expert handgun shooting.

Handgunners of some years ex-
perience, who now consider them-
selves pretty fair shots with a re-
olver or automatic, will possibly be
considerably shocked and chagr-
in following an afternoon's test-
shooting at a narrow vertical target
such as pictured.

Nothing will emphasize one's degree of handgun mastery, especially the trigger control phase, like shooting at a vertical line that appears to be the width of the hand-
gun's front sight. It is a form of prac-
tice that both the beginner and the
will find instructive and beneficial.

POMA THE SNAIL

(Continued from Page 29)

had shot green leaves above the
broken ground. As the piling of docks
and bridges, even the sides of the row-
boat at the fish camp was almost as
precious spring, there were clusters
of several others could be dimly seen.

The angle of the sun's rays
water changed and the mists disap-
ppeared until the rays of the sinking
sun would strike the gunner's angle
again. The eggs weren't white, but a
delicate pinkish-lav-
er. The orange legs of the flag
beak, the fragrant taste of
rose petals. Against the muddy brown
the snow and ice flags
flank, the weathered gray of the
cypress trunk, pink-peach
and bronzed faintly. A
counts. A number of Pomaces snails
Poma had been heading toward the
master. And this was only
the beginning.

Early spring and summer had passed once more, Poma and kin

FLORIDA WILDLIFE

JULY, 1956

END
IN THE MONTH AHEAD

PHOTO CONTEST

WILDLIFE JUNIOR
JUNE

NEXT MONTH

WEBFOOT WINTERERS

FREEFISHING MARCH

FIDDLER CRABS

DETROIT DELIGHT

RANCHO ENDEAVORS

EVENING DESSERTS

WINTER WARREN

LIVING ON WATER

FAVORITE CONTESTS

FLORIDA WILDLIFE FIELD TESTS AND TELLS

EXT DAY AND NIGHT

DAKOTA RIVER

LAKE OF THE OZARKS

FISHERMAN'S DREAMS

TRAVEL THEATRE

THE PILGRIM'S PROGRESS

THE WILDERNESS WAY

BEYOND THE PASTURE

A SONG FOR EMMETT...
BUFFALO IN FLORIDA

ANDRES DE PEZ, governor of Spanish West Florida from 1867 to 1869, set out on a deer hunt from Pensacola to the Rio del Almirante country. He sailed across Pensacola Bay and up East Bay to the river now known as Yellow River, which meanders down from Alabama through Okaloosa and Santa Rosa counties before flowing into East Bay. Governor de counties before flowing into East Bay. Governor de counties before flowing into East Bay. Governor de counties before flowing into East Bay. Governor de counties before flowing into East Bay. Governor de
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It’s hard to say exactly when the buffalo came to Florida or when it died out, but that they were here is definite. Spanish explorers of the De Soto and other early expeditions called them native cattle. The descriptions of these “cows” and “cowhides” can only be that of the bison.

From Spanish writings the bison’s range did not include the whole state of present-day Florida, but was limited to the northern and western portions. Escalante Fontanez, who was shipwrecked on the Florida Keys around 1550, had called them “humpback cattle,” among the staples of the Apalache diet, Apalache being that Indian province around the present state capital.

Although Cabeza de Vaca (with De Soto) mentioned cowhides frequently, it was not until he had journeyed west of Florida that he wrote: “I have seen them three times and eaten their meat, and it seems to me that they are about the size of those in Spain. They have small horns, like Moorish cattle, and long hair, as shaggy as a rug. Some are brown and some black, and in my opinion they have better and juicier meat than those ever there (Spain).”

De Vaca further wrote: “From the full size ones the Indians make robes with which to cover themselves; from the largest they make shoes and shields. They come from the north right on down through the land of the coast of Florida, and spread over a region of more than 400 leagues. And all along the route of the valleys through which they travel the people of the region gather. They live on their meat, and furnish the whole region with a great quantity of their hides.”

In an 1854 translation of the Fontanez Memoirs, the following footnote appears: “The bison appears to have ranged in considerable numbers through Middle Florida a hundred and fifty years ago. It was estimated in 1718, that the Spanish garrison at Fort San Marcos, on a failure of stores, might subsist on the meat of the buffalo.”

The Fort San Marcos referred to was probably the Spanish garrison on the St. Marks River in Wakulla County rather than the more reknowned San Marcos at St. Augustine.

Florida soil has also been trampled by a pre-historic bison, a much larger animal, but the bison still here when the Conquistadores came was just like three the great buffalo herds of the western plains. In fact, at archeologists believe the Florida bison wandered east from the plains and lived in the eastern United States until they were killed off, such as almost happened to the western herds.

Familiar to Americans through the buffalo nickel, the bison has a large head with short horns and a thick mane on head, neck, and shoulders. It also has a hump on the shoulders. The bison is not a tall animal, about five and a half feet to the height of the hump, but they are stockily built. A large bull may weigh well over a ton while cows weigh around 500 pounds less.

May is the birth month and births are usually single. The calves can follow the herd when they are a couple of days old. A young cow is usually the leader of the herd which constantly moves about, foraging for grass.

By 1889, with only 500 survivors left, governmental protection was necessary to avert extinction of the species. Under this protection the buffalo responded to such an extent that several years ago the herd in the Great Smokies National Park outgrew its food supply and some surplus animals had to be sold to private owners. Several animals were purchased by cattlemen in northwest Florida where they gave motorists quite a start when spied suddenly midst their bovine companions. Little did the motorists realize that the buffalo was returning to crop pastures in an area from which the species had been absent only about two hundred years.

SUNSHINE FLAT-TAILS

(Continued from Page 23)

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times cut by the animals. It is the
deciduous trees that are by far the

more important, however.

Although at one time not so long
ago the beaver was extinct or at
least greatly reduced in numbers in
most parts of the country, conserva-

tion measures fortunately were

initiated in time. Over a good deal

of its former range, the beaver no

longer tests the brink of obliquity.—MN.

END.

SALT WATER SPORTSMAN

PAGE 15

GROUNDBWELLERS

Leaves from the Egyptian henna

bush have been used for centuries

in making reddish dye for coloring

human hair.

MLN
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