

The Origin of Reelfoot Lake.

A. H. PURDUE, State Geological Survey.

Following the Compass Across Sahara (illustrated).

D. W. BERKY, University of the South.

James M. Safford; Biographical Sketch and Bibliography of His Works.

JOHN T. MCGILL, Vanderbilt University.

West Indian Hurricanes; Their Origin, Movement, and Extent (illustrated).

ROSCOE NUNN, U. S. Weather Bureau.

(Discussed by R. S. MADDOX, State Forester.)

Annual Address of the President: The Interrelation of Plant and Animal Pathology (illustrated).

SAMUEL M. BAIN, University of Tennessee.

#### MEETING OF MAY 4-5, 1917.

The meeting was held at the University of the South, Sewanee, and was the eighth meeting (third spring meeting) of the Academy. President Samuel M. Barton presided. The Academy was welcomed in a brief address by the Vice Chancellor of the University of the South, Bishop Knight. The program of papers was as follows:

Some Features of the Natural History of the Sewanee District:

1. The Forests of Sewanee (illustrated).

R. S. MADDOX, State Forester.

2. The Climate of Sewanee.

ROSCOE NUNN, U. S. Weather Bureau.

3. The Cumberland Plateau as a Crop-Producing Section.

J. E. CONVERSE, Crossville, Tenn.

4. Ferns Found in the Vicinity of Sewanee (illustrated).

JOHN T. MCGILL, Vanderbilt University.

Wild Fruits of Tennessee.

ROBERT S. WALKER, Editor Southern Fruit Grower.

Some Flowers of Middle Tennessee.

JESSE M. SHAVER, Peabody College for Teachers.

Yellowstone Park (illustrated).

GEO. H. ASHLEY, U. S. Geological Survey.

On May 5th the members of the Academy in attendance, led by President Barton, and accompanied by a number of friends, made a trip to Wonder Cave near Monteagle, Tenn.

## WORK OF STATE GAME WARDEN\*

BY W. D. HOWSER, STATE GAME WARDEN.

[Read before the Academy, April 10, 1914.]

The Game Law of this State prohibits the killing at all times of non-game birds, and the destruction of their nests and eggs. It prohibits the killing of game birds, except at certain seasons of the year, and protects their nests and eggs at all seasons of the year.

It prohibits the use of traps, snare, coop net, bird lime, deer lick, turkey blind or pen, and medicated or poisonous food to kill or capture any game or game bird; prohibits the use of swivel or punt gun, or any fire, light or other contrivance to attract, deceive or blind any game or game bird, except that decoys may be used in shooting ducks, geese or brant.

It prohibits shooting after sunset or before sunrise, or the burning of powder or other inflammable substance upon the feeding or roosting grounds of ducks, geese or other water fowls; prohibits shooting on Sunday or upon the public highway. It limits the bag to fifty ducks or thirty quail, or other birds, and prohibits the shipment of quail and robins.

The fish law of this State prohibits the taking or catching of fish by any method or device except with hook or line or trot lines, except adjacent land owners may secure permits to use baskets to take fish for their consumption. It also provides that professional fishermen may secure license to fish with certain devices in the three large rivers of the State. It prohibits the obstruction of any stream so as to prevent the free passage of fish, and makes the unlawful use of seines, nets, traps or other devices a public nuisance. It prohibits the exportation of game fish, and prohibits the sale of game fish during the months of April and May. It prohibits the use of fish lime or any kind of poison, and provides a penalty of \$200.00 and imprisonment for the use of dynamite. It makes it a misdemeanor

\*This paper was read April 10, 1914. Since that time a number of changes have been made in the laws for the protection of game and fish in Tennessee.—

for anyone to pollute any of the streams of the State, and provides for the arrest and punishment of all violators of the law.

It is the duty of the State Game Warden to see that these laws are properly enforced, and to appoint special game wardens to assist him in so doing. It is, also, the duty of the State Game Warden to have charge and control of Reelfoot Lake, and the fishing and hunting privileges belonging thereto. It is not only the duty of the State Game Warden to see that these laws are enforced, but it is necessary for him to collect the money to pay for the work done in this direction.

A license is required of professional fishermen, game dealers, resident and non-resident shooters and market hunters. A license is required of professional fishermen, etc., and the moneys derived from the sale of these licenses, and the fines collected for violations of the Game, Fish and Forestry Laws, are paid into the hands of the State Game Warden, and that is the only means he has of securing money with which to run the Department of Game, Fish and Forestry.

As I have just stated, it is the duty of the State Game Warden to appoint special wardens in different parts of the State, but the only provision for the paying of the special wardens is that they secure one-half of the fines collected by them for the violations of the law.

The forestry laws of this State prohibit setting fire to any forest belonging to the State, to the United States, or to any person, or to wilfully, negligently and maliciously set on fire any woods, grasslands, etc., by any means, whereby the property of another is injured. It prohibits the wanton injury of timber or any forest tree belonging to another, and requires railroads to protect their right of ways from fires that might be communicated to adjacent woodland.

The enforcement of the forestry laws is also made the duty of the State Game Warden; the State, however, has made no provision of any kind by which the State Warden can secure funds to properly enforce the forestry laws of the State.

These are some of the duties of the State Game Warden, but in my opinion, the greatest work for the Game Warden to accomplish at this time would be to secure the active co-operation of all those citizens of the State who are in favor of the protection of wild life, and the conservation of our game, our fish and our forests.

There has been, and is, a prejudice against this Department of the State Government. Many men believe that they ought to have the right to kill wild animals or birds at any time, and in any way that they desire to do so; many men believe that the Game and Fish laws should be enforced against all the other people in the State, but not against themselves, while others believe that no laws should be enforced, and especially a law that would prohibit them from throwing a stick of dynamite in a creek, pond or river, and destroying millions of fish, just because they want to.

There are a great many men in the State, good citizens, men who would love to see the laws enforced, but who are afraid to make complaint, because they believe that the men who will wantonly destroy the birds and the fish and the forests, would not hesitate to destroy houses and stock—lives. They are, therefore, afraid to report violations of the Game, Fish and Forestry laws, and it is impossible for the State Game Warden and the special wardens to enforce the law, unless the violations are reported to the department, and men are willing to become witnesses against the offenders.

It is necessary, also, for the State Game Warden to overcome a prejudice against the department, caused by the peculiar organization of the department. Many men who violate the law, go to the civil officers and protest against any punishment, or the assessment of any fines against them, because the fines are paid into the department, and many of the civil officers absolutely refuse to have anything to do with the enforcement of the Game, Fish and Forestry laws.

In some parts of the State, these laws are very unpopular, and the civil officers refuse to help prosecute the violations of the law. However, their refusal is not wholly the fault of the officers, because heretofore, the department has not asked, and therefore, has not secured, the support of these officers.

It seems to me, therefore, that one of the greatest works for the State Game Warden is to secure the active and hearty co-operation of all the civil officers of this State. Every sheriff in this State ought to be ex-officio a Game Warden for his county, and every deputy sheriff ought to be ex-officio a deputy game warden. Every constable ought to be a special warden for his district, and the sheriffs and their deputies and the constables should be given to understand that it is as much their duty to see that offenders against these laws are punished as the offenders against other laws.

The present State Game Warden has asked and received the hearty co-operation of a number of sheriffs in this State, but not all of them. In some sections the sheriffs have absolutely refused to have anything to do with the enforcement of these laws, and this being an election year, and many of the sheriffs and constables being candidates for re-election, and the laws being unpopular in many sections of the State, the right-thinking man can hardly blame these officers for refusing to act as game wardens at this time.

The game laws, however, can never be enforced in this State until the department has the active co-operation of all officers, and it is my intention to make every sheriff in this State a game warden after the August election, and every constable a special warden in his district.

I believe that the State Game Warden has been given too much power in some instances and too little in others. I believe that the laws should be so amended as to give the grand juries of the State inquisitorial power in all cases of the violation of the Game, Fish and Forestry laws, and that all money derived from fines for the violations of these laws should be covered into the State Treasury, as are the fines from all other violations of the law, and placed to the credit of the Department of Game, Fish and Forestry, but in no case should the office of the State Game Warden depend upon the fees collected by the wardens for the moneys necessary to carry on the work of the department.

In fact, our Game, Fish and Forestry laws should be rewritten from beginning to end, and so written as to make, as I have above suggested, their enforcement as much the duty of the officers of the law in all the counties of the State as is the enforcement of any other law.

Some of you men have seen the passenger pigeon, millions of them. How long has it been since you saw one of them?

Last year a number of men baited a field for doves in one of our sister States near our border, called in their friends and killed more than 6,000 doves in one day. Last year in this State the sportsmen began shooting doves on August 1st. At that time many of the young doves were unable to fly, and the killing of the mother dove left the little ones in the nest to starve. I wonder how long it will be, if these practices are not stopped, before the cooing of the dove will be as strange to the ears of the boys and girls of this State as is the flight of the passenger pigeons to the man of today.

Many of you have seen thousands and thousands of robins in one roost; some of you can remember now a robin roost. There are three or four that I know of today, and the vandals visit these roosts now as they did years ago, and kill and destroy as many of them as possible. This is a misdemeanor, and our farmers, except the vandals among them, desire that the law be enforced, but they are afraid to give the information necessary to convict the offenders. I wonder how long it will be until a robin roost will be a thing of the past.

I was talking the other day to one of the U. S. Government Inspectors, and he told me that he visited a camp in Arkansas, a camp of duck hunters. Just behind the camp, in a ravine, he and his assistant counted more than 600 ducks that had been thrown in the ravine to rot. The hunters would kill and bring to camp as many ducks as possible, select two or three of them to eat, and throw the rest of them in the ravine to rot, and some of the natives would visit the ravine and gather up the ducks in their wagons and feed them to their hogs. In this State we have a law permitting the killing of fifty ducks per day, and many hunters kill their limit. I wonder how long it will be, if these practices are not stopped, until the whir of the wings of the teal and black jack will be heard no longer along the waters and lakes of Tennessee.

The other day the State Game Warden of this State visited a stream that had been dynamited, and he and the man who was with him counted more than 2,000 little fish that had been killed by the explosion of the dynamite in the stream. It was impossible for him to secure a statement from any man that would convict the party who violated the law by dynamiting the stream.

In the spring of the year, as is well known to all of you, the game fish, as well as the non-game fish, go up the streams to spawn. There are some men in almost all localities who know the habits of fish, and taking advantage of this knowledge, set traps and nets to catch the fish as they go up to spawn, and this not only destroys the fish, but destroys their eggs, also.

In some counties of the State we have local laws permitting residents of the county to gig, and the other day I saw one of those people with a string of sixteen trout that had been giggered off their nests or beds. I wonder how long it will be, if these practices are not stopped, until the trout will be as rare in our streams as is the passenger pigeon in our air. I wonder how long it will be until the farmers of this State recognize the fact that a man who wantonly

destroys the fish in the streams of the State is an enemy of the community and of the State. I do not know.

We need an educational campaign all along the lines that I have mentioned, and it will require the active co-operation of every man who loves birds, who enjoys fishing, and who recognizes the economic value of the birds and fish, to accomplish anything in a campaign of education. The children in our public schools ought to be taught the value of wild life. I believe that one way to start this campaign is to ask that we have a Bird Day in every school in this State, and that on that day some prominent citizen in the district read the law, others tell stories about the birds, and others give an outline of the work the birds do for man, and thus, by getting the boys and girls interested in the birds, create a sentiment that will compel obedience to the Game Laws of the State.

I believe that it would be a good idea for this society to send a committee to the Board of Education of this State, asking that one day in each school year be set aside as Bird Day.

The Middle Tennessee Teachers' Association is now in session in this city. Would it not be a good beginning for us to take this matter up at this meeting of the teachers of Middle Tennessee and get their co-operation? If we could do so, and I could prevail upon the members of this society to give me their assistance at this time, I would feel that I had done some material work as the head of the Department of Game, Fish and Forestry of Tennessee.

## PEARL FISHERIES OF TENNESSEE

BY W. E. MYER, CARTHAGE, TENN.

[Read before the Academy, November 27, 1914.]

That you may more fully appreciate Tennessee pearls and the fascination of the pearl fishery in this State allow me to call your attention to the fact that fine, perfect, Tennessee pearls are worth more than the highest grade diamonds of same size. The chance of finding a pearl worth anywhere from one hundred dollars to two thousand dollars in the very next mussel opened draws men to the river and holds them there, even after weeks of poor success, or even absolute failure. I knew one farmer who went to the river to water his horse at noon, and, while the horse was drinking, idly picked up a mussel lying in easy reach. He opened the mussel and found a pearl for which I paid him \$190.00. This started him to putting in all his spare time. For a year he worked at pearling whenever his farm work would permit and never found another pearl of any value. This, of course, is an exceptional case and is given only to show how the eternal hope of good luck abides in man's breast.

In these later days the pearl-ers find it is safer and more business-like to work in partnership with four or five others. This body of, say, five men put all their findings together and divide the proceeds equally. By saving and selling both the shells and pearls they are reasonably sure of making some two dollars each per day, if they work not less than two weeks at it.

### CUMBERLAND AND CLINCH PEARLS.

While all the rivers in the State produce more or less pearls, the Cumberland and Clinch are amongst the great pearl-producing waters of the world. I say "are," but, unless some sane restraint is speedily thrown around the heedless total working out and total destruction of every mussel in each mussel bed and leaving no living mussels to reproduce the race, we are going soon to have to say "were". Already the production has fallen off to nothing in many