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no. 1

August 15, 1911

Commonwealth of Pennsylvania.

OFFICE OF THE

Board of Game Commissioners

HARRISBURG, PA.

August 15th, 1911.

GAME PROTECTION

BULLETIN No. 1.

DR. CHARLES B. PENROSE, *President*, Philadelphia; JOHN M. PHILIPS, *Pittsburg*; C. K. SOBER,
Lewisburg; ARTHUR CHAPMAN, *Doylestown*; LANNING HARVEY, *Wilkes-Barre*;
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HARRISBURG:

C. E. AUGHINBAUGH, PRINTER TO THE STATE OF PENNSYLVANIA

1911



Bulletin No. 1.

GAME PROTECTION

Dear Sir: By Act of Assembly, it is made the duty of the Board of Game Commissioners to protect the game and wild birds of the State. I take it this duty extends beyond matters specifically mentioned in the statute, and that the purpose of the law is, to save the game and wild birds from extinction, and that it is as much my bounden duty to protect the game and wild birds from destruction through the agency of four-footed animals, predatory birds, or the elements, as it is to say these same things shall not be taken by man, except under the letter of the law.

I cannot believe that the game law is intended for a purpose other, than benefit to all the people of this State, or that it is my duty to arrest a poor man who may kill game out of season, when he needs the same for food, and then stand with folded arms and see game of all kinds destroyed by storm, vermin, or wild animals, big or little.

I cannot believe that these laws were passed only for the purpose of increasing game, that it might be wantonly destroyed, but instead, are intended to preserve our game and wild birds, because of the many and varied benefits that come through their presence.

I cannot believe that the purpose of creating a close season for game, was intended simply to arbitrarily deny to men the right to hunt or to be possessed of game during that time, solely and only to mar or interfere with the pleasure of these men during that period, but instead, was intended to preserve the life of the game animal, or bird, in question, and to guarantee a time of peace and rest, during which it might prosper and increase to the final benefit of all the people of the Commonwealth. With this thought in mind, I can not believe that the law intends that the body of a deer, or of any other game animal or bird killed by accident, as for instance, by a railroad train, during the close season for such animal or bird, shall lie upon the ground and rot, or become the food of crows or dogs, rather than be used by some human being, who may have witnessed the accident and who was fortunate enough to possess himself of the carcass.

The aesthetic value of wild animals and birds, especially the latter, their beautiful form, their color, their song, their wonderful attainment of flight, of nest-building and that especially mysterious power, that directs their movements, known as migration.

The value of the life-work of birds of all kinds, taken together, creating the balance wheel between insect life and vegetation;

The value of game as a food-supply;

The presence of game as an incentive to outdoor exercise, which means better health, and therefore better citizenship;

The incentive to experience in camp-life and the manipulation of guns, that fits men cheaply, in time of peace, to become efficient soldiers, quickly, in time of war;

The duty we owe of handing down to those who follow us, at least, some of the pleasures and benefits, that have been preserved to us; are some of the reasons I see for the the existence of game laws, and seeing it in this way, feel, that this law means much to the Commonwealth, and that it is my duty, as the executive of the Game Commission, to give all the protection in my power to the game and wild birds of the Commonwealth, considering also the spirit and intent of that law.

I will not attempt in this paper, except in a limited way, to touch upon the aesthetic value of birds, or of the value of the life-work of the birds, leaving that for another bulletin, but I want it understood, that as the illustrations I may use, show the value of the bird named, so each family of our birds, has it specialty, each doing a particular work, that no other family attempts to do, except to a limited extent. I do want it understood that anything I may say in this paper, is said only in the hope, that I may call to your mind, conditions as they exist, and to impress upon the reader the need of help from him, if our birds and game are to be preserved.

In the New York Legislature, during the past winter, a most strenuous battle was waged by those engaged in the sale of game, to strike from the statute books of that State, all restrictions attempting, in any manner, to control this matter, and to open the markets of New York to the sale of game killed anywhere in the world, and this meant, not only birds classed by law as game, but anything, that might be sold as game.

Examination of the cold storage plants showed the presence of thousands upon thousands of little birds, such as the snowy bunting and others, that were sold as game, to satisfy the cravings for game, of those who had the price to pay, and demonstrated what some men will do for a dollar.

In the same state, a vigorous battle was fought, at the same time, by those engaged in the millinery trade, for the right to sell the feathers of wild birds; the leading argument being, that many girls and women, most of whom were aliens, were engaged in the preparation of these feathers for the market, and if this thing was stopped, these people would lose their employment. No thought was given to the matter of how long the stock of game or wild birds

could withstand the attacks made upon them for this purpose. No thought was given to the loss that would come to the many, through the killing of these birds. On the one side, in this battle, was found the individual, who, regardless of the consequences to others, was looking for personal profit, in dollars and cents, that might come to him, to-day. On the other side was found the one, who, without hope of profit or personal reward, was striving to perpetuate and continue the creatures that had helped to make this world beautiful to them, and that they hoped to continue to those who might follow, through the coming years.

The Supreme Court of the United States has already ruled that game and wild birds belong to *all* the people, not as individuals, but instead, in their collective capacity, and that, through the Legislature, the people could say what should be done, and what should not be done, with the birds; also, that where the benefits flowing, from any cause, and especially game, to a limited number, came in conflict with the rights of the many, the benefit to the limited number, must give place to the rights of the many. The Legislature of New York therefore said: Neither game or wild bird-feathers shall be sold in this State. Truly there are many phases of this question, that must be safe-guarded, if we hope to perpetuate our game and birds. What is the profit to the man who may shoot birds for sale, or the pleasure of the one who may eat a bird, first having the price to pay, or the wages of the one working in bird-feathers, or the pleasure of the one adorned with such feathers, in comparison with the value of the living birds to all the people?

The Game Commission of Pennsylvania is composed of men, whose names, with their places of residence, will be found at the head of this circular. They are men of experience, in hunting and in the business world, and are each one deeply interested in the conservation of our wild birds and game, and they are each one, giving of their time and money to further this work, for *they do not in any manner receive pay for services rendered, or a return of the money necessary to pay even their expenses incurred in doing the work they are called upon to do*, so that the question of profit to them, through the success or failure of their efforts, in a financial way, does not and cannot enter into the question. But it matters not, who these men may be, what their knowledge of the work may be, or how energetically they may enter into the solution of the problems presented to them, it is absolutely impossible for them to do the work assigned to them satisfactorily, without the help of those of our citizens, who are also interested in the same proposition, and *this means every citizen of this Commonwealth; not only the man who goes hunting, but every man, woman and child in the State.*

Professor Surface, our State Zoologist, says: "Birds are the great equalizers between insect life and vegetation," and that in his opinion, "this world would not be inhabited by man in ten years if insects were permitted to increase unchecked." And this opinion is entertained by every scientist, who has given thought to the subject, and brings the matter down to *you*.

Dr. Warren, one of our ex-State Zoologists, says: "The great majority of young birds, while in the nest, are fed upon insect life, each one of them consuming daily an amount of animal food, in the shape of insects, equal to and frequently exceeding its own weight."

Pennsylvania, in round numbers, has an area of 28,800,000 acres. At the rate of but one nest to the acre, each nest containing four young birds, weighing one ounce each, only four ounces to the acre, it would require 3,600 tons of these forms of life to feed the young birds of our State for one single day, and in addition, the food consumed by the old birds during the same time.

Say there is but a single bird to the acre, and allow that bird but 100 bugs or insects each day, and they actually consume many times that number, and you will have the birds of the State destroying 2,880,000,000 injurious form of life, besides the eggs of the same. Allow 200,000 of these forms to the bushel, and you will need 14,400 bushels each day to feed the birds of our State alone.

Think of what quantity in bushels would be destroyed if each bird consumed two hundred or more of these forms, instead of one hundred, or what the result would amount to if there happened to be ten or more birds to the acre, instead of but one bird.

No one attempts to say that our birds alone are responsible for the curbing of insect life, but every one who has to any degree studied the question says: "Birds are great workers in this direction, and are worthy of protection in every way possible."

Dr. Hornaday says: "Every one of the perching birds is worth its weight in gold to the farmer." He says: "It will indeed be a sad day for the American Agriculturist when the last insect destroying bird is brought fluttering to the ground; then, if never before, will he appreciate the value of the allies he has lost forever; then, when it is too late, will he be willing to exchange any quantity of berries or cherries for just one pair of living robins, cat-birds, or other birds, so despised and neglected to-day."

Dr. T. S. Palmer, Assistant Chief of "The Biological Survey," one of the Bureaus of the Agricultural Department at Washington, D. C., whose duty it is to investigate and examine into the daily doings of birds from an economic standpoint, says: "Each family of our birds, almost without exception, is doing a work peculiar to itself, a special work, that is of great value to the farmers and fruit growers of the Nation, and that entitles each family of birds to protection."

Without special consideration, we do not begin to realize the possibilities of insect increase; many species increase so rapidly as to astound even the one who calculates. U. S. Agricultural Bulletin No. 3, page 44, estimates it possible for a single San Jose scale to become the ancestor of 3,216,080,400 of its kind in one season. This increase may be exceptional, but it demonstrates the possibilities and dangers we are called upon to meet. If these calculations are correct, we can readily understand why this world would not be inhabitable by man in a few years, if insect life were permitted to increase at will.

The value of the life-work of birds from an economic standpoint, entitles almost every family of birds found in this State, to some degree of protection, some of them, to continuous protection from one year's end to the other, some of them, our game birds, to partial protection, because through their taking, comes a value that cannot be expressed in words or figures, and that far exceeds the value of their continuous life-work, as measured in dollars and cents. As an illustration of this, take the value that comes to the hunter through recreation.

Everywhere around us we see the erection of hospitals and sanitariums, in which the ailing may be helped, and, if possible, made well. Millions of dollars are semi-annually appropriated by the State for the building and maintenance of such institutions, while nothing, comparatively speaking, is given to care for and increase our game, the presence and the hunting of which, means, keeping the well man from becoming a sick man, and making the sick man well. The State to-day owns almost a million acres of wild land. If it saw fit to spend a little of its revenue, just a fair amount, to make of this tract of wild lands a sanitarium, supplied with the incentive to cause men to take the out-door exercise necessary to keep them healthy—game for the hunter, fish for the fisherman, etc.—it seems to us that many an ailing man would, through his own exertions, be returned to health, and many a well man be enabled to retain his vigor, this meaning better health and better citizenship in every sense of the word.

Many men, if given an opportunity, will be returned to health through their own efforts, and every one of them would prefer to have that result accomplished in this way, rather than to lie on a cot in a hospital, or at home, and to have that return to health brought about, if at all, through the efforts of physicians, trained nurses and drugs.

Again, for many years we have contended that hunting was not simply recreation, or pleasure, or a quest for food, or a waste of time, but over and above all, was a training in the use and manipulation of firearms, especially the rifle, and experience in camping

and in traversing the wild forest lands, either by day or by night, and a training in self-reliance, which, together with a limited discipline and drill, makes the American Volunteer the equal of any Regular on the face of the earth. Our hope, in time of war, is the young man who knows how to shoot straight and to shift for himself.

A historical writer upon the subject of "Firearms in American History," cites the fact, that rifles were but little known in the world at the beginning of the Revolution, the only two places where they were used, to any great extent, being in America and Central Europe. This writer, among other things, says: "After the British had been driven into Boston, the American generals called to their aid all mid-colonial riflemen that could be secured, some of them coming afoot from far-away Kentucky and from intermediate points. These men, as they reached the larger towns, on their way, stopped a while, to give the people exhibitions of their skill and to develop enthusiasm for enlistment." Among other things, he says: "The Virginia Gazette of 1775, says, 'On Friday last there arrived at Lancaster, Captain Crescap's Company of Riflemen, consisting of 130 brave and active young fellows, many of them were in the late expedition against the Indians. These men were brought up in the woods and were used to hardships and dangers from their infancy; with their rifles in their hands, they assumed a kind of omnipotence over their enemies.'" He goes on to cite many instances in which these men displayed their ability to sight the rifle accurately. Captain Nagle's Company of Riflemen from Berks county, Pennsylvania, was the first to reach Boston. The British were finally driven out of Boston by the deadly fire of the combined riflemen of the mid-colonies, who were under command of Colonel William Thompson, of Carlisle, Pa. Each of them were hunters, trained to shoot straight, and to hit anything at every shot, within the zone of their rifle's range. Accuracy in the use of the rifle made the men known as Morgan's Virginians irresistible, and, because of the deadly rifle-fire of these men, they were everywhere in demand. Morgan was born in Bucks county, Pa.

"Through the killing of General Frazer, one of Burgoyne's leading generals, the British were whipped at the battle of Stillwater, and were finally driven to Saratoga, where after being exposed for many days to the murderous fire of these same riflemen, that army was surrendered. This writer referred to says, "On the 7th day of October, Burgoyne began to move his army at Stillwater, General Frazer being in command of one of the wings. Morgan saw that a disheartening blow, delivered then, would not only shatter that particular division, but would also imperil the whole British army, called to him one Tim Murphy, a Northumberland county, Pennsylvania, hunter, saying that the success of the American Army depended

upon the death of General Frazer, pointing him out to Murphy and ordered him to do his duty. Murphy climbed a tree and with his rifle mortally wounded General Frazer, throwing the whole British army into disorder, and compelled the retreat to Saratoga, where it was finally surrendered."

"Riflemen, during the Revolution, did a part, that could not have been done by any other class of men in the world; they were sought for throughout the Colonies, and were formed into regiments. There were Morgan's Virginians; Colonel Miles's Pennsylvania Regiment of Riflemen; Colonel Moses Rawlings's Regiment of Maryland Riflemen; the Augusta Riflemen of Virginia; the Eleventh and Twelfth Colonial Line, and, perhaps others. Upon the killing efficiency of the men of these regiments hung the success or failure of the campaign in the South, the third and last campaign of the Revolution."

We all know of the accurate rifle-fire of Jackson's men at New Orleans, of which battle a historian says: "The majority of the British killed or wounded were found to have been shot in the face by rifle-balls." We all know of the efficiency of the Pennsylvania "Bucktails" in the late Civil War. The great majority of these men were Pennsylvania hunters, trained to the use of the rifle in hunting game and in shifting for themselves in the woods. We have read of what the Boer did in the late South African war, where one thousand men, trained to the use of the rifle, through hunting and to care for themselves, no difference what their surroundings, proved themselves the equal of many times the same number of men, who did not know how to either shoot straight or to shift for themselves as individuals.

The success or failure of coming wars will more than ever hinge upon the accurate fire of the riflemen engaged, and it seems to us, it is only a display of good business judgment to plentifully supply the incentive through which our young men will be led to train themselves in time of peace so that they may be prepared for war.

NUMBER OF HUNTERS IN PENNSYLVANIA.

We had in Pennsylvania last year, 1910, fully six thousand men camping on State lands, under permits, and hunting upon State lands with rifles; fully an equal number of men hunted upon the same lands with rifles without camping, each one of them going on and off the same day. We had fully as many who hunted with rifles on private lands in this State, making an army of 24,000 riflemen. It is estimated that about 130,000 men hunted in this State, in various places, with shot-guns, during the last season, making a total of at least 150,000 hunters in Pennsylvania. It is estimated that under present conditions there is about one in every forty of our people

who goes hunting. We have in the neighborhood of 6,000,000 people in Pennsylvania, so that we arrive again at the approximate number of 150,000 hunters in this State. The value of this training in the use of guns, it seems to us, in itself, is reason sufficient to justify strenuous effort upon the part of all to preserve our game.

Take, as another illustration, the value of game as a food-supply. The weight of a rabbit can be safely fixed at two and one-half pounds, and we believe that an average of four rabbits to every hunter in the State is fair and reasonable; this would mean ten pounds of meat to each hunter, and at this rate the food-supply of rabbits alone would amount to 1,500,000 pounds, or 750 tons. Consider the various kinds of game killed in this State, and the weight of healthful game as a food-supply will aggregate thousands of tons. If we had more game, many more men would go into the woods, not all of them with guns, to kill something, but many of them would go to see and enjoy, and all of them would be benefited.

So that from many viewpoints, wild birds and game of various kinds, appear to be a most valuable asset of the Commonwealth and well worth all the protection that can be given. How this protection is to be given to secure the best results, is the question.

Some will claim absolute protection, for a series of years, will be sure to bring the desired result; while others, those who have given the subject careful thought, will say: If you do this, you take from the quail, for instance, the protection accorded it by its best friend, the sportsman. Say this man may not go out, once in a while, to see his dog work, or to shoot a bird now and then, and you have taken his interest out of the proposition. He is forced into the ranks of those who are ever ready to talk about what should be done, *but who do nothing*, so that when severe winters, with sleets and deep snows, come there is no one to feed starving Bob White, no one cares whether he lives or dies, and die he does, almost every time. Investigation shows this claim to be well-founded, and to establish the fact, that but few men in this State at least, have ever scattered food for quail, when they needed food most, unless they were sportsmen. Think this matter over and see how many men you know who have done this, before you adversely criticize this assertion. There are many perplexing questions to be considered relative to this matter.

For a number of years we have been considering the possible benefit that might come to this State through the introduction of imported birds, as compared with additional protection to our own native birds, such as the wild turkey, the ruffed grouse and the quail, and have come to the conclusion, that additional protection to our own native birds, means more benefit to the State, than could possibly come through the importation of any number of English, or

Mongolian, or Chinese pheasants, or any number of Hungarian partridges. We find, that data collected by the Biological Survey, at Washington, D. C., sustains this conclusion. This data coming from many states, shows, that in many of these States these imported birds disappeared quickly, that in some of the States, after a limited struggle for existence, they have succumbed, while in some few states, they have materially increased, but, taken as a whole, the imported bird has not come up to expectations. One of the reasons being that these imported birds, without exception, appear to be strictly ground-feeders and unless helped, through human agency, must die of starvation, when the drifting snows and sleet have covered their feeding grounds. Our wild turkeys and ruffed-grouse are able to sustain themselves upon food gathered in the shape of buds from the tree-tops, when the ice comes, or to even feed upon the leaves of the laurel, when necessity compels.

Imported birds also appear to be exposed to the attacks of enemies to a greater degree than are our own native birds, and to fall victims to vermin much more readily, as they frequently walk to their roosting places, and are readily trailed, instead of flying to the places where they intend to pass the night, as do our own native birds.

I know of several places in this State, where English pheasants in considerable numbers have been released year after year, for several years, not more than one-half of these birds liberated have fallen before the gun, yet, when springtime comes, not one of these birds are left, all have fallen victims, either to starvation or to vermin; while ruffed-grouse, found in the same territory, have come through in good shape. There must be some reason for this condition, especially when the same conditions are in evidence in numerous places, year after year. It seems also, from data collected, that imported birds are much more susceptible to disease than are our own native birds. It is an undisputed fact that frequently our native birds are called upon to face disease, sometimes almost to extermination; some are affected by drouth; some by excessive rainfall; sometimes, in this State, wood-ticks are so plentiful as to kill almost every young bird produced, many of the mature birds also being killed in this way; intestinal diseases appear to be common among our wild birds, so that at the very best, it appears the birds we have, are called to meet constant and increasing dangers, and we must select the most hardy and wily, if we hope to continue the species. Speedy transportation, through the use of automobiles, improved fire-arms, expert skill in wing shooting, common to-day, where but a few years ago it was the exception, increased number of hunters with decreased territory upon which to hunt, the nesting places, and the roosting places of the birds wholly destroyed or seriously interfered with, the disposition to give protection to various predatory animals, because of the possible value of their

pelts in the fur trade, the effort to protect certain predatory birds, in the hope that some of them may destroy a rat or a mouse, or some harmful insect, when we all know, that the birds destroyed by these same predatory creatures, whether animals or birds, if left alive, would destroy more insects and do more good, than would the fox, or the wild cat, or the house cat, or the weasel, or the mink, or the skunk, or the crow, or the owl, or the hawk that destroys them. The cry that through the killing of these creatures we are destroying the equilibrium of Nature, in a way that is sure to result in great harm to the State, it seems to us, is not justified by the facts. I see a hawk sitting quietly on the top of a dead tree, watching for a mouse, I am told; I see the same hawk floating quietly along the line of an old rail fence, looking for a mouse, I am told, and that may be, for mice are about the only thing left for him to catch. The covey of quail, that I knew were there, when this same hawk first took his stand on the old tree-top, and first began to float along the line of the old rail fence, have disappeared, not even a little bird is left, and the gentleman must feed on mice or starve; and it seems to me, that by killing that hawk, I am taking a step toward restoring, instead of upsetting, the balance of Nature.

I well remember when wild pigeons seemed to be everywhere, while to-day there are none. I am told that there is but a single wild pigeon alive in all the world, and that is a female bird, some eighteen years of age, held in captivity in Cincinnati. They are all gone, and there must be some reason for their disappearance. To my mind, "supply and demand," covers the matter, nothing more. When pigeons were plentiful, they increased more rapidly than they were destroyed, in other words, the supply exceeded the demand, and as long as this condition continued, pigeons were plentiful. Then came a time, when for some cause, no matter what that cause was, vast numbers of these birds disappeared suddenly, the increase failed to meet the demand, and some of the old stock were sacrificed; right there was the turning point, and the wild pigeon began to disappear, slowly at first, then rapidly and still more rapidly, until all were gone. If this was the case with the apparently unlimited number of wild pigeons, how can the limited number of game-birds we have, with already depleted ranks, hope to escape the same end, unless something positive, something beside talking, is done for their perpetuation. How can our wild turkeys, or our grouse, or our quail hope to escape the watchful eye of the ever increasing army of crows? Every hunter knows the disposition of this bird, and what the result of his work has been and will be as long as we have crows; and in addition to this, the work of the hordes of vermin, *that must come*, because of the failure to secure an appropriation, wherewith to pay bounties, as now fixed by law, upon certain animals, for it seems to

us, the supply of birds of all kinds, game and otherwise, must of necessity, within a short time, fall short of the demand, not because of some calamity, such as apparently overtook the pigeons, but instead, because the enemies of the birds have been permitted to increase until the demand exceeds the supply. Islands in the Pacific Ocean have been rendered birdless in a short time by the introduction of cats. Hundreds of illustrations can be cited, where cats, unrestrained, have destroyed every living thing in the line of birds that they could reach. Illustrations almost innumerable, could be cited of the havoc wrought among chickens and ducks and quail by one single weasel, or one fox or one mink, and it does seem to us, that a heavy load of responsibility for this condition, must rest upon the shoulders of those whose short-sighted policy actuated them to oppose the "Resident Hunters' License" bill in the last Legislature. The scare cry, raised by these gentlemen, that certain grafters were attempting to raise a fund from which they could steal, could at the very best, have been but half true and in no way could have affected that part of the fund that was to apply to the payment of bounties, for the bill specifically provided, that one-half of the amount received from, or through or because of this license, should be applied to the payment of bounties, under the terms of existing law, that is, one-half of the entire fund collected from the "Resident Hunters' License" bill, should be applied to the payment of bounties under the direction of the several county commissioners of the Commonwealth, and the Auditor General. The supposed crooks could, under no condition, have touched one cent of this fund, and there is no manner of misrepresentation through the use of words, or the juggling of figures, that can possibly alter this fact. Still the bill was opposed, and strange as it may seem, by the very men who would have profited most, had it become law. The counties and senatorial districts, the loudest in their opposition to this measure, are the very ones, as shown by the book of the Auditor General, to have received the most money for the payment of bounties, from the State during the years 1909 and 1910. The majority of the moneys paid out for this cause, would have gone to the country resident, because he was in position to kill vermin. The majority of the moneys paid in would have come from the cities and towns, because more hunters reside in the cities and towns. The fund supplied by this bill, would have been far in excess of any fund ever appropriated to this purpose, by the State, the country boy killing a mink, or a weasel, would have had a full return of his license fee; the killing of a fox would have returned it twice over, and the killing of a wild cat would have returned the value of a license fee for four years. Still, they said: No! and why they said this, I fail to understand, unless they were deceived, as to the import of the bill, and the necessity for its

passage. The Game Commission did its best to have every one thoroughly understand the danger of losing the bounty, if this bill failed in its passage. We urged this, because we knew the strenuous efforts that had been made in former Legislatures to secure sufficient funds to cover what we thought, the necessities of the work of game protection, including bounties. Because we knew the many and varied demands for money that were being made upon the State, wherewith to do things, that in the minds of those introducing the bills appeared to be of more value to the people of the Commonwealth, than were the questions of game protection, or hunting, or the payment of bounties. Because, we knew that those in authority and bearing the responsibility of disbursing the funds of the State to the best advantage, were sorely perplexed in this regard, and were doing their best to distribute this money in a way that would bring the most good to the most people. Our efforts in this direction were laughed to scorn by many, and by some held up as another evidence of intent to deceive the people. But, it matters not at this time, what was done a month or so ago, we are now face to face with the cold fact, that no appropriation for the payment of any bounty upon animals killed after the 1st of June, 1911, was passed by the Legislature, just adjourned. Those having the disbursing of the State funds in hand considered, as they have heretofore considered, that the hospital, with its surgeons, its nurses and its medicines, the school house, with its teachers and its books, good roads, and other things, meant more to the people of this State, than did the preservation of game, for the benefit and the pleasure of the men who choose to hunt; these men numbering but two, or at the outside three, per cent. of the people of this State, for it is estimated by Dr. Palmer, before named, that only about one in every forty of our population goes hunting, or the profit of the few men in the State who might kill vermin, some of these men apparently preserving the breeders of vermin so that they might secure bounties on the increase; hence the condition as it exists, one to my mind, to be truly deplored; not because some one has lost the opportunity to earn a dollar through the killing of a fox, or some other predatory creature, upon whose killing a reward was to be paid, but instead, because of the loss of safety, that would have come to the bird world, through the killing of that animal, and the increase of danger that is sure to come through the fact, that such animal is left alive. Finding fault at this time will do no good, and it is now up to those who are truly interested in the conservation of our birds and game, to demonstrate their ability to still "make good bricks without straw." We have each one of us had laid upon our shoulders an increased responsibility in this direction, and I beg of each one, who may read this bulletin, to do his part, to kill vermin, to feed and care for the game birds of the State, and to help

in the enforcement of the laws, that mean to every individual in the State just what they mean to each member of the Game Commission, and to that end, I make some suggestions that may be of benefit.

No game bird seems to have a firmer hold upon the public mind than the common quail, or "Bob White," and a study of this bird, undertaken by the Biological Survey at Washington, demonstrates, by almost limitless examination and experiment, that the economic value of the quail, is equalled by but few birds, and exceeded by none. His food-supply is more varied than that of most birds, and is almost without exception, drawn from a source through which nothing but good can result. He consumes things, such as potato-bugs, cinch-bugs, the cotton ball weevil, certain caterpillars, cucumber-bugs, spiders and other insects, that most birds avoid, and that, when taken at all by such birds, are eaten to a limited extent only. Professor Surface says, in his Bulletin of January, 1904: "No birds on the farm are more valuable as seed eaters and insect destroyers than the common quail."

In addition to the value of the life-work of all game birds, is the value that cannot be expressed in words or figures, of a day afield with gun and dog, and I know there is no sportsman who will not appreciate what I mean, when this is said. There is a benefit derived that no one who fails to indulge in this sport can realize, a benefit that is not drawn through the killing of the birds only, and that comes to no two men exactly alike. The working of a dog speaks in different language to different men. From the moment the trail is struck until a dead bird, held only by the tip of a wing, is brought and laid at one's feet, all else, business cares and engagements, sorrows and joys outside, are alike forgotten, in the work of that dog.

Three times to my certain knowledge, since I first began to take a special interest in this work, quail, because of severe winters, ravages by vermin and the slaughter by market-hunters, had become almost extinct in Pennsylvania. Three times the sportsmen of this State, as an organization, with a limited number of outsiders, went down into their pockets and furnished the cash wherewith to buy quail in other States and bring them into this State.

During February, March and April of the year 1906, the Game Commission purchased and brought into this State from Alabama, about 3,700 quail, paying for the same at the rate of nine (9) dollars per dozen, 6 males and 6 females. These birds were placed by Deputy Game Protectors in almost every county in the State. The only counties overlooked or passed, being those, like Philadelphia county, not adapted because of its dense population, to the raising of quail, or Cameron county, where because of severe winters quail could not live, or counties wherein the people took so little interest in the

work of game or bird protection as to either refuse, or neglect, to recommend the appointment of a protector within their borders. Many quail have also been brought into the State by private individuals.

The same thing has been done for many years, and I feel perfectly safe in saying that were it not for this importation of quail, there would not be one single covey in this State to-day. The killing of these birds for the market has to a very great extent been stopped. So, likewise, have been closed the avenues through which live birds can be secured from the outside. A few years ago, quail, for propagating purposes, could be secured without limit from almost every state of the South and West. To-day I can count the States upon the fingers of one hand, from which these birds can be secured for any purpose, the supply being limited from these states, and the price three and even five times what it was five years ago. Many of the States that only a few years ago were exporting quail, in apparently unlimited numbers, are to-day trying their best to secure a few thousand, or even hundreds, alive for propagating purposes. It is reported that more than 400,000 quail were shipped from Alabama alone during the year 1905. Some 30,000 of this number were shipped alive for restocking purposes. The balance being dead were invoiced to cold storage houses in the North. In 1906 the Legislature of Alabama forbade the shipment of quail, either living or dead, out of her boundaries. Thus another state closed its door against us in this respect. We are forced, therefore, into the position where we must protect and save our own birds if we hope to have any in years to come. Aside from statutory enactment, every citizen and lover of the quail has his work to do. I, therefore, beg each individual, I beg the farmers, who derive more benefit from the life-work of all kinds of birds than any other class, I beg the sportsman, with his limited benefits of a day afield, every boy and girl, who take pleasure in our birds, every professed Christian of this State to "not pass by upon the other side." The winter, figuratively speaking, in its most terrible form is indeed at hand for our birds. Don't let them die.

I assure you in protecting them, you are preserving your best friends, and benefiting yourselves.

You may have a few quail in your neighborhood at this time, I beg of you, to be warned in time, care for these few birds before it is too late. It is hard enough for them to battle with vermin in the shape of crows, hawks, foxes, cats, weasels, etc., during that time of the year when their food-supply is abundant, and they have the protection afforded by trees and bushes in full leaf, of weeds and grasses, all of which protection is denied them in the winter. To-day almost every step they take in quest of necessary food, is watched by some keen-eyed enemy. You remember how some hawk or house-cat or other predatory creature destroyed one, by one, the entire covey of



Net Set for Quail, front view.

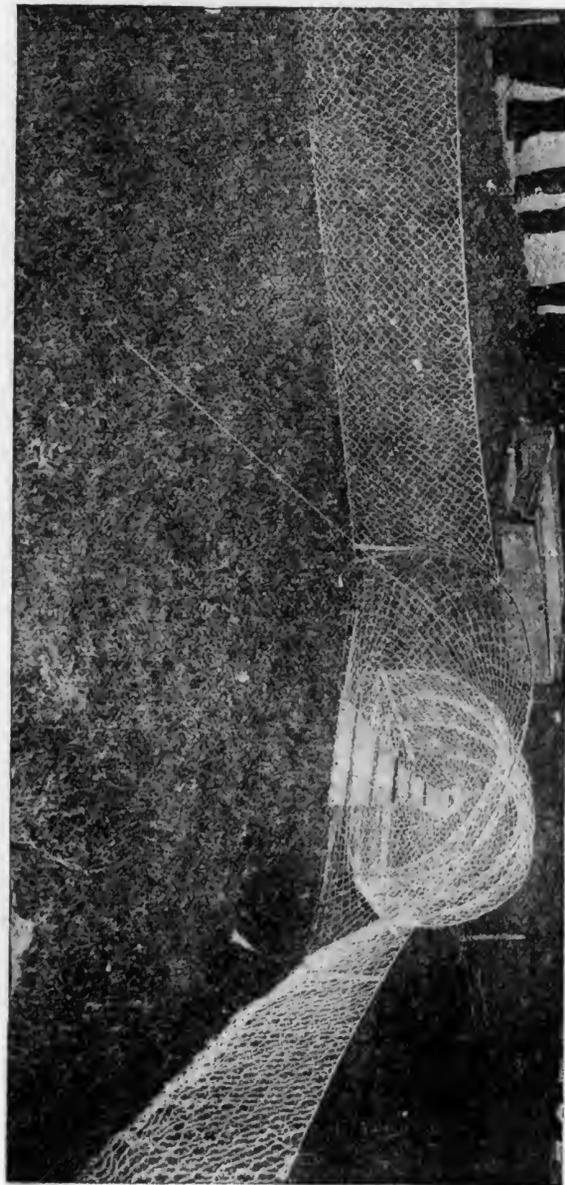
Sprinkle feed plentifully inside net, placing less food outside and on leading board. Net should in all instances have bottom squared so that birds can not reach the food through the sides, as they will do if the net is left round. Wings are not an absolute necessity, but will insure the capture of all birds that come within their limits.

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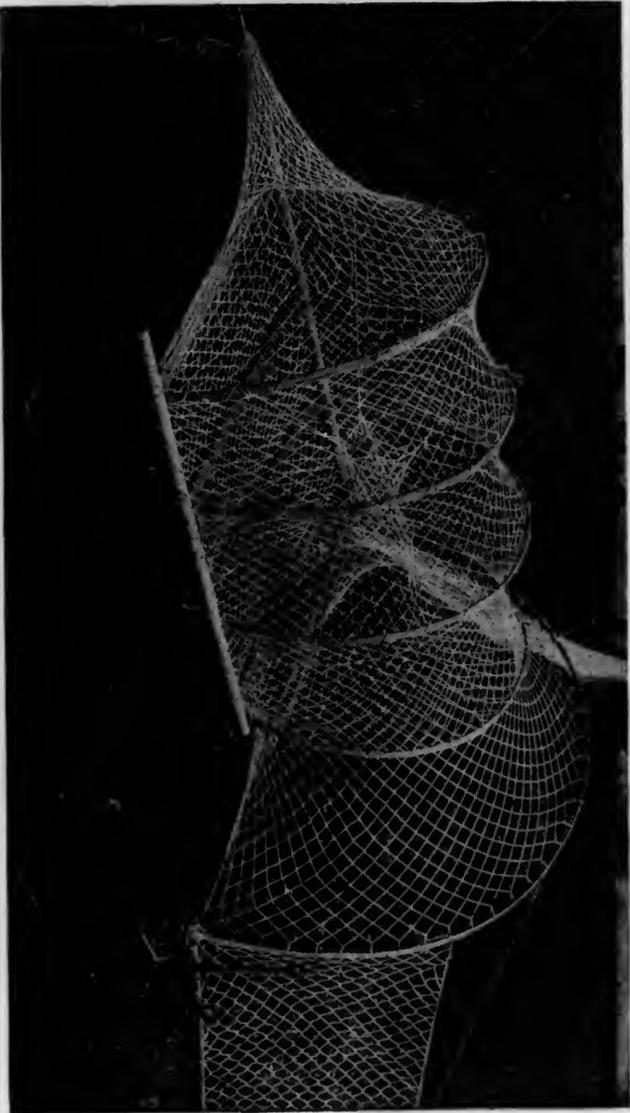
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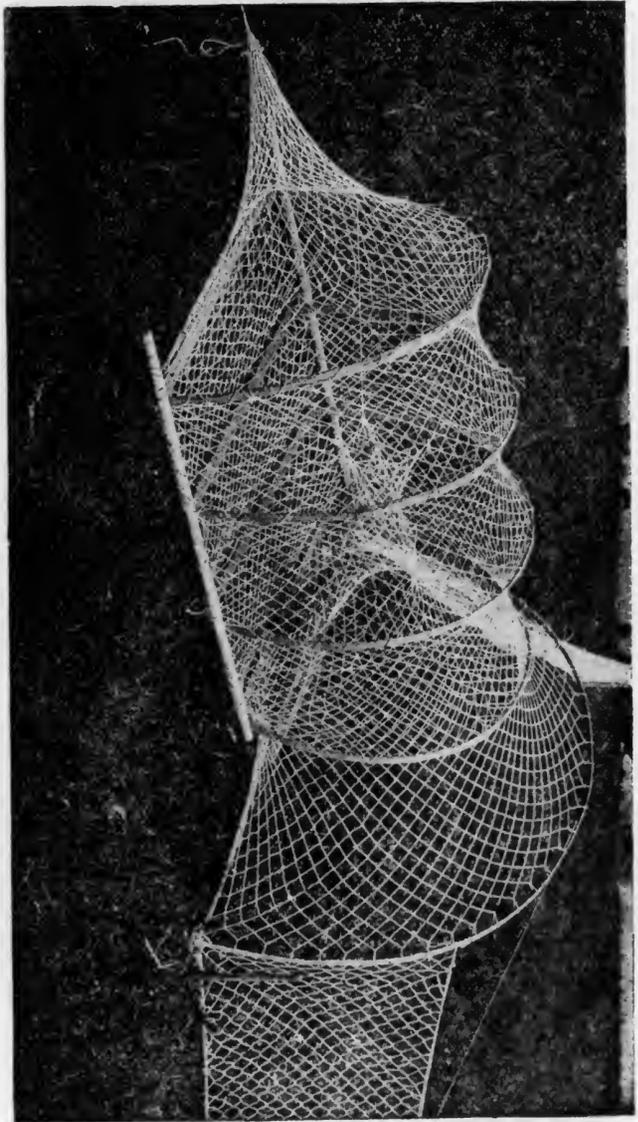


Net Set for Quail, front view.

Sprinkle feed plentifully inside net, placing less food outside and on leading board. Net should in all instances have bottom squared so that birds can not reach the food through the sides. Wires are not an absolute necessity, but will insure the capture of all birds that come within their limits.

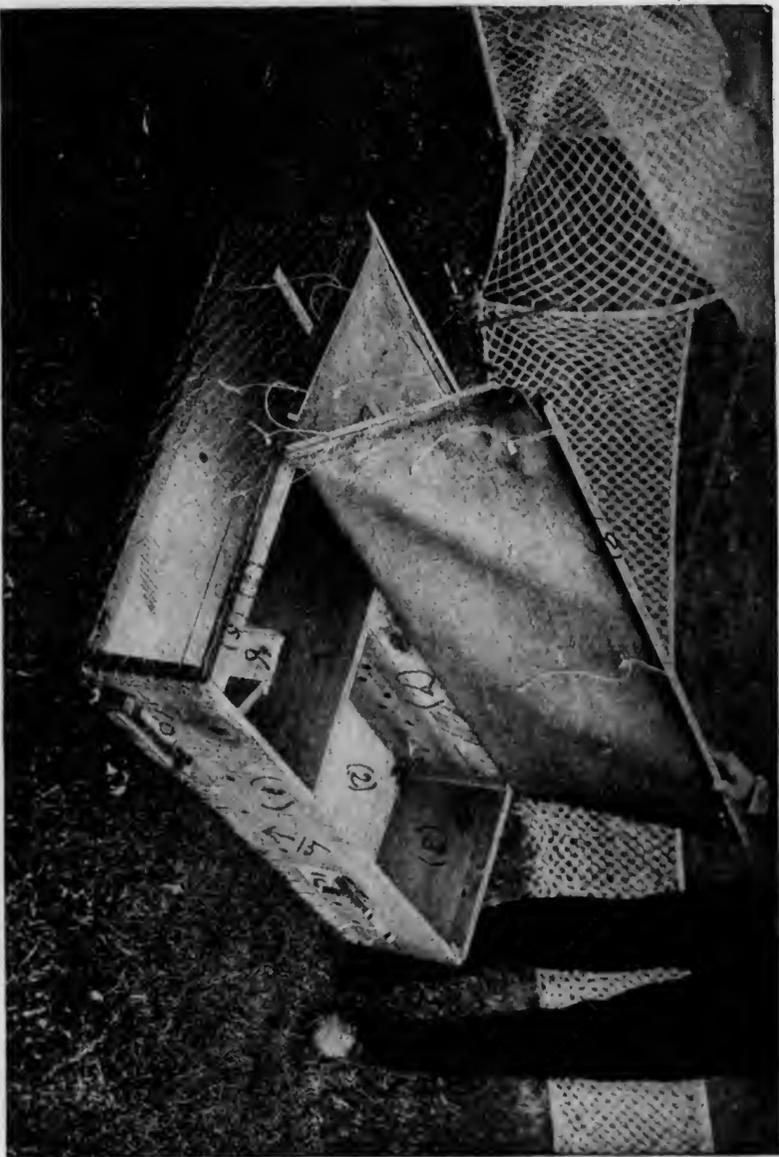


Net Set for Quail, side view. Quail are to be taken out through fall piece.

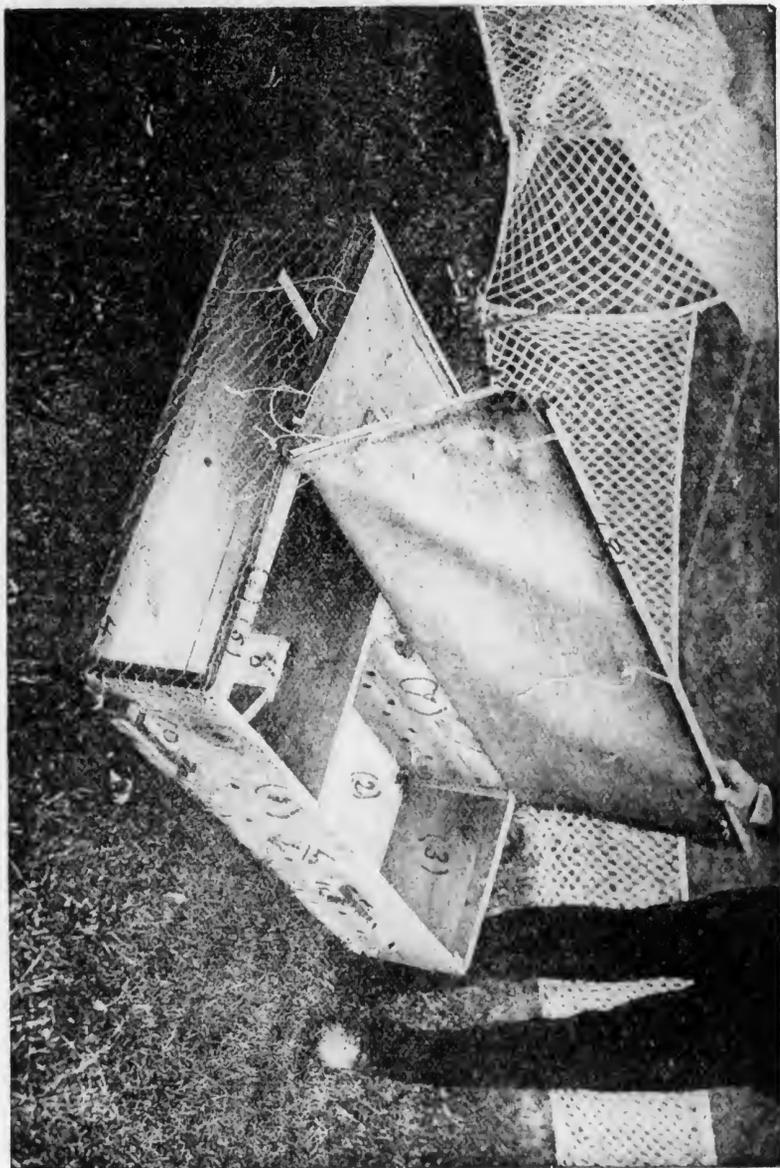


Net Set for Quail, side view. Quail are to be taken out through tail piece.

INTENTIONAL SECOND EXPOSURE

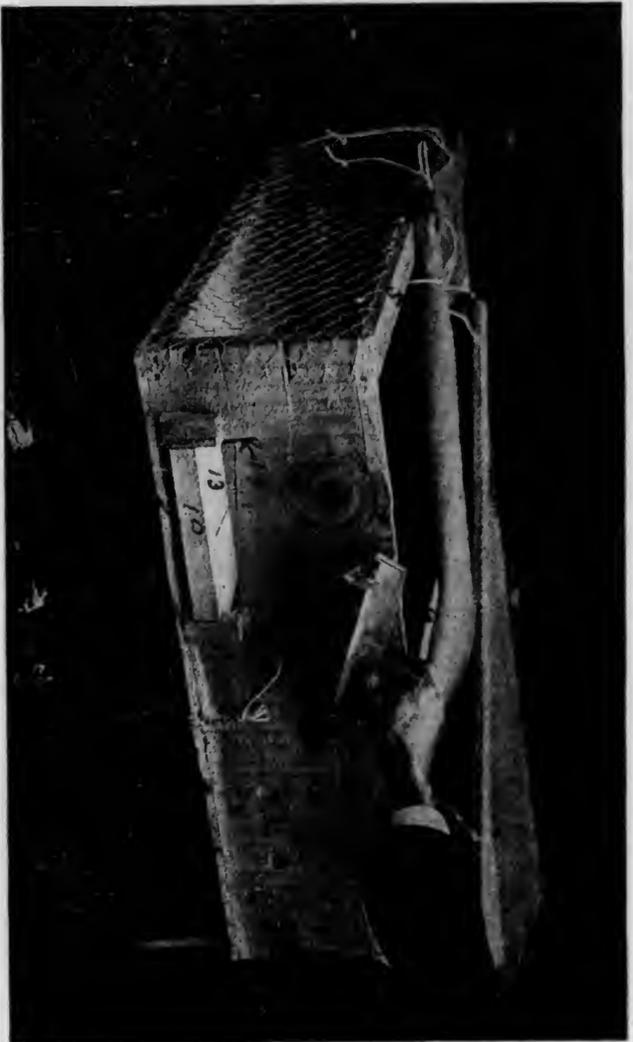


Box for Keeping Quail, first view.

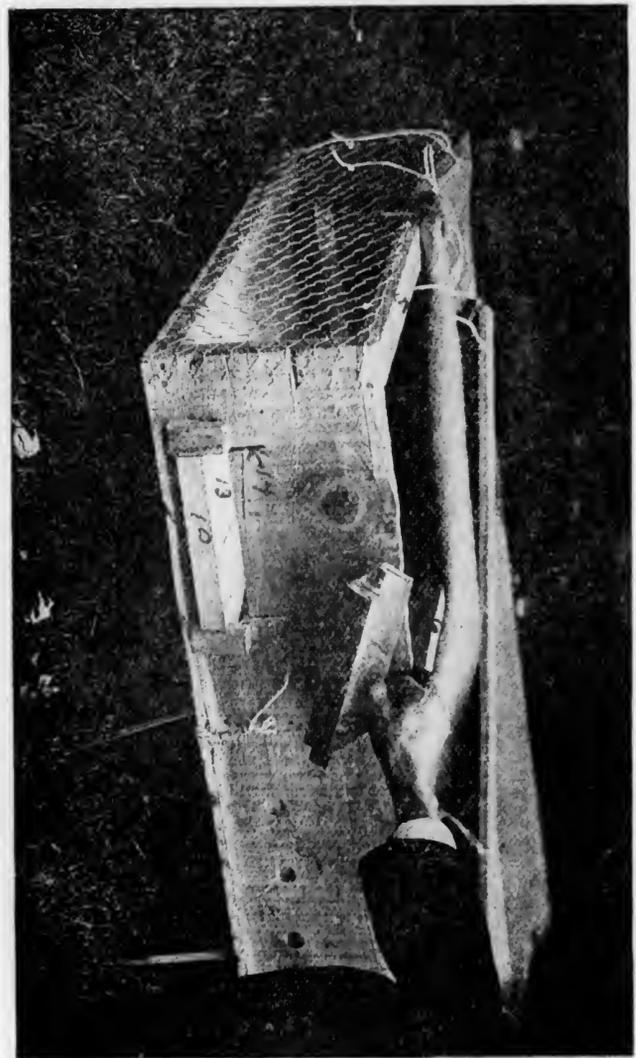


Box for Keeping Quail, first view.

INTENTIONAL SECOND EXPOSURE



Box for Keeping Quail, second view.



Box for Keeping Quail, second view.

INTENTIONAL SECOND EXPOSURE

quail you saw after the season had closed, some years ago. You remember that quail seemed to be everywhere one year, after the close of the gunning season, when along came a series of snows, covering the ground to a depth of several inches, and of course reducing the food-supply of the birds. You recollect how the snow laid for four, or five, or more, weeks and was followed by a cold rain, lasting for two or more days, ending finally in sleet and followed by zero weather, and this followed, perhaps, by drifting snows. In the first place the curtailed food-supply, consequent upon the snow, greatly reduced the vitality of the quail, so that for the first twenty-four hours after the rains began, they prefer to sit huddled together, even though their stomachs were empty, rather than face the storm; after that, driven by fiercer hunger, they braved the elements, securing no more food than before the rain began, and then, with every feather dripping, chilled to the bone, with still more greatly reduced vitality, they huddled for the last time, to die of cold, or to be smothered in the drifts that followed. I have seen quail, frozen in the sleet, and their remains along stump-fences, and under brush-piles, when the snows had gone in the springtime. I know whereof I speak, and firmly believe that no power on earth can save our quail at such a time, unless it be, through trapping, and feeding them in captivity. You cannot afford to wait until the rains or the sleet comes, therefore, I repeat: "Be warned in time!"

CAPTURE OF QUAIL.

The law, at this time, permits the capture of quail from the 1st of January to the 1st of April next following, for the purpose of keeping them alive during the winter, and the additional purpose of separating a covey, but for no other purpose whatever. (See section 30, of Act of May 1st, 1909, P. L. 325.) And any method through which this can be accomplished without injury to the birds may be used. They may be led into a trap or net (see cut), by lines of buckwheat, or screenings, or other food, and after being captured they may be easily kept in cages or coops of proper dimensions, (see cuts attached).

Find where the birds are in the habit of feeding or running, set your net or trap in such place.

Notice the strips running lengthwise of net. Their purpose is to widen that part of the net resting on the ground. Without them every particle of food can be taken by the birds without going into the net.

Notice the light board with cross strips laid in the funnel of the net as shown in the front view. This board while not absolutely

necessary, is a great help in leading the birds into said net. The cross strips hold the food and help the birds to find the opening in the funnel.

Sparrows can well be taken through the use of the same method if the mesh is small enough.

Always keep a sharp watch over your net when it is set, making it a point to look it over frequently each day, otherwise you may cause the destruction of the covey you hope to preserve, for when quail are thus caught in a net they fall easy victims to the attacks of cats, weasels, hawks or other predatory creatures.

Remember, it is a violation of the law to trap or net quail for any purpose, excepting that of keeping them alive during the winter or for the purpose of separating a covey. All quail thus taken must be released as soon as the weather is suitable in the spring. The penalty for catching quail in this manner for any other purpose than that above stated, as fixed by section 15 of the Act of May 1, 1909, is fifty dollars for each offense. This is simply for the taking of the birds in any manner except with a gun. There is also a penalty of twenty-five dollars for each bird taken out of season.

CARE OF QUAIL IN CAPTIVITY.

A good plan is to secure a good size room, say fourteen by fourteen feet, being sure all openings whereby rats or weasels can enter are closed. Cover the windows with woven wire and leave it open so that plenty of fresh air will be given. The quail is a very hardy bird and is not liable to freeze, so long as it has plenty of food and is kept dry. I recommend that the birds be confined in boxes or coops especially provided for that purpose, said box to be placed in the room previously made vermin proof and well ventilated.

A good box or coop (see cut) can be cheaply and easily made by taking two boards, say four feet in length and nine inches in height (1) not too high, or too low. Nail crossways to these two boards, other boards, say two and one-half or three feet in length (2), so that the short board will form the bottom and the long boards the sides of the proposed coop or box. Board up one end (3) placing the wire netting, one inch mesh, on the other end. (4) First inserting a strip at the top of that end. (5) This strip serves the double purpose of a support to the sides and of a foundation upon which to tack your wire. Eighteen or twenty inches from said wire end, fasten crossways in said form a board of the same width of side boards (6), thus making two compartments. From the middle of this board to the middle of the rear end and running parallel with the sides fasten a second partition (7), thus making three compart-

ments to the box. Before nailing the first described partition cut two openings (8), about four inches by four inches, placing them so that they will come about the middle of the front end of each of the rear compartments, the purpose being to permit the quail, when frightened or disturbed, to retreat through these openings into rear openings that will, when finished, be comparatively dark. Attach the blocks thus sawed out, with hinges, leather or otherwise, to serve as doors, so that the birds can be confined in either or both of the rear compartments as desired.

You are now ready to affix the roof or cover of the coop, which in all instances should be made of some rough, coarse cloth, such as can be obtained by ripping the sewed side and end of a coffee sack. Cut this cloth, so that it will extend over both ends and sides of the box, at least three inches in all directions. Tack a light strip (9), says one inch square, to the edge of this cloth, that will fall over the sides of the box. Adjust cover so that it extends equally over all parts, then tack securely to the middle division, the one running lengthwise, No. 7. You then have a cover than can be turned back from either side to the middle. The birds can be driven to either side compartment and the door fastened with a button. By turning back the opposite side, the box can be easily and readily cleaned. The birds are to be fed and watered in compartment having wire front.

My method of watering is to affix tin boxes or troughs to either side of this compartment. These troughs are attached so that they are half inside (10) and half outside of said compartment and about four inches from the floor. The boxes are so affixed that they can be taken out at pleasure for cleaning purposes. I find that if these watering troughs are placed too near the floor, the quail, which are great scratchers, will keep them constantly filled with dirt.

In affixing water troughs, I make a tin box (11), say three inches deep, four inches by ten inches long, soldering on each end about one-third length across said ends a small piece of tin (12), say two inches in length. This prevents the trough from slipping too far into the box, and serves as a fastening through the use of a button or tack or other appliance that may be considered best. To adjust a trough of this kind I make measurements of same on the box, exactly where I desire to introduce it. I bore an inch hole at each end of the measurement and saw out strip from hole to hole, as near an inch in width as possible (13). From each of these holes, exactly where the end of the trough will come and so same can be inserted therein, I make a saw cut at right angles with the above said first named cut; (14) these cuts being about twice as long as trough is high, all together making a figure something like the cut attached, No. 13 and 14, second view. If the cuts are made to corre-

spond with sides of trough, there will be no trouble whatever in introducing or removing same at pleasure. If adjusted in this way the troughs can readily be cleaned without danger of having the birds escape, the slot before mentioned being too narrow for a quail to pass through.

For the purpose of giving more light and air, than would be admitted through the cover alone, I suggest boring one-inch holes about three inches apart along the outer sides of rear compartments (15) and partitions, placing these holes about three inches from the floor, or about breast-high to the bird. If placed too high, or where the birds can readily see objects on the outside, they are more easily frightened, than when the holes are placed as before indicated, near their feet.

The sticks or slats attached to the edge of the cloth top can be easily tied with strings to staples driven into the sides of the box, say one string and staple to each end of said strip and one in the middle. The cloth top can be drawn as tight as you please by means of these strings. Ends can also be tied, thus cutting off all avenues of escape.

In the side of one of the dark compartments I suggest an opening with door, in size, about as in the inside partition (16), so placed that all parts of said compartments can be reached with your hand thrust through the opening. The birds in this way can be taken at pleasure, without danger of escape to the remainder of the bunch.

I have experimented with a box of this kind and feel confident I can keep three or even four dozen quail through the entire winter in a coop of this size and construction. Quail are active and energetic and need plenty of room for exercise. The more room the better for them, and I only suggest this size. Larger boxes can be made if considered necessary. Points to be especially remembered are:—

POINTS TO BE ESPECIALLY REMEMBERED.

The birds should be kept out of reach of vermin. Coops should be placed where they are safe from house-cats.

The birds should be placed so that the sunshine would be sure to reach them at some time during the day.

They should be kept in a dry, well-lighted, cool and airy place. Never in a room artificially heated, or in the dark, or in a damp place.

They should be fed and watered regularly. Quail are great drinkers and should not be stinted in their supply of water. See to it that your troughs are large and that plenty of fresh water is supplied daily.

Mixed food, such as buckwheat, cracked corn, screenings, millet, etc., is best.

Coops should be cleaned frequently.

Sand and gravel are as necessary as food.

Road dust or wood ashes should be supplied at least once a week, otherwise, you may have trouble with lice.

I think it very important that the boxes or coops should in no instances be higher than twelve inches; nine inches seem to me to be about the correct measure. If the boxes are made too high the birds are very apt to injure themselves in an attempted flight or effort to escape. If too low they are liable to injure the tops of their heads by jumping up against the cover. This disposition of quail to jump makes the placing of a soft cloth cover to the box or coop imperative.

By this method many more birds will be saved than in any other way, as they will not be exposed to storms and to the attacks of their natural enemies. If a room or coop cannot be secured, hang up bundles of unthreshed grain,—wheat, rye, buckwheat, millet, or anything that will supply the need,—or, better still, build covers under which they can feed, choosing warm, protected corners along fences for this purpose. A good way is to drive two stakes, say ten feet apart, and ten feet from the fence, lay a rail on the stakes, and rails from the fence to this rail, cover with brush or with corn stalks. Be sure to leave all sides open, so that the birds, if attacked by an enemy, such as weasels, or house-cat, can readily make their escape. Build the cover about three feet high, so that while there will be plenty of light and air, it will be almost impossible for a hawk to strike the birds while feeding, which will be done if the cover is too high; scatter feed both threshed and unthreshed under this cover; see to it that your efforts are not undone by hawks, or house-cats, or other predatory creatures. Two or three covers of this kind will serve a good purpose on any farm, and be followed by a full return for money and labor expended, through the work of the birds.

The inside form of the ordinary fish bait-basket, or a form made after such pattern, bottom, top and one-half of the side made of tin, the other part of open wire mesh, that part of the combination in which the bait are lifted from the bucket to the water and back again, can well be used for the feeding of quail, placing in the form such small grain,—buckwheat, millet, chick feed or other grain,—that will, when disturbed, sift through the wire mesh, hanging the form on a string, the bottom about four or five inches from the ground, where the birds are in the habit of feeding; the quail by picking at the grain in the form, will cause enough to sift through to satisfy their hunger, while the remainder will be kept dry and free from

mould, etc. The form can be readily refilled when necessity requires.

Experience teaches:—That the idea of giving absolute protection to quail for a series of years, or to certain coveys on a farm, is not followed by the best results, unless the covey be trapped and separate; because, frequently two or three or more hen birds will lay in the same nest, the cock birds fight over them, and no hatching be the result. I therefore recommend the trapping of the birds in every instance, where it is possible, not only for the purpose of keeping them alive during the winter, but also for the purpose of separating a covey, to increase the chances of propagation. Where the birds are trapped, they can well be allowed to run together during the greater part of the winter. Two or three weeks before they are to be liberated, divide them into pairs, placing a male and female, two of each, in a separate box or cage, feed and keep them together. The probability is that the birds will mate, in captivity, or at least become so well acquainted that they will mate after their release. This will result in a covey for each pair of birds. By taking the cage or box in which the birds are confined, during the night time, to the place where one hopes to see the birds propagate, taking off the cover or slats, sprinkling food around, and going away quietly, the birds, when daylight comes, will be induced to come out without fright, will feed, move around, feed again, and remain in that locality, without flying to places where they cannot be looked after, or protected.

Another good method is to take the birds to be released into the territory where you wish to place them. Take each bird securely in your hand, reach as far as possible into a brush pile and free the bird. A pair, or two, or more, can be placed in this way with very little trouble. In selecting a location for the birds be sure that they are placed near running water and where plenty of cover, such as briars and brush abound. Don't forget to scatter food frequently, say once or twice a week, at least, until the time comes when vegetation starts and insects become plentiful.

A little judicious handling and feeding will in all probability keep them there until the young are hatched, and frequently cause them to make that place their permanent home. If the covey you have trapped is released in pairs, on different days, on different parts of the farm, the probability is that they will not call together, but instead, will at once make preparations for housekeeping, with the result that several coveys will be found where you now have but one.

It is a well known fact that the male bird generally leads in the flight. I would suggest, therefore, as a means of keeping a pair of quail in a certain locality, that about two days before releasing the birds you pluck five of the large feathers from the tip of one

wing of the male birds; this, while not taking from the bird absolutely the power of flight, will cause it to fly in circles and prevent lengthy flights. The feathers will be renewed in about six weeks; in the meantime the birds will become fixed in the locality, and in all probability have housekeeping started.

WILD TURKEYS.

Sportsmen and others interested in the preservation of the wild turkey should see to it that food of quality and in sufficient quantity, be procured and placed during the winter months where it can be secured readily by these, the greatest of all game birds. There are in this State, to-day, twice the number of wild turkeys there were a few years ago, and all because the people are taking an interest in giving these birds a slight share of the protection they need and deserve. Why not add to that increase by feeding the small flock of wild turkeys in your neighborhood during the winter and seeing to it that vermin, especially the fox, and crow are exterminated in that section.

RABBITS.

The law permits the owner, or the lessee, of real estate, or any member of his or their family, and those in their immediate employ, as a protection to trees or to growing crops, to kill rabbits upon their premises during the close seasons for rabbits, but says, if a rabbit thus killed for the purpose of protection to property is used for food, the person so using it shall be liable to the penalty imposed by law for killing rabbits during the close season. The reason for this being, that many farmers and land owners, used the rights heretofore given, as a cloak under which they hunted and killed game of different kinds, including rabbits, at all times, forgetting that the game of the State belonged to all the people of the State jointly, and while the land owner had the right to control his property, he did not have the right to hunt and to kill game, at a time when the resident of the town, who might not be a land owner, could not so hunt.

Whether or not it is necessary at any time to kill rabbits for this reason seems to us to be an open question.

I, some years ago, had an orchard seriously injured by rabbits or mice, or both. Hardly a single tree out of a hundred or more escaped unscathed. As soon as the condition was noticed, which was not until many of them had been absolutely ruined, each tree was treated, to the height of about one foot, with ordinary axle grease, that preparation being highly charged with coal tar and

strychnine. Dead trees were replaced in the spring by living trees, which were also greased. Several winters have passed since that time and but one single tree has been disturbed, that one a small peach tree, which I have reason to believe escaped the greasing.

Professor Surface, our State Zoologist, tells us the application of grease or tar to trees, is very apt to injure the trees, frequently killing them, so that it might be well to avoid this treatment. I presume there are many other remedies. I know that a woven wire fence two feet high and one inch mesh will protect the garden from rabbits, and I have been informed by good authority that rabbits will in all instances refuse to eat anything upon which coal oil has been sprinkled, my informant stating that a mixture of one tablespoonful of oil to a gallon of water sprayed over the growing garden, while not in any way affecting or injuring the plants, would be most efficient in warding off the attacks of rabbits. This applies to all growing things, trees as well as vegetables.

The rabbit fills an important niche in the economy of Nature. Aside from the benefits of recreation derived through hunting, he is a valuable source of food-supply to many creatures other than human beings, and owing to the fact that he moves in search of food, chiefly in the early evening or at night, is the more readily seen and taken by the fox, the owl, or other night predatory prowlers. The more rabbits we have the less liable are foxes and owls and weasels and other animals of this character to prey upon our game or other birds, or upon the farmer's poultry. The more rabbits we have the less game birds will be killed by the hunter, for the double reason, as I believe, that the great majority of hunters prefer to shoot rabbits rather than birds, and I know that when a rabbit hunter and his dog enter an open field or brush lot in the morning, every game bird in that section hikes to tall timber, or more dense cover. The rabbit dog raised the birds too far ahead of his master to be shot, even were he thus disposed. When the bird hunter comes along later, much to his chagrin he finds himself entirely cut out. The rabbit hunter and his dog are looked upon by the bird hunter about as the sheep man on the plains is viewed by the cattle men, which is with no specially kind feeling or regard, rather the contrary.

The birds and rabbits each have their place to fill and are each in their place doing more good than harm.

POISON.

We have in this State a law, just and proper, that forbids the placing of poison for the purpose of intentionally killing domestic animals or dogs. The penalty for violation of this act includes im-

prisonment, as well as a cash penalty. There is still another law that forbids the placing of poison outside of buildings for the purpose of killing wild animals or birds. Still, the Game Commission, through its duly authorized agents, has the right under the law to destroy vermin and predatory wild animals and birds harmful to game and other wild birds in such a way, as to them may seem best.

Experience teaches us that it is next to impossible to reach many of the *wild* predatory creatures of our State, except through the use of poison. I take it the purpose of placing poison may well be judged from the point where it is deposited or the vehicle used to convey it, and, therefore, in attempting to select methods of conveyance for this remedy, have tried to decide upon certain things not likely to be taken by domestic animals of any kind, or by a dog. I found that by introducing as much strychnine as will be taken up by an ordinary musket-cap into the body of English sparrow, a mouse, a piece of fish or eel, and dropping the same into a stone wall or stonepile, hollow log, or stump along the line of travel of vermin, many animals such as the skunk, the weasel, the mink, and the house-cat will be stopped in its predatory career, and such action will add tenfold to the safety of quail, of wild turkeys, the pheasant or any other ground nesting, or ground-feeding birds. The dead body of a rabbit, a chicken, a sparrow, or mouse, treated in this way, tied to the end of a stick, say two feet in length, placed in the hollow of a tree near the ground, bait end up, so that the lower portion of the poisoned bait will be above the top of the opening will serve a splendid purpose. Poison may be used in perfect safety in the above ways, the dog not being able to get at it, even if so disposed, while smaller animals will be able to reach it easily.

One gentleman recently told me of three weasels he killed in this way with one bait, the bait in this instance being the body of a rabbit killed by a weasel. A dog is not likely to eat any of the aforementioned bait, even if he should find it in the woods. If placed as directed, it will be out of reach, should he pass that way. When the warm rains begin, bait of this kind will quickly be decomposed and rendered harmless, even should it not be taken by vermin. Many a predatory animal and bird will be called down in this way without the aid of a bounty law, or the expense attached thereto. Untold numbers of rats and mice will also be killed, far more in my opinion than would or could be killed by the foxes or weasels, and with no harm to birds, or to any other thing of value to the State.

A TRAPPER'S SECRET.

I have been assured that dogs will not eat the flesh of a muskrat, while cats of all kinds, and foxes are passionately fond of it. I am told, that if you catch a number of muskrats, place the skinned

carcasses in any suitable receptacle, for carrying, tie one of the carcasses to the end of a string, dragging it as you walk through the woods, or brush lot, a fox, cat, mink, weasel, or skunk traveling around at night and striking this trail will surely follow it to the point where you have prepared your entertainment for him. Every trapper in his travels, sees what he terms "likely places for vermin," at each one of these places, the man with the muskrats, builds a cairn, or pile of fairly good-sized stones, laid say an inch or two apart, in the center he places the carcass, or a part of one of his muskrats, and on top a fairly heavy flat stone, on the outside of this pile of stones, where it will be easily found, he places a small piece of muskrat, say about the size of the end of your thumb, nicely loaded with strychnine, the victim finds this piece and wastes his time in trying to secure the larger piece inside the stone pile, until it is too late, the carcass is right beside the stone pile, and not away off in the brush, where it could not be found without a tracking snow. This method is worthy of trial by any who are killing vermin for pelts.

CROWS.

The good done by the crow, through the destruction of mice or insects, does not appear to weigh in the balance against the wrong done by these birds. The rapid disappearance of prairie chicken in Indiana, Illinois and other prairie States of the West is, it is claimed, directly attributable to the crow, that, from morning to night, month in and month out, preys upon the eggs and young of these birds, and has been known, in very many instances, to attack and kill nearly full grown prairie chickens.

Dr. Warren tells me of a spot in Pennsylvania known to himself where the ground, under a small clump of trees, during the laying and nesting time of the wild waterfowl, especially the mud hen, is covered to the depth of several inches by the shells of the eggs of these birds, all of which were stolen by crows, that, in scores and hundreds, sweep over the marshes in that locality, devouring every egg and destroying every young bird they can find. We all know how the robin and very many other of our small birds, during their nesting time, are driven almost to the window sills of our homes by the voracious crow, which, to my mind, destroys individually more birds of all kinds, more birds' eggs and young poultry, than any hawk that ever flapped a wing. A little corn boiled until swollen and soft, with the addition of a little strychnine, will cure the crow of many bad habits. I am told that corn thoroughly soaked in strong salt water will have the same effect upon crows. The brine of a mackerel tub is just the thing for this purpose.

Remember, it requires but little salt to kill a chicken, so that corn prepared in this manner should in all instances be so placed in a pile, on a board, on a piece of paper, or in such other manner, as to make its removal easy and complete, after it has served the specific purpose intended. It should never be scattered over a field or be left exposed longer than is absolutely necessary to accomplish the object in view, otherwise you may lose your hens.

The question of placing poison has been considered in very many phases. Experiments of various descriptions have been tried, some upon chickens, some with ducks, some upon turkeys, some upon quail and upon different kinds of wild birds other than game birds, and upon animals. One gentleman, a prominent physician, told me of feeding nux vomica to a chicken, a common hen, in quantities sufficient to have produced fully fifteen grains of strychnine with no injurious result to the hen. The gentleman saying, the only visible effect so far as he could see, was that the hen appeared to have lost confidence in him. Six quail were repeatedly given excessive doses of strychnine, enough, at each time to each bird, to have caused the death of several men. The birds seemed to have been wholly unaffected by the poison. One of these birds was afterwards killed by having forced into its craw two or three times the quantity administered in the first instance. Turkeys withstood excessive doses of this poison, while a duck succumbed, after swallowing a small quantity. Crows and blackbirds were easily killed by the administration of small doses. I learned from a reliable source that residents of certain countries had for a long time, been in the habit of mixing nux vomica with the food given their chickens at certain times—the purpose being to kill hawks—and that while the poison did not appear in any way to affect the chicken, it was sure to kill any hawk that might within the limit of several hours or days, partake of a chicken thus impregnated. While none of these experiments have been carried to an absolute conclusion, they did determine beyond question, that a fixed quantity of strychnine would not affect all animals and birds in the same way. That many birds appear to be absolutely immune to its effects; that they are wholly unaffected by a dose in quantity sufficient to kill several men; and that many four-footed animals are easily killed through the use of this agent. While our protectors found the dead bodies of many animals, such as skunks, porcupines, weasels, wild cats and foxes, killed by this poison, they have not discovered the body of one single bird, either game or otherwise, apparently determining beyond question, that strychnine is the solution of the vermine problem, and that when administered as directed by this office in a special vehicle, such as the dead body of a sparrow, or a piece of fish, both of which decompose quickly and disappear, placed in a

special locality, namely on the wild lands of the State; and at a special time, namely, late in the fall, after the close of the game season, and again early in the spring, nothing but good and benefit to the State can result.

Read what Powers & Weightman, manufacturers of drugs, Philadelphia, say upon this subject:—

“STRYCHNINE.”

“We are occasionally solicited, by persons interested in the poisoning of wolves, squirrels, gophers, and other destructive animals, to suggest some preparation quicker to act, and more certain in results, than strychnine; but, we know of none.

“Strychnine, when of good quality is very active, and excessively poisonous. Its results, as a rule, are quick, uniform, and certain. While this is so, however, and while it operates in the same way upon almost all animals, when the system has been brought decidedly under its influence, (producing violent tonic spasms of the muscles, like those of tetanus), yet, considerable variation is found in different individuals to resist the poison.

Some persons are powerfully affected by the smallest dose. One-half a grain of Sulphate of Strychnine has produced death in fourteen minutes, while a case is recorded in which recovery took place after seven grains of Strychnine had been swallowed.

So, in the lower animals, it is found that all are not equally susceptible. One-sixth—even one-eighth—of a grain, it is said, will kill a large dog. Ten times as much Strychnine is required to kill chickens or other birds, weight for weight, and among animals the guinea-pig is very insensitive to it.

Where those interested in the destruction of wolves, etc., fail to obtain expected results, they are very apt to question the purity of the Strychnine; but, we think it may safely be asserted, that the Strychnine found in our markets is of good quality, and the fault is not with the poison itself.

Experience will suggest, to the trapper and hunter, more accurately than the manufacturer can do, the required amount to be used, and the best methods of preparing the bait. It will also remind him that more Strychnine is required to kill a large, than a small animal; that where size is about the same some may be able to resist a dose, that would be fatal to others; and that the same animal may not be, at all times, equally susceptible to its power.”

Remember, the law prohibits the placing of poison by the general public of Pennsylvania.

Remember, in using Strychnine, that it is a deadly poison, and should in all ways be most carefully handled and cared for.

TREATMENT OF STRYCHNINE POISONING.

“The antidote is tannic acid to form the insoluble tannate, or a soluble salt of iodine. Then emetics or the stomach pump, followed by perfect quiet, which is very important. Vomit as quickly and as thoroughly as possible. A teaspoonful of common salt to a pint of warm (not hot) water makes a splendid and thorough emetic. Drink as much water thus prepared as possible, then stick your finger down your throat. Antagonists are chloral, chloroform, chamomile oil, phsostigma, tobacco and potassium bromide, the latter being so slow of action it is rarely available. The bladder must be frequently evacuated, to prevent re-absorbtion of the poison.

If poisoned, use any of these remedies that can be the most easily obtained and send for your physician at once.”

Vermin must be destroyed, if we hope to increase our small game, or other animals or birds, or our wild birds other than game birds.

Respectfully yours,

JOSEPH KALBFUS,
Secretary of Game Commission.



END OF NUMBER