

IOWA CONSERVATIONIST

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NEW ROSE PROMISES MORE WILDLIFE

FORESTS IN IOWA 1897

Thomas H. MacBride

(Editor's note: Dr. Thomas H. MacBride was one of the early leaders of the conservation movement in Iowa. "Forests In Iowa" was prepared while Dr. MacBride was Professor of Botany, State University of Iowa. Read at the American Forestry Congress at Nashville, Tennessee, in 1897 it was published in the American Forestry Congress Proceedings, Vol. XII: 170-173.)

Iowa, when first settled, was essentially a prairie state. There were wooded areas, but these were generally disconnected and limited to particular regions, such as the banks of the perennial streams, clay hills, sandy and rocky ridges.

The spread of timber was prevented by prairie fires. Where the grass was heavy these were excessively hot and trees could maintain themselves only where the grass was scanty; that is, where the soil was thin and barren. Moreover, the trees were for the most part scattered.

As far as trees were concerned, one could drive or ride anywhere through the primeval woods of Iowa, except perhaps, immediately along the borders of streams. The greater number of the trees were old; they were low, often scrubby, storm-tossed, and often scarred by fire, of little value. In fact, it is believed by some that prior to 1850 the forest in Iowa, such as it was, was actually retreating, dying out, before the stress of fire and storm.

However this may be, it is certain that the coming of civilization by checking prairie fires was for Iowa woodland immediately and greatly advantageous. True, there was immediate demand for lumber and fuel. The earlier laws compelled the settler to fence against all the cattle of the prairie, and

(Continued on page 14)



Lunch time in the lee of a multiflora rose fence. The rose fence is the answer to the long-time quest for a practical, inexpensive, permanent living fence. Soil Conservation Service photo.

A FACTOR IN FOOD THAT MEANS LIFE OR DEATH TO QUAIL

By Ralph B. Nestler, Biologist
U. S. Fish and Wildlife Service

Of the forty-two or more dietary essentials for life, growth, and reproduction, there is one that seems to hold the fate of quail, and in all probability other game species. This is vitamin A.

In experiments conducted by the U. S. Fish and Wildlife Service at the Patuxent Research Refuge, Laurel, Maryland, it was found that bobwhites could survive the winter on the very monotonous, poorly-balanced diet of yellow corn only. They would, however, die off in a few weeks time on a well-balanced diet consisting of a variety of grains and other seeds deficient in vitamin A. Often the victims succumbed while in good flesh with their crops full of food.

Vitamin A As Vital As
Carbohydrates

In winter especially, vitamin A seems to be as vital to the welfare of quail as are the carbohydrates that provide heat and energy. True vitamin A is found only in animals, but it is formed in the body from certain pigments found in highly-colored vegetable tissues such as green leaves and red berries. Of the more than 30 such plant pigments, only four, namely alpha, beta and gamma carotene, and cryptoxanthin are known to be converted by animals to vitamin A.

Of all the cereals, yellow corn is the only one containing appreciable quantities of carotene. White corn, wheat, oats, barley, rye, buckwheat, and the sorghums are nearly devoid of it. Hence the ability of yellow corn to keep quail alive.

(Continued on page 15)

By Paul Leaverton

Assistant Superintendent of Game

The need for more wildlife cover on farm land has long been an accepted fact. Good cover plants afford protection for game birds and animals from predators and weather. They are necessary for the maintenance and increase of farm game and birds. Attempts to get more wildlife cover established on Iowa farms have met with moderate success.

Research men have long experimented with plants that would fulfill the need for desirable living farm fences. A new rose, the multiflora rose, apparently is the answer.

Rosa multiflora is a dense, thorny shrub. It is a native of Korea, Japan, and some parts of China. Due to its hardiness and rapid growth, even in poor soil, it has been used for a number of years by commercial nurseries as "understock" on which to bud garden roses.

It will grow from two to three feet during a single season and reach a maximum height of eight feet. Due to its compactness and thorny nature, it makes an excellent fence for all livestock except poultry.

The "fence rose," with its masses of pinkish-white blossoms that literally cover the plant, adds much to the attractiveness of the landscape. The flowers are followed by an abundance of small red fruit that remain attached to the plant throughout the winter months. These fruits, or hips as they are properly called, attract many birds and are especially valuable for quail and pheasants. This rose not only provides food for birds during the winter months, but its arching branches hold snow and ice without breaking down and provide excellent wildlife cover so badly needed in most parts of the state.

Rosa multiflora was first used by the Soil Conservation Service

(Continued on page 16)

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JANUARY COMMISSION ACTION

A meeting of the State Conservation Commission was held in the Des Moines offices on January 5 and 6, 1948.

Members present were E. B. Gaunitz, Arthur C. Gingerich, F. W. Mattes, Mrs. Addison Parker, F. J. Poyneer, and E. G. Trost.

The Commission:

Appointed a committee to make a survey of state-owned forest areas to determine their classification and use.

Accepted the resignations of W. R. McGiboney and R. B. Moorman.

Authorized attendance of Superintendent of Fisheries, Assistant Director, and Commission Chairman at meeting of Upper Mississippi River Conservation Committee at Madison, Wisconsin, January 26-28, subject to Executive Council approval.

Authorized Fisheries Supervisor at Spirit Lake to make an inspection of Wisconsin fish hatcheries, subject to Executive Council approval.

Authorized attendance of Chief of Division of Lands and Waters and Commissioner Parker at meeting of Midwest State Park Association in Chicago, February 19, 20 and 21, subject to Executive Council approval.

Adopted Administrative Orders No. 108 and No. 109 opening certain lakes to winter fishing.

Adopted Administrative Order No. 110 establishing the fishing seasons for 1948.

Authorized Welch Lake in Dickinson county be developed for use as a nursery pond.

Approved renewal of lease with

PRESCRIPTION FOR WILDLIFE

By Dr. Ira N. Gabrielson

President, Wildlife Management Institute

(Editor's Note: Dr. Gabrielson is former Chief of the U. S. Fish and Wildlife Service. He is one of the outstanding conservation authorities in the world and author of several books and countless articles on wildlife conservation.)

The pattern for wildlife resources management has been successively based on different ideas. Each method has had its enthusiastic supporters, all sure that their plan provided the sure-fire method to make the dream of endless hunting and fishing sport come true.



Dr. Ira N. Gabrielson. Wildlife Management Institute photo.

One after another, restrictive legislation, artificial propagation and stocking, and refuges, to mention only three of the more important, have been on trial and found wanting. No one of these methods for increasing stocks of fish and wildlife have been "the answer," but all remain and probably will remain as useful tools of proper management.

Certainly no thinking sportsman can believe that it will ever be possible to do without laws governing the human harvest of natural resources. The type and degree of regulation may change from year to year but game law enforcement will always be a part of the management program.

Federal Government on Sabula Nursery ponds.

Adopted a program for distribution in 1948 of pheasant and quail chicks from the Game Farm.

Approved amendment of agreement with Central States Forest Experiment Station, allowing the Commission to rent equipment from the Station.

Approved converting of two hydraulic dredges to diesel power on Barton-Stephens bid of \$50,826.

Granted a non-commercial construction permit to the Ottumwa

Likewise, few successful management plans, and no successful restoration program, have been put into operation without furnishing sanctuary for breeding stocks. There is little doubt that refuges, both formal and otherwise, will always be used in game management.

Neither is there much doubt that restocking will remain a useful and, under certain circumstances, an important tool in management.

The latest and, so far as it has been tried, the most effective method of producing game and fish is restoration of proper living conditions for them. We must reverse the idea in Ding's cartoon, "How

Man Does Improve on Nature," building back environment as we vigorously preserve that which still exists. We must increase the homes for wildlife if we are to increase the amount annually produced.

By development of new environment more game and fish can be produced each year at less cost than any other method yet found. It is Nature's way of producing wildlife and it has the enormous additional advantage of fitting in well with the vitally important program of soil conservation and management. It is not possible to practice good land management and reduce destructive erosion

(Continued on page 16)



How Man Does Improve On Nature

Cartoon reprinted from "Our Great Out-of-doors," published by the Iowa Division Izaak Walton League.

Riverfront Commission for certain construction along the banks of the Des Moines River.

Authorized construction of kittenball fields at Ledges and Lake Ahquabi state parks with Lands and Waters funds.

Renewed agreement with the Emmetsburg Chamber of Commerce for supervision and maintenance of Kearny Recreational Reserve in Palo Alto county.

Recommended to the Executive Council that the Effigy Mounds National Monument Area in Alla-

makee and Clayton counties be transferred to the United States Government, under provisions of Chapter 111, S. F. 529, 49th General Assembly.

Authorized purchase of approximately 63 acres in the Burlington Ordnance Plant in Lee County to be used as access to the Skunk River.

Authorized condemnation proceedings for acquisition of remaining land in the Goose Lake tract in Clinton county.

Meeting adjourned.



Under 1948 fishing regulations size limits on all species of fish except catfish, sand sturgeon, walleyes, sauger, northern pike, and largemouth and smallmouth bass have been removed. Jim Sherman photo.

COMMISSION SETS 1948 FISHING SEASONS

The State Conservation Commission, has by administrative order, set the 1948 fishing seasons and has made numerous changes in regulations.

Most important to anglers of all the changes has been the removal of length limits on some of the most popular panfish, including crappies, perch, silver and yellow bass, sunfish, bluegills, rock bass, and trout. All of these fish, regardless of size, may be kept by anglers during the coming year.

The daily bag limit and possession limit on bullheads has been removed.

The increasingly important and popular channel catfish daily catch limit has been reduced to eight per day from fifteen, with possession limit reduced to sixteen.

The daily catch limit on walleye

and northern pike has been reduced to five, possession limit ten.

The daily bag on trout remains at eight with the new regulation allowing only one day's catch in possession.

The crappie season has been advanced a month, opening, under the new regulation, May 15.

The season on smallmouth and largemouth bass, sunfish, bluegills, and rock bass will open this year June 1 instead of June 15, as in the past.

A fish, when swallowing a smaller fish, will always turn it around to make sure it goes down head first. This isn't just part of fish etiquette; fins are bent in the direction of the tail and would puncture the gullet of a fish which tried to swallow them point first.

Earthworms create soil by disintegrating rock in their digestive tract.

INLAND WATERS OF THE STATE Kind of Fish	Open Season	Daily Catch Limit	Possession Limit*	Minimum Length or Weight	BOUNDARY WATERS Mississippi and Missouri Rivers and Inland Waters of Lee County
Bullheads, Sheepshead, Red Horse, Suckers, Gizzard Shad, Mooneye, Goldeye, Carp, Buffalo, Quillback, Carpsuckers, Gar, Dogfish, Eel, Burbot, Chubs	Continuous	None	None	None	Same as inland waters
Sand Sturgeon	Continuous	None	None	1 lb.	Same as inland waters
Catfish—except Bullhead	April 15-Nov. 30	8	16	12 in.	Continuous open season with no catch or possession limit. Size limit same as inland waters.
Trout—all species	May 1-Nov. 30 5 AM-9 PM Daily	8	8	None	Same as inland waters.
Minnnows	May 12-Nov. 30 Closed in all state-owned lakes and other areas designated. (Trout Streams)	None	None	None	Same as inland waters except continuous open season.
Frogs—except Bullfrogs	May 12-Nov. 30	4 doz.	8 doz.	20 doz. applies to bait dealers only	Same as inland waters.
Bullfrogs	May 12-Nov. 30	1 doz.	1 doz.	No exceptions	Same as inland waters.
Walleye (Yellow Pike-Perch) or Sauger	May 15-Nov. 30	5	10	12 in.	Same as inland waters except season May 1 to March 1 next.
Crappie	May 15-Nov. 30	15	30	None	Same as inland waters except continuous open season.
Perch	May 15-Nov. 30	15	30	None	Same as inland waters except continuous open season.
White or Silver Bass	May 15-Nov. 30	15	30	None	Same as inland waters except continuous open season.
Yellow Bass	May 15-Nov. 30	15	30	None	Same as inland waters except continuous open season.
Northern Pike	May 15-Nov. 30	5	10	15 in.	Same as inland waters except season May 1 to March 1 next.
Smallmouth Bass	June 1-Nov. 30	5	10	10 in.	Same as inland waters except season June 1 to March 1 next.
Largemouth Bass	June 1-Nov. 30	5	10	10 in.	Same as inland waters except season June 1 to March 1 next.
Warmouth Bass	June 1-Nov. 30	15	30	None	Same as inland waters except continuous open season.
Sunfish	June 1-Nov. 30	15	30	None	Same as inland waters except continuous open season.
Bluegill	June 1-Nov. 30	15	30	None	Same as inland waters except continuous open season.
Rock Bass	June 1-Nov. 30	15	30	None	Same as inland waters except continuous open season.
Rock Sturgeon	Closed	Closed	Closed	Closed	Closed.
Paddlefish	Closed	Closed	Closed	Closed	Closed.

*Not to exceed more than thirty (30) fish of all kinds in the aggregate, except that this aggregate possession limit shall not apply to fish named in this table on which there is no daily catch limit.
No fishing in any designated trout waters except during open season for trout.
Where waters are located within the confines of state, city, municipal parks, etc., fishing will be permitted only when such areas are open to the public.



An even dozen squirrels at Mr. and Mrs. Brooks' cafeteria at McGregor as seen through their dining room window. Gordon H. Lord photo.

WILDLIFE AT THE WINDOW

Charles M. Brooks, genial operator of the Mallard Boat Livery at McGregor, and his wife, have an exciting hobby, winter feeding. Living in McGregor at the foot of one of the beautiful scenic bluffs, the home of countless wild creatures, they are particularly fortunate in their choice of a leisure time occupation.

Charlie writes: "My wife and I have a winter hobby, feeding birds and squirrels. Last winter we had 24 squirrels on our feeding boards and on the lawn at one time and they came every day.

"As you probably know the squirrels eat only the germ of the kernel, the rest they drop on the ground. Then the birds come to eat what's left. One morning last winter after a heavy fall of snow, I got up at 5:30 and cleaned a spot about 20 foot square and put out shelled corn for the cardinals. It certainly paid off. Forty-two cardinals made a bright red living blanket on the ground. This winter, so far, the highest count is 35.

"This year the squirrels are fussy—they will not eat corn. There was a large crop of hickory nuts on the trees in our yard and in the state parks adjoining our land. There are plenty of squirrels around but they will not eat corn as long as the nuts last. When I put hickory nuts and corn on the feeding boards the squirrels will come to them and take the nuts but no corn. This, of course, saves us a lot of money with corn prices the way they are and last year we fed 21 bushels of ear corn. This winter we have used only five bushels so far.

"I think some of the squirrels' ears are probably burning if they can hear what I say for them being so darn particular and refusing to eat ear corn.

"We feed suet as well as corn and birds that come to our trays

in addition to cardinals are blue-jays, juncos, red-bellied, red-headed, hairy and downy woodpeckers, black-capped chickadees, starlings, and last but always hungry at least, a hundred or more English sparrows. Yours for conservation, Charles M. and Alice Brooks."

ROBERT LUCAS HOME FEATURED IN THE PALIMPSEST

The Robert Lucas Home at Iowa City, which was dedicated as a state monument and historic shrine in 1946, has a history replete with human interest.

Lucas Great Statesman

Robert Lucas was born in Virginia, the son of a Revolutionary War soldier. As a youth he lived in Ohio, where he became a soldier in the War of 1812. For nineteen years he was a member of the Ohio Legislature. He was twice Governor of Ohio. In 1832 he was chairman of the National Democratic Convention that nominated Andrew Jackson for President. He was appointed Governor of the Territory of Iowa in 1838.

Ruled Huge Territory

At that time the Territory of Iowa extended from the Missouri boundary northward to the Canadian border, and from the Mississippi River westward to the Missouri. It included all of present-day Iowa, most of Minnesota, and much of the Dakotas.

Home Built in 1844

Lucas resided at Burlington while Governor of the Territory of Iowa. After his retirement from office, he moved to Iowa City and located on a farm just south of that town. There, in 1844, he erected a substantial seven-room brick dwelling, with an attractive fireplace in every room. The home was surrounded with a thicket of

plum trees and Lucas accordingly called it Plum Grove.

Life at Plum Grove

Robert Lucas lived at Plum Grove with his wife and children until his death in 1853. Subsequently the boundaries of Iowa City were extended southward to embrace the Lucas estate. Plum Grove was retained by the Lucas family for a number of years and then sold and platted into city lots. The substantial brick dwelling, however, stoutly resisted the inevitable ravages of time. It was remodelled and repaired again and again. The fireplaces were removed or bricked in, the inner walls were moved, and doors and windows were altered.

Move to Create Shrine

At length interested citizens of Iowa City conceived the idea of purchasing the Governor's old home and preserving it as a historic shrine. To this end state in-

terests were solicited, and through the instrumentality of the State Conservation Commission, the property was purchased by the State of Iowa. Subsequently, the old house "was completely rejuvenated and reconditioned." The yard about the premises was planted with plum trees, roses, lilacs, and other shrubs.

The Lucas Home today is a fitting shrine. It is fitting that the Palimpsest should be devoted to Robert Lucas and the Lucas Home.—Iowa History News Flashes.

BINOCULARS

Under no circumstances should anyone but a specialist in binocular repairs attempt to repair binoculars—no matter how highly skilled a mechanic he may be. Not only is the repair work practically certain to prove unsatisfactory, the probability is that actual damage will be done.—Pennsylvania Game News.

HOBNOBBING WITH THE SPORTSMEN

There are some great American institutions, many in the vogue now, and some that have disappeared from the stage of popularity. The Chautauqua has nearly gone and the medicine show with all its color is going fast. The singing fests, the home and family parties are not as popular as we should like to see them.

The farm auction, the wood-cutting and the building bees, the butchering bee, and the farm bureau meets are here. They are popular.

And at this season of the year another great American institution is enjoyable—the fish fry. Usually sponsored by a sportsmen's club, or Izaak Walton Leagues, the fish fry affords amusement, chance, prizes, fun, good eats, and lots of

fried fish. Personally I try never to miss one of them. I like to think that I can attend at least six every year. Eager eyes, watering mouths, hands filled with number cards, piles of merchandise, smoke-filled rooms, hot coffee, and the smell of fish everywhere—that's the fish fry! We're beginning to have them right now.

Last night the Presbyterian Men's Fellowship included fried fish on the menu and tonight down at Sabula the Lutheran Men's Brotherhood is sponsoring a fish fry for the public. The event is to be staged in the town auditorium. Then follows in rapid succession: Maquoketa, Sabula, Clinton, and Bellevue Walton fish fries! Watch for the dates, don't miss them.—Bellevue Leader.



At this season of the year another great American institution adds to the zest of living. It is the fish fry. Conservation Officer Vern Shaffer prepares one of the minor ingredients—fish. Jim Sherman photo.

Wardens Tales

Shop Talk From the Field

Frank Tucker, conservation officer in charge of Cass and Audubon counties, was filling out hunter contact cards during the last pheasant season. A lone hunter he recognized as Wallace Holste of Massena, and when he asked Holste how many birds he had killed, the reply was, "One, but he got away. I was walking up a line fence along the road. A pickup truck slowed down and the driver was watching as I approached a little weed patch. A rooster exploded into the air. I shot and the bird tumbled into the truck box. The driver waved and yelled out of the cab window, "Thanks, buddy, I'll do the same for you some day," and drove away."

Conservation Officer Dave Fisher, in charge of Des Moines and Henry counties, writes:

"Ecil Benson and I were making a float trip down the Skunk River in Henry County. The water was higher than normal and as we came to the point of an island we saw the bobbing corks of an illegal trammel net. A boat was tied nearby and up on the bank lay two men asleep. As I approached the sleepers I noticed one of the fishermen open one eye and close it very quickly when he saw me. I walked over and with the handle of a net hook gave him a rap on the bottom of his upturned shoe. No response. Another stinging rap and the fisherman jumped to his feet. I asked, 'What are you trying to do, Joe, play ostrich so I can't see you?' He replied, 'No sir, Mr. Fisher, I wasn't playing ostrich, I was just playin' possum.'"

Ward Garrett, conservation officer stationed at Council Bluffs, was surprised when he recently opened his mail and came to a letter post-marked Washington, D. C. The letter read:

"Dear sir—A few years ago I ran over a skunk on the road and took the pelt to a local fur dealer who asked me whether I had a license or whether I had trapped it on my own place. Since I had no license I told him that I had caught it on my own place and I eased my conscience by thinking that a public road was as much mine as anyone's. This may seem a trivial matter but it has never left my mind. If you wish to write me, my address is written above. If you do not write, telling me what to do, I will know that you have forgiven me for my transgression. Remorsefully yours, ..."

Jerry Kelley, conservation officer in charge of Sac and Ida counties, writes:

"I am enclosing a picture of a farmer, Harry Twilliger, a true

conservationist. The story told in this picture may not mean so much to a lot of people, but it occurs to me that if all the people in this state were as conservation minded as Harry what a wonderful thing it would be for wildlife and the cause that we are all working for. Harry had his trap set in a fox run and found that he had caught a striped skunk. You can never make Harry believe that a striped skunk will eat anything but mice, rats, and insects; so he went to the house and got a pair of blacksmith's tongs and at no little risk was releasing the skunk when Mrs. Twilliger took this picture."

Conservation Officer Kenard Baer, in charge of Chickasaw and Howard counties, pulled this story out of the past:

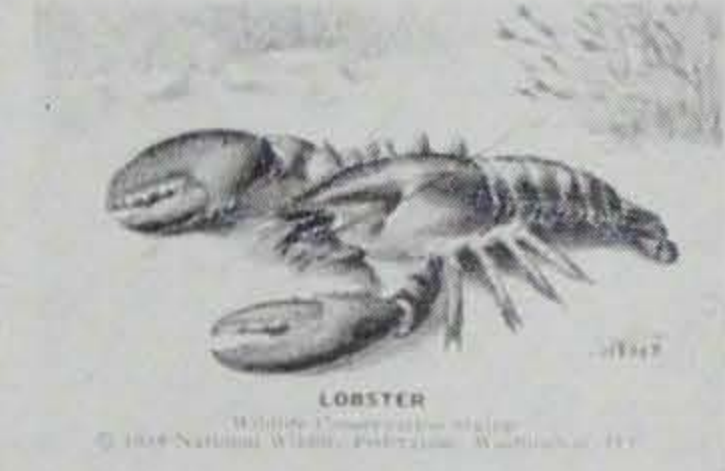
"A little over ten years ago when I was first breaking in as a conservation officer Charlie Adamson (now stationed at Davenport) was breaking me in on the Des Moines River a few miles below Des Moines. We were walking along a bank-side path when we noticed two colored fellows fishing a short distance downstream. They saw us about as soon as we saw them and one took off through the brush and weeds like a scared rabbit with Charlie in hasty pursuit. More by the commanding volume of his voice than by his footracing ability, Charlie stopped the boy, and as I came up they were engaged in a serious discussion, the youngster shaking like a leaf. The first thing I heard Charlie say was, 'Well, then why did you run?' and then this magnificent reply, 'Boss, I don't know why I was running. I knew I had my license and that I was okay with the law, but all the time my head was saying you're all right boy, my feet was takin' me away faster and faster.'"

A SPORTSMAN—

A man who is atune to the beauties of Nature and in the pursuit of happiness, responds to her beckoning with unselfish understanding of her treasures, possesses a rare gift. His quarry may be of his own choosing but the spirit of competition never transcends that of fair play. He knows the weakness of his fellowmen and gently and sympathetically guides them against transgressing the rights of others and the laws of Nature. He defiles nothing and plays the game according to a rule which calls for thought of future generations.

In short, a man who can go afield and do these things, reveling in appreciation and with reverence to a sacred heritage may be truly called a SPORTSMAN.—C. Harry Laufman, Outdoor California.

The scent fluid of a skunk is seldom ejected except when the animal is highly aggravated. The animal will sometimes take a lot of abuse before doing so.



Black and white reproductions of four of the thirty-six 1948 wildlife stamps.

NATIONAL WILDLIFE RESTORATION WEEK MARCH 21-27

National Wildlife Week starts March 21 and begins the second decade of such observances sponsored by the National Wildlife Federation. President Franklin Roosevelt proclaimed the first wildlife week in 1938. In his proclamation he appealed to the nation's citizenship to recognize the importance of conservation and urged "all Americans to work for the protection and preservation of the denizens of the field, forest, and water."

Wildlife week is part of the National Federation's educational program to concentrate American attention on the need for soil, water and plant conservation. David R. Aylward, President of the Federation, in announcing wildlife week states, "For several decades we have been digging deeper and further into our storehouse of natural resources. Four billion tons of soil are being eroded away each year. Our forests are being cut down fifty percent faster each year than they are grown. Our waters are getting more and more polluted, and the drain on other resources is equally appalling."

The work of the Wildlife Federation is financed by the sale of wildlife conservation stamps. The stamps for 1948 have been painted by Walter Weber, one of America's outstanding wildlife artists. Mammals, birds, fish, trees, and wildflowers make up the 36 conservation stamps in beautiful natural colors. In previous issues 376 different species of American wildlife have been reproduced, this year's stamps bringing the total to 412, a veritable pictorial encyclopedia of outdoor resources.

The wildlife stamps, in sheets of 36 different stamps, sell for \$1.00 and may be obtained from the National Wildlife Federation, 3308 14th Street, N. W., Washington 10, D. C.

Details relating to wildlife week activities may be obtained from David A. Aylward, President of the Federation, 20 Spruce Street, Boston 8, Massachusetts.

100,000 SEE CONSERVATION COMMISSION MOVIES IN 1947

The story of conservation, as told through departmental motion pictures, reached 107,584 Iowans during the past year as the result of conservation officers' activities in this phase of the educational program. During the year officers held 1,057 meetings in which movies were shown. Average attendance was approximately 100. The most popular of the movies was "Iowa's Big Five," a departmental motion picture on hunting small game released in the fall of 1946. Twenty-nine thousand, four hundred and sixty-three men, women and children viewed this picture in 266 showings.

"State Park Recreation," a movie showing state park activities, released in early 1947, was shown 187 times to 20,875 people.

"Fish Fare," a movie showing where and how to catch Iowa fish, released in September, was shown 135 times to an audience of 15,034 in the four months period.

Other popular films in the department library during the past year were "Making of a Shooter," "Realm of the Wild," "How to Shoot the Rifle," "The Heritage We Guard," "Fishing Thrills," "The River," "The Forest Ranger," "Lifesaving," "Muddy Waters," "Clean Waters," "The Three Little Bruins," and "Learn to Swim."

Requests for departmental motion pictures may be made directly to the conservation officers in charge of the territory in which the showing is to take place. The films are furnished without cost as a public service.



When Iowa was first settled the greater number of the trees were old, low, scrubby, storm tossed, often scarred by fire, and of little value. John Wakefield photo.

Forests . . .

(Continued from page 9)

the primeval trees furnished his only material. But in those days water power furnished the only energy for driving the saw; mill sites were far apart, and lumber-making was slow.

Moreover, in a very few years, Mississippi rafts brought to the shores of Iowa quantities of Minnesota pine, so cheap that it did not pay to cut the native timber, and the primeval oaks obtained unlooked-for respite—a new lease on life. Those that remained availed to furnish seed, and under the new conditions the forest began to spread, and in the twenty-five years succeeding 1850 became totally changed.

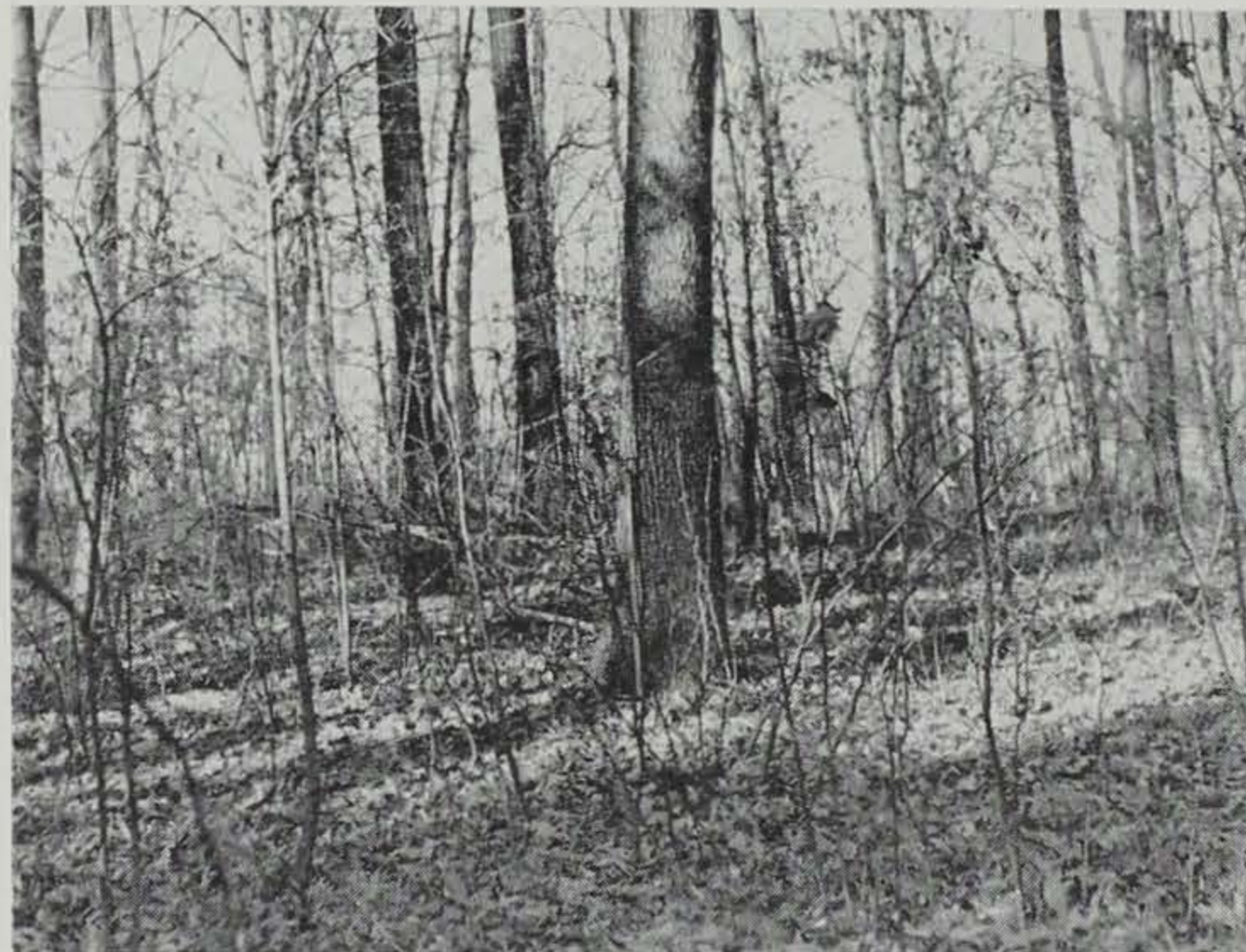
What was called "second growth" sprang up everywhere. The old trees were soon completely lost in the crowded ranks of their descendants, which, unvexed by fire, and mutually assistant, grew with amazing rapidity, so that it was a common and true remark among men long resident in the state that there were in Iowa more trees than ever before. The fact before mentioned that the trees were confined to inferior soil tended in the same direction, and the woodlands of Iowa, undisturbed, and reckoned worthless, became more beautiful and valuable every year. Such was the fortunate condition of affairs until a few years ago.

From about 1878 on, the rise in the value of agricultural lands, the increased demand for fuel, and above all, the invention of barbed wire as a cheap and convenient fencing material, all combined to the destruction of all hopes which any may have indulged in respecting Iowa forests. The woodlands could be fenced for pasture fields; when the trees were cut, herds of cattle prevented forest renewal.

About the same time the rapidly rising price of Minnesota pine reached a point where it once more became profitable to saw native lumber, especially by aid of the portable steam sawmill; so that all the old trees have at least been cut off and sawed up into bridge lumber and railroad ties; and the prospects now are that within a few years every vestige of Iowa

woodland will be converted to agricultural use.

Much as we deplore the loss of



After 1850 and the curtailment of prairie fires, what was called second growth sprang up everywhere and the old trees were soon completely lost in the ranks of their descendants which grew with amazing rapidity. John Wakefield photo.

our forest, with all its beneficial influence, with all that it contributes to human wealth, the case would not be so utterly bad were it true that the removal of the forest gave place to other valuable harvests. That is, indeed, true in some places. The rich bottomlands when cleared make in some localities fine farms, and the gentler slopes among the hills of sand and loess make fine blue-grass pastures, but in the vast majority of cases neither of these conditions obtains.

The woods cover rocky knolls, sand hills, steep hillsides of yellow clay; in fact, the land that is otherwise worthless. The thin deposit of rich soil caused by the decay of leaves through long preceding years soon washes off, once the trees are removed, and the land from which the farmer hoped at least grass for his cattle washes away after a year or two in gullies, whitens to bare rock, or at most grows up in thistles and weeds that can thrive in the most inhospitable localities.

Added to these unfortunate conditions, we must record the fact that the past few years in Iowa have been seasons of remarkable drought—a drought so severe as to destroy, not tillage-crops only, but in some places indigenous vegetation of every description. Even aboreous plants did not escape. Our native forest trees—oaks, hickories, ashes—have been killed in midsummer, hundreds of them, particularly the "second growth," by the general deficiency of moisture.

Taken altogether, the prospect for our Iowa woods is discouraging in the extreme. The only hope of preserving any of our primitive forest area lies in the possibility of stirring the intelligent sentiment of our people. This is the more difficult from the fact that Iowans are accustomed to boast that every

of acres that should never be tilled at all. Nevertheless, there are many men ready to try the experiment, as if to make good the supposedly patriotic boast. If the woods are all swept away, the time will probably soon come when much of the land they cover will be reforested, but by herculean labor.

As an offset to this somewhat hopeless, or, at least, despondent side of the picture, it may be said that there are today in Iowa thousands upon thousands of groves planted by farmers for the protection and shelter of their homesteads. The groves are generally of comparatively worthless species of trees, but, nevertheless, they keep ever before the minds of our people the necessity and value of trees. Men who have labored hard to eradicate every native oak, hickory, walnut and maple from their premises have afterwards gone to the trouble to set out about their houses soft maples and box-elders. The people mean well, but they are deplorably in need of sound information. It must be said also that there is among intelligent citizens a growing interest in our problem. Men are discussing woodland reservations, rural parks, water-courses and problems of water supply as never before, and there is no doubt that if this interest can be maintained the next decade will show great improvement in public sentiment in Iowa in all that pertains to forest maintenance and preservation.

"CONSERVATIONIST" INDEX

Two years have passed since an index has been compiled for the "Iowa Conservationist." We are working on one now covering 1946-47 and expect to have it completed about March 1. Many of our readers are planning to bind their "Conservationists," and an index will be valuable. If you will mail us a card requesting the new index, it will be sent to you without cost when completed.



When trees on the rocky knolls, sand hills, and steep hillsides were removed, the thin deposit of rich soil caused by the decay of leaves soon washed off and the land from which the farmer hoped to produce grass for his cattle soon washed away. John Wakefield photo.

A Factor in Food . . .

(Continued from page 9)

Unfortunately this important vitamin, unlike most of the other dietary essentials, does not stay put, but disappears rapidly when in contact with the air. This characteristic of vitamin A and also the pigments that form it, is at the present time causing a great deal of trouble for gamebird propagators. Although science is working hard with antioxidants and stabilizers to endeavor to hold vitamin A in the feed, so far it has not been too successful.

Pen-reared Quail Need Stored Vitamin A

Any surplus of vitamin A or carotene in the feed, over and above the requirements of the body for maintenance, growth, and reproduction, is stored as vitamin A in the liver for times of scarcity. Therefore, it is highly desirable that quail propagated for restocking have enough reserve of vitamin A in their livers to carry them successfully through the transitional period immediately following liberation when they are learning to accept new foods.

If they do not have a reserve of vitamin A, and cannot find or do not utilize wild foods high in carotene, then they are doomed at the start. In a week's time they may be dead from vitamin A deficiency! Actually death could be much quicker than that in the wild. Before vitamin A deficiency becomes fatal it decreases the birds' stamina, vitality, alertness, agility, vision, and ability to flush quickly in time of danger. Therefore many birds might be killed by predators or severe weather, primarily because of early stages of vitamin A deficiency.

Vitamin A Lost in Storage

An inadequate supply of vitamin A in gamebird feeds has been a problem on a number of state game



It was found at Patuxent that a deficiency in the diet of breeding quail not only decreased the production and hatch of eggs but affected the survival of offspring, regardless of the quantity of vitamin A the latter received after hatching.

farms. The Fish and Wildlife Service, in a test on quail about to be released from four large eastern state game farms, found the majority of the birds examined without any storage of vitamin A. The commercial feed in all cases, although from very reliable milling companies, did not show enough vitamin A and carotene at the time of the test, to meet even the immediate requirements of the quail. Undoubtedly much of the factor had been lost from the feed while in storage.

Therefore gamebird propagators are warned to buy only fresh feed in such quantities as to last only about six weeks at a time, and store it in a cool, dry, dark storage room. Feeds in paper bags are protected better from oxidation than those in burlap or cloth sacks. Do not buy feed in large quantities to last six months or longer. Half of the vitamin A can be gone in six month's time!

Deficiency in Parents Affect Offspring

In the studies on vitamin A conducted at Patuxent Research Refuge it was found that deficiency in the diet of the breeders, not only decreased their survival, and the production and hatch of their eggs, but affected the survival of the offspring regardless of the quantity of vitamin A the latter received after hatching. Likewise a deficiency of vitamin A in the growth diet of the offspring affected both their weight and survival regardless of the quantity of this factor received by them after they reached maturity.

Again, a deficiency during the winter lowered the productive ability of the birds regardless of the quantity of the vitamin they received during the breeding period. When vitamin A was removed completely from the diet during the winter, 92 per cent of the birds died within four weeks. Only quail from parents on a high level of vitamin A and whose growth-diet was high in the nutrient, lived as long as 57 days (not quite two months).

It was found that the first clutch of eggs received more vitamin A from the hen than did the last clutch, which fact may explain why early hatches produce hardier birds than late ones. Also, the hen gives up her reserve of vitamin A to her eggs, whereas the cock holds on to his reserve. Another observation made was that pen-reared birds on diets deficient in vitamin A fall easy prey to rhinitis or avian common cold.

Vitamin A Deficiency Among Wild Quail

Might vitamin A deficiency be involved in the population fluctuation of bobwhites, and also other game, in northern climes? Is a lack of this factor a cause of the heavy mortality among wild quail

during severe winters? In order to investigate these possibilities, the Fish and Wildlife Service sent the writer from Maryland to Iowa for part of the winter period. Much of the quail-range of Iowa suffered a severe drought last summer and fall, a condition conducive to lower carotene content of plants.

Previous to the drought torrential spring rains brought floods that destroyed the early quail nests. Thus many quail this year are late-hatched birds (count No. 1 against them). Their parents were living on drought-affected plants at the time the later eggs were laid (count No. 2). The offspring had to subsist on drought-affected foods (count No. 3). Their food this winter is also drought-affected and therefore has a lower carotene content (count No. 4). Now if a



If pen-reared quail do not have a reserve of vitamin A and do not soon find wild foods high in carotene, they may be dead in a week's time from vitamin A deficiency. Tom Scott photo.

prolonged snow blankets Iowa for several weeks, then theoretically there is a possibility that the quail, with three or four counts already against them, will die directly or indirectly from vitamin A deficiency.

High Mortality During Severe Winters

Similar adverse weather conditions existed in southern Iowa during the growing season of 1936, followed by a heavy non-drifting snow topped by sleet that covered the landscape from January 5 to March 3, 1937. About 88 per cent of the bobwhites in the affected area were estimated to have died. Again during the severe winter of 1939-40 nearly 75 per cent of the quail disappeared. Although a lack of total food may have been involved in both cases, vitamin A deficiency could have contributed heavily towards the loss, since birds deficient in this vital nutrient are less adaptable to meeting emergencies.

Call for Help!

Through the excellent cooperation of the Iowa Conservation Com-
(Continued on page 16)



In winter especially, vitamin A seems to be as vital to the welfare of quail as are the carbohydrates that provide heat and energy.

New Rose . . .

(Continued from page 9)

about 1940 as a protective barrier around woodlands, for soil erosion control, and for wildlife planting.

The value of the rose fence to farm owners as a durable and inexpensive fence was quickly recognized and it is now highly recommended by the United States Soil Conservation Service for this purpose.

Iowa's eastern and southern neighbors have and are now planting hundreds of miles of rose fences, and in many areas the bright blossoms and berries are adding color to the landscape as well as answering the more prosaic purpose of fencing. The limited number of south Iowa plantings, some now six years old, are thriving and are already being used to confine livestock.

We have no knowledge of any plantings to date in northern Iowa. However, successful fences are growing as far north as Brookings, South Dakota, in the midwest and in New Hampshire and eastern Canada in the east.

The State Conservation Commission has some two year old experimental plants growing at the State Forest Nursery and plans for mass production in the near future have been made. On several state-owned game areas in northern Iowa plantings will be made this spring.

A farmer-sportsman cooperative plan is being set up to distribute 200,000 *Rosa multiflora* seedlings purchased in the east for planting by the clubs this spring. These plantings will be made around old gravel pits, gullies, and other irregular areas, around ponds, woodlots, and dry gullies, and some will be planted as divider fences between fields, especially fields laid out on the contour.

The "fence rose" is not tolerant to shade and should be planted at least a rod from timber areas. The plants are easy to transplant

as seedlings, having a high percentage of survival.

When the new rose is used as a fence the plants should be spaced from a foot to eighteen inches apart. The Soil Conservation Service recommends twelve inches, and this spacing will turn all kinds of livestock, including hogs.

The strip to be planted should be plowed six to eight feet wide and thoroughly worked down into a good seed bed. One furrow is then plowed and the seedling is set next to the vertical edge of the furrow by hand, with dirt placed over the roots to hold the plant in place and also to keep it from drying out. By reversing the plow the dirt is turned back in covering the roots, and finally the tractor is driven back along the row as close as possible to the seedlings, packing the dirt around the roots to force out all air pockets and to assure moisture attraction. By this method, large numbers of plants can be transplanted successfully in a very short time.

If not mulched, the new fence rose plant should be cultivated two or three times the first year. When used to replace an old fence, they should be planted as close as possible to the existing line. After about five years the wire and post fence may be abandoned.

Livestock should be kept from the plantings until they become established. No trimming or maintenance is necessary. *Rosa multiflora* does not spread and does not sap the ground adjacent to it. The fence, when established, will take up a maximum space of eight feet wide.

The introduction and widespread use of living rose fences promises to be an agricultural innovation of great benefit to both the farmer and wildlife.

No dog owner should worry because his pet gulps his food in big bites without chewing it. A dog will chew food only if it is too large to be swallowed easily. The animal's digestive system is able to take care of food in any size in which it can be swallowed.



Multiflora rose, when planted with spacings of 12 inches, will confine all livestock. This fast growing rose does not spread nor sap the soil. It grows to a maximum height and width of eight feet. Soil Conservation Service photo.

A Factor in Food . . .

(Continued from page 15)

mission and its fine corps of conservation officers, together with a small group of select sportsmen, the writer was able to collect nearly 400 samples of quail from 33 counties of Iowa, and one county of Illinois, during the last two weeks of the hunting season. The livers of the birds are being analyzed by chemists at the Patuxent Refuge to determine the condition of the quail as they enter into the winter.

Now we are awaiting a heavy snow. If it comes, the writer calls on all farmers, sportsmen, school children, and anyone else, to be on the lookout for dead or dying quail. If you find any, keep them preserved in cold storage and notify your conservation officer immediately. We want such birds to determine if they have vitamin A deficiency.

Prevention of Vitamin A Deficiency

Can vitamin A deficiency be prevented, if it does exist in the wild? Yes, by farmers encouraging the growth of such quail foods on their lands that will supply carotene, and be accessible even in times of heavy snowfall. A search for plants rich in carotene is now being made.

We know already that there are a number of acceptable quail foods, such as yellow corn and sumac fruits, that contain the precursor of vitamin A. Of course, sumac berries, although perhaps high in carotene, would not by themselves support birds. The birds must have foods high in easily digestible carbohydrates for heat and energy, along with the other. Fortunately yellow corn combines both vital nutrients.

Vitamin A Deficiency Only Part of Picture

In conclusion, the writer wishes to emphasize two important points, lest someone obtain a distorted picture from this article. First—Plenty of protective cover is as essential for quail in winter as are vitamin A and carbohydrates. If Iowans want an abundance of quail, their plantings must include good cover, a cereal like corn, wheat, or sorghum (but not oats or barley because of their high fiber content), and plenty of highly pigmented foods for furnishing carotene, the precursor of vitamin A.

Second—The supplying of adequate vitamin A in the diet of propagated quail will not overcome the objections that have been raised in recent years to artificial propagation of game birds as a major part of public game management programs. The large scale release of propagated birds has proved costly and improved shooting has not resulted from this activity. It appears that in the future more reliance will be placed

BIENNIAL REPORT OF STATE CONSERVATION COMMISSION READY FOR DISTRIBUTION

The State Conservation Commission is required by law to prepare a report each two years covering the activities of this department of state government. The biennial report for 1945-46 is now available for distribution. The report covers the activities of the Fish and Game Division, the Division of Lands and Waters, which includes state park activities, and the Division of Administration, bearing on executive duties. The 195-page report is generously illustrated and may be secured cost free from the State Conservation Commission, 914 Grand, Des Moines 8, Iowa.

Prescription . . .

(Continued from page 10)

without producing better food and cover conditions for many species of wildlife.

Soil and water are the two most vital resources of this nation and their proper management is of vital concern to every citizen. The retention and best management of the fertile soils and the greatest possible utilization of the biological productive capacity of the water is of increasing necessity to the maintenance of national health and prosperity.

Wildlife is one of the important products of land and water. It cannot be produced on worn out lands or in sterile and polluted water in any greater abundance than domestic crops and livestock could be produced under the same unfavorable conditions.

Wildlife is dependent entirely on the right environment; in other words, on suitable cover (living quarters) and food at all times of the year. Without such environment it cannot long survive; with it, annual crops of wildlife can continue to be produced. Therefore, the preservation of suitable environment and its restoration where it is now lacking are fundamental in any fish and game program.

This concept is the very basis of continued wildlife production.

The "call" of the tree toad is generally considered as a prophecy of rain. Some truth in this, but not the whole truth. Warm, moist air, which usually precedes rain, releases the male toad's mating urge, so he "sings."

Beavers have excellent reputations for engineering skill, but apparently even they make mistakes. Warden Supervisor E. A. Turkey of Maine reports finding a large beaver crushed to death. A tree it had just cut fell in the wrong direction.

There are more than 450 kinds of woodpeckers in the world.

on improving game habitats as a means of improving game production. There is no question, however, that birds raised for release in restocking depleted areas should have adequate storage of vitamin A to increase their chances for survival as well as that of their progeny.