

IOWA CONSERVATIONIST

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THE DINGELL BILL STORY

ROCK FORMATION OF GITCHIE MANITOU PARK

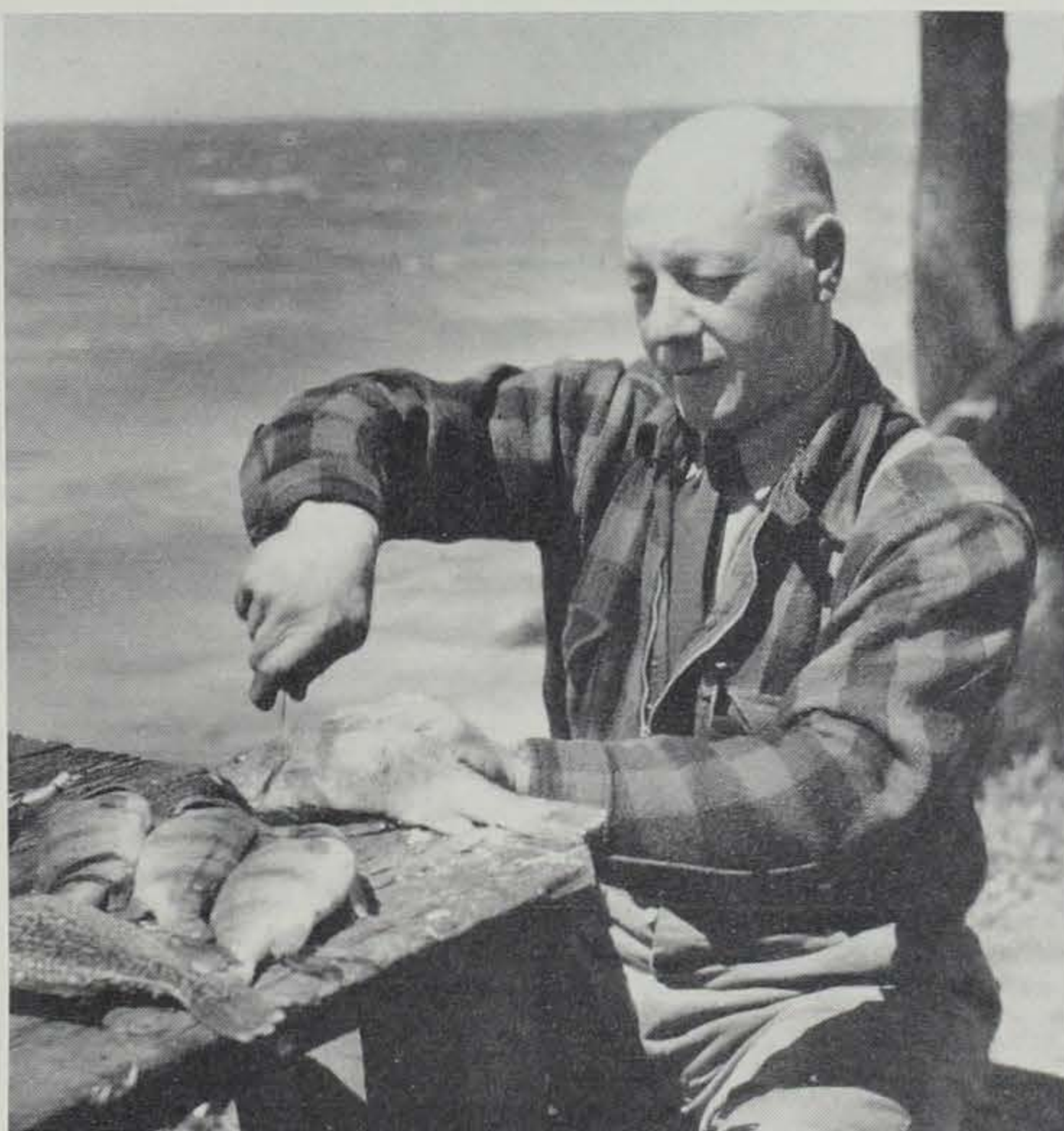
By Charles S. Gwynne
Associate Professor
Department of Geology
Iowa State College

This park, named after the Indian word for God, is unique in at least two respects. It is in the most northwesterly section of land in Iowa, and it is founded upon a kind of rock that is limited as outcropping bedrock, in Iowa, to the park and a nearby area. This rock furthermore is the oldest of all the rocks that occur at the surface in Iowa, and is far different from the others in physical properties and uses.

It is a hard pink rock called quartzite, and named, from its occurrence in Sioux Falls, S. D., the Sioux quartzite. Locally it is known as granite, but it is really not a granite. Granite is an igneous rock, formed by the solidification of molten material in the crust of the earth. Quartzite is a metamorphic rock. It was once a sedimentary rock, a sandstone, much like that of the Ledges or Wild Cat Den parks. It was laid down as a sand in a very ancient sea. In the course of time the sand particles became cemented together by quartz. The sand grains are also of the mineral quartz. Then gradually each grain of sand took on more quartz until finally a solidly interlocking mass of crystals was formed. Thus there are no minute openings or pores in quartzite as there are in sandstone. The red or purplish color of the rock is due to the presence of a small amount of an iron-containing mineral called hematite.

Because it is composed principally of quartz, and because of the lack of openings into which water can penetrate, quartzite is a very hard and resistant rock. It sticks up through the soil and is exposed along river valleys in many places in southeastern South Dakota and

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Jim Sherman Photo.
The Dingell Bill will mean additional funds for fisheries production and restoration. Like all other moneys used in fish and game work, it comes directly from the pocket of the sportsman through a tax on fishing tackle.

IOWA'S LAND TURTLES

By Kenneth D. Carlander and
Robert B. Moorman
Iowa State College

We usually think of turtles as being aquatic animals, but there are three species found in Iowa which are quite often found some distance from water and indeed may be considered to be residents of dry land rather than water. The most terrestrial of this trio is the ornate box turtle (*Terrapene ornata*), which is partial to dry sandy areas. Many of these box turtles probably go through life without ever seeing a pond or stream.

Box turtles can be distinguished from other turtles because the

lower shell is hinged and can be closed like a trap door protecting the head, legs, and tail. Frequently, however, box turtles get too fat and cannot draw themselves into shelter enough to completely close the box doors.

The lower shell, or plastron, of the ornate box turtle is brown with many radiating yellow streaks, and the upper shell, or carapace, is brown with a pattern of yellow streaks on each individual plate. The hind feet are usually described as stump-shaped. They are well adapted to packing the dirt over the eggs in the nest. All turtles

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By Michael Hudoba
Washington Editor of Sports Afield

When President Truman signed the Dingell Bill (Public Law 681—81st Congress, 2nd Session) late in 1950, he cleared the way for sport fish restoration programs across the nation by each of the states and territories.

The bill now is law and the most important issue ahead is to get to work to realize its benefits. This will need, first, assent by the governor of each state to cooperate in the program, until the first session of state legislature, which should be asked to pass enabling legislation to participate in the program that will function parallel to the Pittman-Robertson wildlife program except that it is for sport fish. The enabling legislation will require provision in state law that no fishing license money may be diverted to programs other than fishery conservation, and is an important feature to prevent raids on sportsmen's license funds. Secondly, it will require adequate state laws for fishery conservation.

The sport fish restoration law became effective July 1, 1950, at which time the 10 per cent tax on sporting tackle, which includes rods, creels, reels and artificial lures, baits and flies, will be earmarked for the Dingell-Johnson program. Previously this tax, which has been paid by sportsmen for more than a decade and collected at the effort and expense of the tackle manufacturers, had gone into the general U. S. treasury fund.

The first allocation of tackle money, which is now all earmarked for federal aid to states for sport fish restoration, will be made July 1, 1951. These funds will be allocated annually and be available for expenditure by the states for two years, after which the unexpended funds revert to the Fish and Wildlife Service for fishery research. It may be expected that little of these funds, if any, will revert since there is such a large need for fish restoration projects.

The formula for distribution of the funds to the states is based on

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Iowa Conservationist

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Editor, IOWA CONSERVATIONIST:
Dear Sir:

The Pocahontas County Chapter of the Izaak Walton League has done something that I think is worthy of mention. We have held a meeting with the Pocahontas County board of supervisors urging them to seed to brome grass immediately upon completion all construction work done in the county. They have agreed to try it on a trial basis. We feel that if this were done it would eliminate the need for spraying and could be done cheaper, as well as provide nesting cover for the beneficial type of wildlife. The Soil Conservation Service, soil district commissioners, 4-H Clubs through the Extension Service, and Boy Scouts gave us their support at this meeting.

Sincerely,

JOHN H. HAMANN,
Secretary-Treasurer.



The Conservation Commission will have a wildlife and conservation exhibit at the Iowa Sports and Vacation Show. The exhibit of fish, reptiles, birds and mammals will again be housed in the familiar blue and white "Conservation Can't Wait Wagon."

WILDLIFE EXHIBIT AT DES MOINES SPORTS SHOW

The Ninth Annual All-Iowa Sports and Vacation Show will be held in the Exhibit Building at the State Fair Grounds, Des Moines, April 7 through April 15, 1951. The show is sponsored by the Des Moines Register and Tribune. Feature attractions will be a stage and tank show, booths full of sports and vacation equipment, displays by neighboring states, and a wildlife and conservation ex-

hibit by the Iowa Conservation Commission.

The Conservation Commission's exhibit of Iowa wildlife has been a favorite attraction at the show in past years. Live mammals, fish, birds, and reptiles from Iowa fields and streams will be on display, along with furs and other materials of interest to conservationists and sportsmen of all ages.

The meadow jumping mouse is equipped with long hind legs and tail so that it can leap like a kangaroo. It is about the size of a common house mouse but can leap as far as 8 to 10 feet when hard-pressed.

Wardens Tales

Shop Talk From the Field

Conservation Officer Louis Lemke, in charge of Cedar and Jones counties, writes:

"A couple of days after the last duck season opened, Dee Keeney of Cedar Rapids was hunting ducks on Muskrat Slough west of Olin, when he came upon seven little puppies about three days old lying in the grass. He was greatly surprised at finding the pups out in the center of the 365-acre slough with no houses nearby. A couple of days later he came to the slough again, and as he approached the spot where the pups were, he saw the mother take off like a fox. That day he brought some cardboard with him and built a shelter for the little family. As time went on, Mr. Keeney visited the pups about three times a week, bringing them canned dog food and dog biscuits. He improved the shelter each time he visited them, and the pups grew to be fine little dogs. The mother was like a wild animal, but from the glimpse that Mr. Keeney had, he decided she was a cocker spaniel. When the pups were about five weeks old, Mr. Keeney decided he would take a couple of them home with him. The day that he went out to get them, much to his surprise, they had all disappeared. No one has seen them since. The mother dog stayed around for a few days after the pups had disappeared. Then she disappeared also. Everyone is still wondering what happened to the pups and the old dog."

Gib Knudson, editor of the *Em-*
(Continued on page 120)

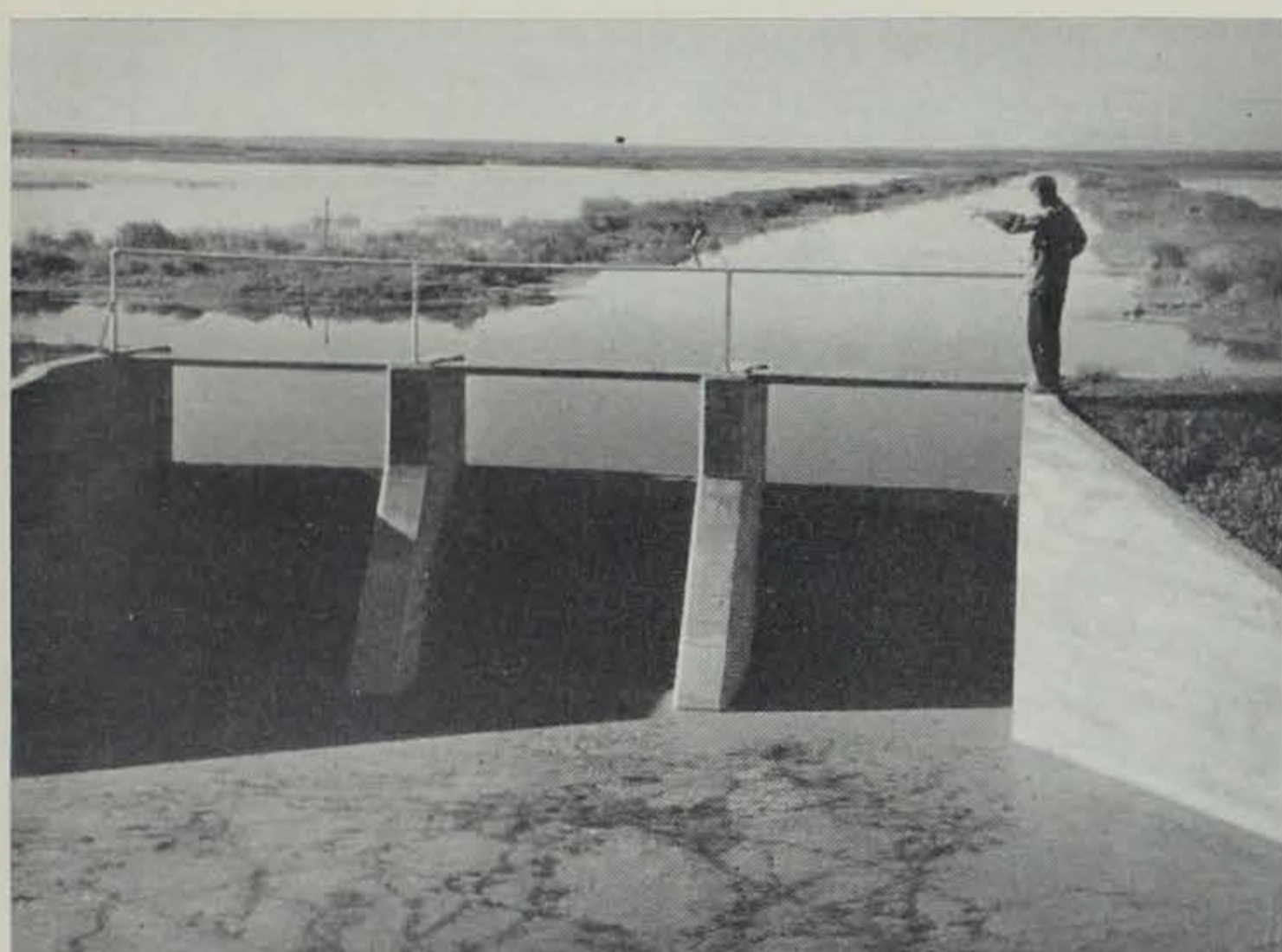
1951-52 FISHING REGULATIONS

INLAND WATERS OF THE STATE		Daily Catch Limit	Possession Limit*	Minimum Length or Weight	BOUNDARY WATERS Mississippi and Missouri Rivers and Inland Waters of Lee County
Kind of Fish**	Open Season				
Bullheads, Sheepshead, Redhorse, Gar, Suckers, Gizzard Shad, Moon- eye, Goldeye, Carp, Buffalo, Quill- back, Carpsuckers, 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	Apr. 15—Nov. 30	8	8	None	Continuous open season with no catch or possession limit
Trout—all species—5 a.m. to 9 p.m. daily	May 1—Nov. 30	8	8	None	Same as inland waters.
Minnows	Continuous (Closed in all state-owned lakes and trout streams)	None	None	None	Same as inland waters.
Frogs—no exceptions	May 12—Nov. 30	1 doz.	1 doz.	None	Same as inland waters.
Walleye (Yellow Pike-perch) or Sauger	May 15—Feb. 15	8	8	None	Same as inland waters except continuous open season.
Crappie	Continuous	15	15	None	Same as inland waters.
Perch	May 15—Feb. 15	15	15	None	Same as inland waters except continuous open season.
White or Silver Bass	May 15—Feb. 15	15	15	None	Same as inland waters except continuous open season.
Yellow Bass	May 15—Feb. 15	15	15	None	Same as inland waters except continuous open season.
Northern Pike	May 15—Feb. 15	5	5	None	Same as inland waters except continuous open season.
Smallmouth Bass	May 30—Feb. 15	5	5	10 in.	Same as inland waters.
Largemouth Bass	May 30—Feb. 15	5	5	10 in.	Same as inland waters.
Warmouth Bass	May 30—Feb. 15	15	15	None	Same as inland waters except continuous open season.
Sunfish	May 30—Feb. 15	15	15	None	Same as inland waters except continuous open season.
Bluegill	May 30—Feb. 15	15	15	None	Same as inland waters except continuous open season.
Rock Bass	May 30—Feb. 15	15	15	None	Same as inland waters except continuous open season.
Rock Sturgeon, 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. 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.

**EXCEPTIONS: In Little Spirit Lake, Dickinson County; Iowa and Tuttle lakes, Emmet County; Burt (Swag) Lake, Kossuth County; and Iowa Lake, Osceola County, the following exceptions apply: WALLEYE PIKE, daily catch limit 5, possession limit 5; NORTHERN PIKE, daily catch limit 3, possession limit 3; SUNFISH and BLUEGILL, open season May 15-Feb. 15, daily catch limit 15, possession limit 30; WHITE OR SILVER BASS, daily catch limit 15, possession limit 30; CATFISH, open season May 15-Feb. 15; LARGEMOUTH and SMALLMOUTH BASS, open season June 1-Nov. 30, no minimum length or weight; PERCH, continuous open season, daily catch limit 15, possession limit 30; CRAPPIES, daily catch limit 15, possession limit 30.

No fishing in any designated trout waters except during open season for trout.



One of the concrete control structures on Iowa Waterhen Marsh in Saskatchewan. This is one of the largest DU projects and was built with funds raised by Iowa sportsmen. Ducks Unlimited Photo.

INTERNATIONAL OFFICERS OF DUCKS UNLIMITED TO MEET IN DES MOINES

By Wendell A. Teague
Public Relations Director
Ducks Unlimited

When the trustees and directors of Ducks Unlimited, Inc., and Ducks Unlimited (Canada), famed international organization of sportsmen-conservationists, gather in Des Moines in early April, they will meet in a state which has sponsored two of their projects in Canada.

The leaders will hold their annual meetings at Hotel Fort Des Moines on April 5, 6, 7 and 8. Nearly 60 sportsmen who are directors, trustees and committee chairmen from all over the United States and Canada will be in attendance, Harvey L. Sorenson, San Francisco, president, recently revealed.

Local arrangements for the meetings have been made by Wilson L. Abel, Mason City, Iowa state committee chairman, and Fred S. Barlow, Spirit Lake, both of whom are trustees of the international organization, as well as Bert Stolpe and Ries Tuttle, both of the *Des Moines Register*, and other Des Moines sportsmen.

In addition to the trustees themselves, there will also be meetings of the executive committee and the Canadian directors in their second meeting in the United States. The trustees will elect officers.

It is particularly appropriate that Iowa be host to the meetings in 1951. For years Iowa sportsmen have been supporters of the DU program of restoring waterfowl breeding grounds in the prairie provinces of Canada.

Iowans have contributed generously to two projects in Saskatchewan costing thousands of dollars and producing many ducks for the central flyway.

The first of these, known as the Iowa Waterhen Marsh, 35 miles from Prince Albert, Sask., covers more than 35,000 acres and is one of DU's oldest projects. Once an

extremely important duck breeding ground, the area had been drained during the drought years for farming purposes. Hundreds of thousands of ducks died as a result of this unsuccessful effort. In 1938, after the Iowa contributions began, DU built an earth dam 4,400 feet long with stop-log spillway 40 feet long. In 1939, the spillway was raised one foot, 20 nesting islands were constructed and willows were planted. Later aquatic vegetation was planted and the area fenced. Canadians contributed the land, saving Iowans that huge cost.

In 1948, a heavy run-off filled the marsh and lake, and water elevation was stabilized. By August of that year there was a tremendous concentration of ducks on this once wasted land. Today with water levels remaining high it is entirely restored and is considered one of the most successful of DU's 308 projects.

Another project built with Iowa contributions is located 120 miles from Regina, Sask., and is named for J. N. "Ding" Darling, the famed cartoonist and conservationist. This covers 1,050 acres and has 16.6 miles of shore line. The original lake was lost to duck production, since creek water flowing into it was too saline. In 1948 DU began construction of a series of dams, creating seven lakes and diverting creek waters to these other lakes. Surrounded by pasture, planted with bulrush seeds and roots, they now make excellent nesting cover for canvasback and redheads. The dams consist of two concrete weir structures, six timber structures, and seven earth dams, as well as three miles of ditches. The larger concrete dam has a 50-foot crest width, 4-foot drop, and 99.5-foot elevation. One earth dam is 1,950 feet long with 104-foot elevation and filled with riprap. Although the project is still not complete,

duck production has already increased tremendously and is especially high for the water available. It should be completed within the next two years. Iowans are still enlisting sportsmen's support for this work.

DU is a voluntary, non-profit organization supported by both the U. S. and Canadians working for better duck hunting. Money is raised in the United States to restore the duck factories of the provinces which were wiped out during the droughts of the thirties and which produce the great majority of the ducks on the North American continent. Since its conservation work actually began in 1936, DU has poured more than \$2,500,000 into the breeding grounds, all of which has been contributed by the American sportsmen. Canadians have matched this by the contribution of thousands of acres of land, work and water where the waterfowl breed. Many projects have been developed jointly with the Canadian government and municipalities. The organization maintains dirt moving crews and construction crews and lets out major work to contractors. It has banded over 40,000 waterfowl, keeps a permanent staff of biologists, naturalists, field men, ecologists and workers in addition to thousands of voluntary key men throughout Canada. Its sole purpose has been to produce more ducks, and its success is evident when one considers that there are many millions more ducks today than in 1934 when the organization was born.

In Des Moines, the DU executive committee will meet on April 5, the trustees on April 6 and 7, and the Canadian directors on April 7 and 8. Among the trustees expected are George W. Mason, Detroit, treasurer of DU and president of Nash-Kelvinator Co.; Louis H. Barkhausen, retired Chicago contractor, who now devotes his full

(Continued on page 120)

IZAACK WALTON LEAGUE HONORS HUGH H. BENNETT

Dr. Hugh H. Bennett, chief of the Soil Conservation Service and the man principally responsible for the modern agricultural revolution in America, has been awarded the Izaak Walton League of America founders' plaque as the person "judged to have made the outstanding contribution to furthering the conservation of America's vital renewable resources" during 1950, the Wildlife Management Institute reports.

The formal presentation of the coveted award will be made at the League's annual national convention in Cincinnati, Ohio, on April 6 by Dr. Preston Bradley, a founder of the League and chairman of the award committee. In a formal notification signed by William Voigt, Jr., executive director, the IWLA wrote Dr. Bennett as follows:

"We had before us for consideration a full score of individuals and organizations. After weighing the accomplishments of all, we felt there was none more worthy of receiving the award this year than you, the acknowledged father of soil conservation in America. We are convinced that it is only through grassroots work such as is inherent in the soil conservation program as administered and advocated by Dr. Bennett, that we can maintain a self-reliant and prosperous democracy."

Dr. Bennett is the third recipient of the League's highest award. William Vogt, author of "Road to Survival" and Leslie A. Miller, former governor of Wyoming, chairman of the natural resources task force of the Hoover Commission, were honored in 1949 and 1950. The award itself is a handsome bronze plaque designed and sculptured by Louis Paul Jonas of Hudson, New York.



Marsh restoration by Ducks Unlimited has returned many former duck and goose marshes to productive waterfowl areas.



Dark days face the wild duck population of North America, according to the U. S. Fish and Wildlife Service. Wild geese, however, have increased slightly during the past few years.

DARK DAYS FOR DUCKS

Dark days face the migratory waterfowl population of North America and the outlook is gloomy. Such is the conclusion of officials of the several states and the U. S. Fish and Wildlife Service, in Davenport for the annual waterfowl meeting preceding the spring migration of the webfeet.

Even though the future is anything but rosy, there is no thought, presently, of further curtailing the season or the daily bag limit. Any additional restrictions upon the wildfowls will probably come in the form of shorter shooting hours. The feeling is general that a complete closing of the season would be just about the worst thing that could happen to migratory waterfowl.

There is no remedy for the situation. At least, no remedy known to man. Canada offers ample breeding areas for the present duck population; in fact, many potential Canadian breeding spots are hardly populated. Little waterfowl reproduction takes place in the U. S., although Minnesota, Wisconsin, North Dakota, Michigan and several other states offer ample nesting sites for such species as will use them.

No species of duck has shown any substantial gain in the past year. The contrary has been true. On the other hand, the goose population has inched upward. This is one bright spot on the waterfowl horizon.

Biologists compute ducks on the basis of one pair going northward in the spring adding four juveniles to the population returning. But this ratio is not holding. Checks of thousands of hunters and their game bags revealed that the kill of adult birds was forging ahead of the kill of juveniles. This is very alarming and is a definite sign that something has gone awry with the proper breeding ratios.

The spring migration will be

closely watched. Observers on every flyway will not only protect the ducks from poachers, but will check on duck numbers as a clue to what may be expected next autumn if a favorable breeding season in the great Canadian duck factory should occur. We need some big broods, larger than normal. The breeding stock is down to an irreducible minimum. From here on out it is going to be a job for nature to restore the waterfowl populations. How well she succeeds during the next few years will mean success or failure to the waterfowl hunter along the Mississippi flyway.—*The Nomad, Davenport Democrat.*

LEGEND OF THE DOGWOOD

A beautiful legend is going the rounds in conservation circles. It has to do with the dogwood, whose beauty has now waned for this year. The legend runs thus:

This legend comes from out of the centuries of the past. Because of its hardness, it is said that the wood was chosen for the cross on which Christ was crucified.

The dogwood was saddened to be used for such a purpose and the Savior, seeing its distress, promised: "Never again shall the dogwood grow large enough to be used for a cross. It shall be slender and bent and twisted, and its blossoms shall be in the form of a cross with two long and two short petals. In the center of the outer edge of each petal there shall be small prints, brown with rust and re-stained with blood. The center of the flowers will be a crown of thorns. All those who see it will remember it was on the dogwood that I was crucified and this tree shall not be mutilated or destroyed, but cherished and protected as a reminder of the agony and death upon the cross."

It is just a legend and history does not back it perhaps, but it is a beautiful way of explaining the markings of the flower.—*Ohio Conservation Bulletin.*

THIRTY-TWO WHOOPING CRANES WINTER IN TEXAS

During a number of extensive aerial searches made in December and January over the wintering grounds of the whooping crane in Texas, observers counted 32 of this nearly extinct species.

The known continental population of one of America's rarest birds consists of four young whooping cranes and 28 adults, two of which are captive birds, all located now at the Aransas National Wildlife Refuge on the east coast of Texas. During the 1949 winter season, the count revealed 32 adults (including the two captives) and four young.

Service officials are of the opinion, however, that the recent counts may not reflect the total number of birds which are in existence on the Texas coast. Because of adverse weather conditions this year, the area is experiencing one of the worst droughts in its history. This has brought about a change in crane behavior. Formerly the birds could be found in the salt flats and along tidal pools, primarily on the east refuge shore line. This year, however, they are also using the low brushy areas of the interior, usually in association with or near the few remaining sources of fresh water.

Under drought conditions, the number of suitable fresh water areas along that section of the coast is limited. Since the birds tend to establish definite territories of some size, it is quite possible that they have found the refuge crowded this year, and consequently have sought feeding and watering areas elsewhere which, so far, remain undiscovered.

After a transcontinental flight from their unknown breeding grounds, which are in the Far North, the cranes arrive regularly at the Aransas Refuge in late Oc-

tober, usually reaching peak numbers in November and December. Several times in the past a few stragglers have shown up in February—too late to be included in the late fall and winter count. Additional aerial surveys will be made this year from time to time by refuge personnel in the hopes that any itinerant cranes so far not recorded on the refuge area will be located.

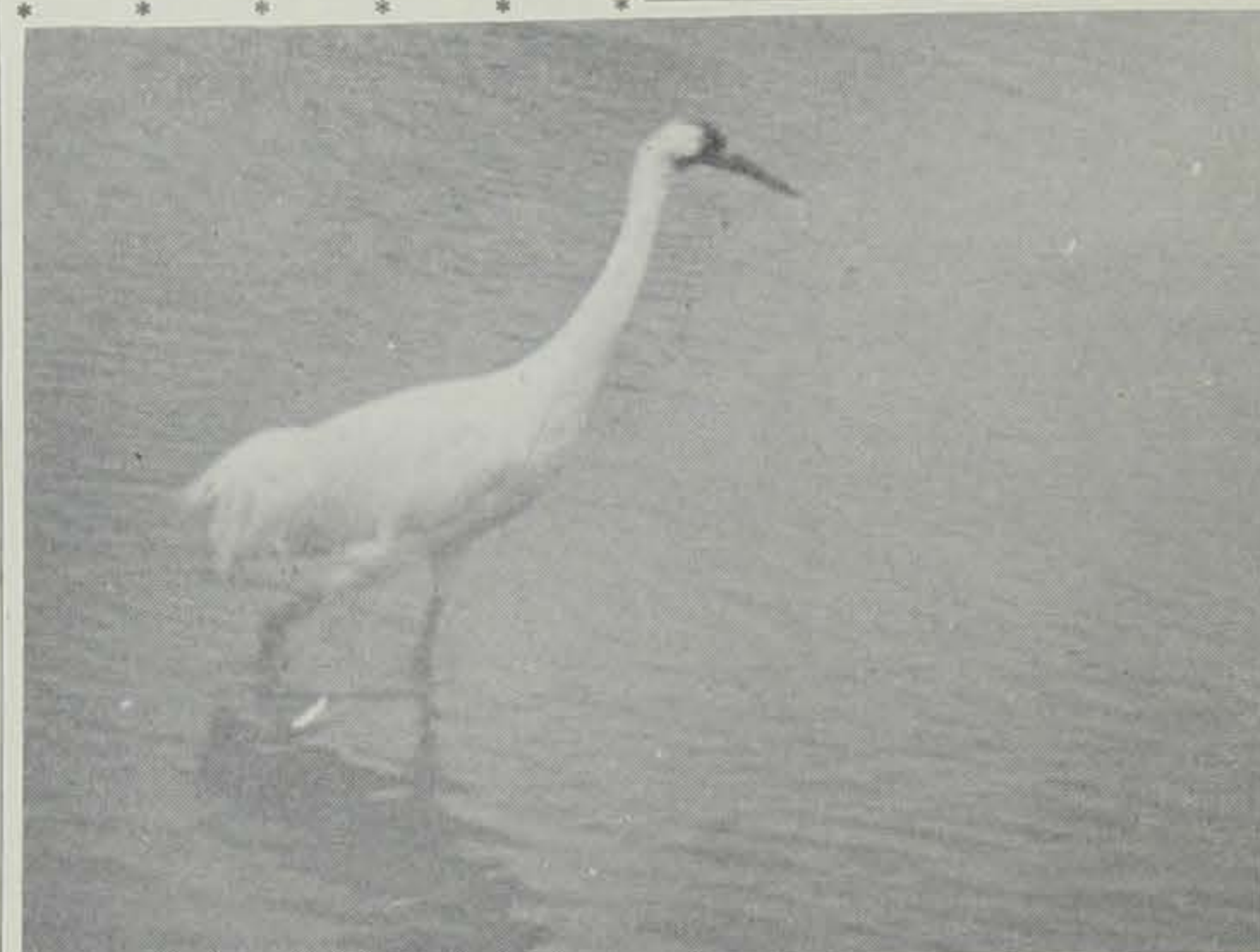
The majority of the birds leave the refuge during late March and early April on their northward migration. So far all attempts to locate the nesting sites of these birds have been unsuccessful. It is feared that civilization may be enforcing them slowly northward to the limits of vegetation. A half century ago they nested from Iowa northward. Efforts to prevent the extinction of whooping cranes are being jointly sponsored by the Fish and Wildlife Service and the National Audubon Society.

Last winter the two captive birds, Crip and Josephine, built a nest and hatched a single egg at the Aransas Refuge. The chick, which was immediately nicknamed "Rusty," lived for just four days and then mysteriously disappeared. During his short life span he probably was the focus of more international attention than any single bird in history.—*Fish and Wildlife Service.*

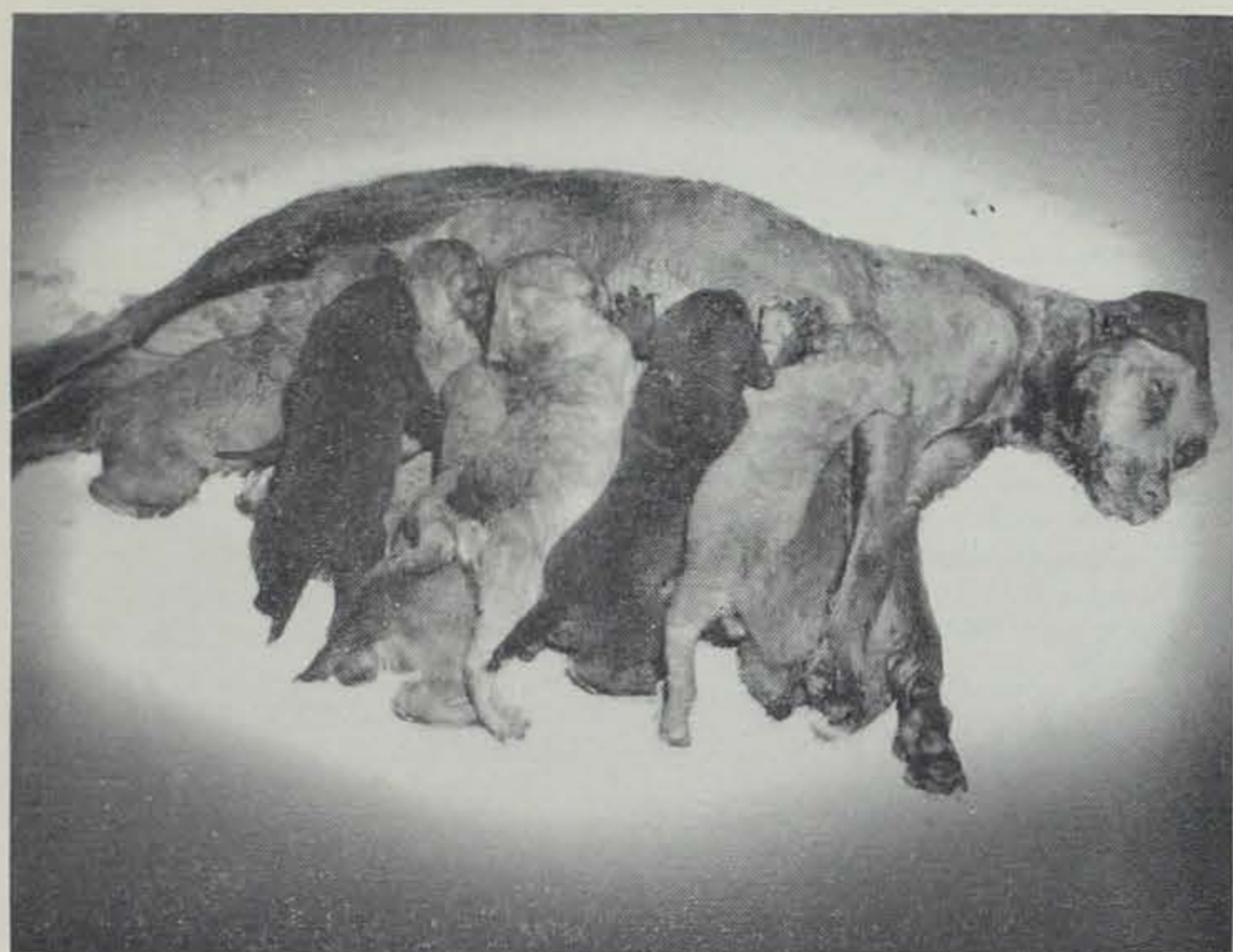
NEW BULLETIN ON HAWKS AND OWLS

Common Hawks and Owls of Iowa is the title of a new bulletin prepared by the Agricultural Extension Service, Iowa State College, Ames, Iowa. The bulletin contains line drawings of 16 examples of birds of prey with interpretive text.

This valuable bulletin may be secured for 15 cents per copy by writing the Agricultural Extension Service, Iowa State College, Ames, Iowa, and asking for Iowa Youth Series No. 2.



Only 32 whooping cranes were found on the east coast of Texas during 1950. This rare and spectacular bird was found nesting in Iowa by the pioneers.



There was a definite upward trend in the dog population during 1950. This Chesapeake mother has done her part with ten fine puppies. Jim Sherman Photo.

NATION'S DOG POPULATION IS ON INCREASE

By Ries Tuttle

You soon come to the conclusion that this country is going to the dogs after studying canine statistics.

There was a definite upward trend in the dog world during 1950. Dog shows attracted larger crowds, the dog population is estimated to have increased, more dog foods were sold, and the registration of purebred dogs by the American Kennel Club climbed to an all-time high of 251,813—10,000 more than in 1949.

The cocker spaniel family continued its reign as the biggest clan of registered pooches with 61,259, which, however, was approximately 10,000 less than in 1949.

Beagles, of which there were 22,474 registered in 1948 and 26,278 in 1949, remained in second place but showed an increase of about 3,500 to reach 29,988.

One of the big surprises of the year came in boxers, which increased their registration from 15,986 in 1949 to 21,238 and passed collies, which were relegated to fourth place.

Dachshunds traded places with Boston terriers by increasing their registration to 12,102 to pass Bos-



You soon come to the conclusion that this country is going to the dogs after studying canine statistics. Jim Sherman Photo.

tons with 12,067 in the fifth and sixth place race.

Chihuahuas passed Pekingese to register 9,143 against 8,352 and take the lead among the toy breeds. German shepherds regained ninth place, which they had lost the previous year, and Pomeranians moved back from eleventh to tenth.

English springer spaniels, which had grown in popularity from eleventh in 1948 to eighth in 1949, fell back to eleventh place again.

While these figures indicate trends, they do not indicate the number of dogs of the breed actually owned in the United States. Because boxers have become popular comparatively recently, most owners take the trouble to register them and there are few unregistered dogs being bred.

This would compare, for instance, with German shepherds, of which there were appreciably fewer registered. However, since they have been popular for many years there are many unregistered dogs being bred.

The second best barometer of dog popularity is the sale of dog foods.

During the year 1950, for instance, the sales of canned meat dog foods increased from approximately 386 million to 487 million pounds, according to figures released by the U. S. Department of Agriculture.

This, too, was a record, since the 1949 figures had represented a jump of 72 million pounds over the previous year.—*Des Moines Tribune*.

The best available publication on bait minnows is "Propagation of Minnows and Other Bait Species," Circular 12 of the U. S. Fish and Wildlife Service. Send 35 cents to Superintendent of Documents, Washington 25, D. C.

WOULD DOUBLE SPENCER SEWAGE DISPOSAL CAPACITY

Mayor Charles E. Curtis' proposal to expand the sewage disposal plant to meet the dire needs of the city through the sale of \$150,000 in revenue bearing bonds comes up for action by the city council on February 5.

At the present time, according to the city engineer, Noel Champion, the present plant is only 50 per cent as big as that needed here to adequately treat the sewage now being taken in.

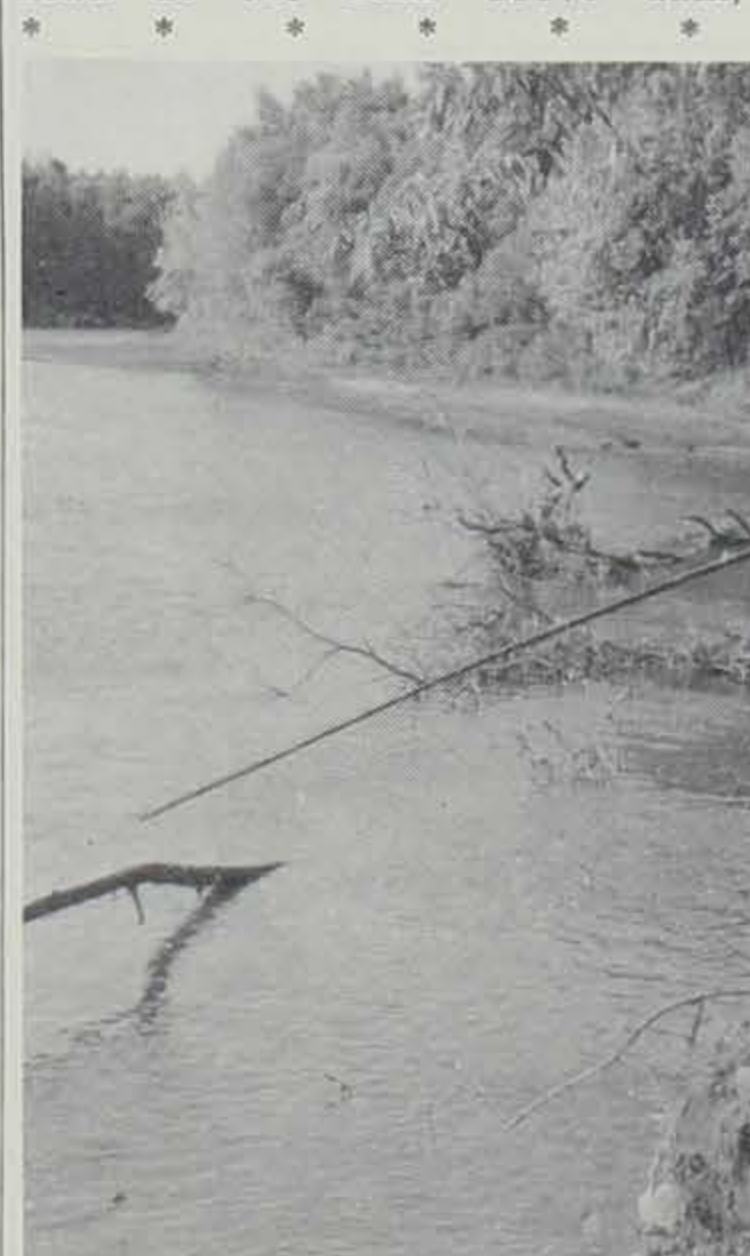
Under the Curtis plan the facilities for sewage disposal would be doubled. This, of course, would necessitate the purchase and installation of primary and final clarifiers, a new filter and digester plus auxiliary equipment to operate these facilities at the plant.

At the present time, the city engineer is conducting a research test of the strength and amount of industrial sewage being dumped into the local mains. These tests will be conducted at the laboratory at the local sewage plant and are expected to bring a more accurate check on the matter.

The city engineer stated that the present plant was built in 1937-38 and was to have handled a sewage plant equivalent for 10,000 people.

"That has been 12 years ago," he said, "and since that time the city with added new housing additions and industrial development has raised this equivalent to 30,000 people."

The State Department of Health and Conservation Commission are particularly anxious to see Spencer develop an adequate sewage control, he stated, in view of the pollution in the Little Sioux River. Fish in large quantity have been found dead at the Linn Grove dam.



Every improvement to the sewage disposal systems of cities on our inland streams adds to the fish productivity of our waters. Jim Sherman Photo.

WATER RESOURCES POLICY REPORT AVAILABLE

The first volume of the President's Water Resources Policy Commission report has been released under the title "A Water Policy for the American People," according to the Wildlife Management Institute. The generous-sized, 445-page book may be obtained for \$3.25 a copy from the Superintendent of Documents, Washington 25, D. C. This report and the two succeeding volumes which are planned may well shape the future natural resources policy of the United States. This is a vitally important document which should be studied carefully by everyone interested in the future of America.

STOCK LEWIS LAKE WITH 6,000 FISH

Six thousand fish have been planted in the Cold Springs Park lake near Lewis and more will be stocked later. Bluegill and bass were the species stocked.

The lake is rapidly filling from natural springs in the area and from the dam erected for that purpose. Grand opening of the lake will be this spring.—*Red Oak Express*.

caused by pollution from Spencer and Sioux Rapids.

The general obligation bond issue for \$80,000 set up for this purpose in past years has almost been retired, he stated, and the present sewer rental now makes it possible to sell revenue bearing bonds for the expansion plan.

The Curtis plan will mean no levy on the city for the improvements but would come out of the sewer rental earnings.

If passed, the project will have to be subject to approval from the State Board of Health, which is most anxious to see the job done.—*Spencer Times*.



Many of Iowa's choicest fishing waters are long distances from public access. Under the regulations for expenditure of Dingell Bill moneys, public access to angling waters may be purchased.

Dingle Bill . . .

(Continued from page 113)

a proportion of 40 per cent of the areas including Great Lakes and coastal waters, and 60 per cent on the basis of total fishing licenses sold by the states. To assure more equitable distribution of the funds, no state may receive more than 5 per cent or less than 1 per cent of the total amount available.

Before the allocation is made, according to the formula of the law, up to 8 per cent may be deducted for administration of the law, and special lump sum allocations of \$75,000 to Alaska, \$25,000 to Hawaii, and \$10,000 each to Puerto Rico and Virgin Islands taken out.

Using the formula which was approved by the states, and based on an estimated \$3,000,000 tackle tax income, the apportionment on the basis of approximately 333,000 fishing licenses sold during the 1949-50 fiscal year, Iowa would expect to receive about \$50,000 in twenty-fifth place from the top of the list among the 48 states. Individual states' apportionments range from \$26,400 to \$132,000.

While the sum may not seem large, it must be borne in mind that this is a windfall which will come every year. The three million dollar figure is used because nowhere is there any reliable estimate of the tackle tax income. As license sales increase in the individual states, it will reflect in a larger share by that state of the annual apportionment.

The sum listed is the federal share of the cost of the sport fish restoration project, which is 75 per cent. The state will match this with 25 per cent of the project cost, and they will develop, manage and own the project.

The Dingell-Johnson program will be administered by the Fish and Wildlife Service to determine that sport fish projects are substantial in nature. But like the Pittman-Robertson wildlife program, there is considerable discretion on the part of the states in the

types of projects they undertake.

In fact, the law says that "fish restoration and management projects shall be construed to mean projects designed for the restoration and management of all species of fish which have material value in connection with sport or recreation in the marine and/or fresh waters of the United States."

With the vast need of work necessary in stream and lake improvement, acquisition of rights to posted fishing waters, and numerous fish restoration projects, there is concern among thinking fish conservationists that these funds should not be diverted to fish hatchery construction. Hatcheries, if needed, can be developed through direct appropriations. And these earmarked funds thus used in other constructive projects, as well as creation of more fishing water. The latter is particularly needed in many states.

There is also concern that administration of the law will not be subjugated and lost within other programs of the Fish and Wildlife Service, but retain its entity as a sport fish restoration program. The current federal aid to states wildlife section of the Service could well operate the business end of keeping accounts and administrative et cetera. But it would appear that the biological phases of fish management could be kept separate without the need of creating new offices, or an expensive administrative setup by using the facilities of the fishery section.

The unsung heroes in this program are and will be the fishing tackle manufacturers who have the job of collecting the tax, keeping the records, and numerous other details in connection with the excise tax program which supplies the funds for the law. This victory for constructive conservation is refreshing to the conservation movement, since it shows that a united effort can bring results.—*South Dakota Conservation Digest.*

THERE'S MORE THAN LUMBER IN TREES

By George W. Worley

Superintendent of Public Relations
(Adapted from Nature Bulletins of Forest Preserve District of Cook County, Illinois)

Delicious tea can be made from the bark and roots of sassafras. Buy some at the drugstore and try it. The inner bark of black oak is used for tanning hides and skins. Schoolmasters used to teach readin', writin' and 'rithmetic to the tune of a hickory stick. Indians made a green dye from the twigs and leaves of arbor vitae.

These are a few of the many odd products and uses of trees. We have found better, cheaper substitutes for many of these things. Some are still used.

Hickories were of great value to Indians and early settlers. They are of great value today. Indians chewed hickory buds as we chew gum. Their hunting bows were of hickory. A black dye was brewed from hickory bark. The nuts were crushed and mixed into pemmican, or used as a thickening for stews. Hickory nut oil was "heap good for bellyache." Hickory bark torches lighted many an Indian brave through dark caves. Hickory stove wood is the best, and green hickory smoke made smoked hams famous.

The best tool handles, wheel spokes, doubletrees, neck yokes, and buggy wood came from hickory trees. Skis, ball bats, ladder rungs, splint baskets, and barrel staves and hoops are often of hickory. Wherever hard, tough, pliable, long-lasting wood is needed to stand hard knocks and wear, hickory is the choice.

Osage orange or hedge has many uses besides for fences. Silkworms like its leaves as well as they do those of mulberry. Osage orange fence posts outlast any other wood post. A yellow dye from the wood and roots is used to tan and color leather. The springy orange-colored wood makes the best archery and hunting bows in the world.

Hundreds of old-fashioned medicines came from trees. A spring

tonic was brewed from the blossoms of the basswood or linden. Lee stings were "cured" by rubbing with white ash leaves. Chewing the berries of prickly ash or "toothache tree" soothed many throbbing jaws.

Willow and aspen bark were often used when quinine supplies ran low.

Barbers and trainers of athletes still use oil from the twigs of the witch hazel bush as a lotion. Many years ago lotions were made from white oak bark and dogwood bark. Oil from the twigs and bark of birch trees was a favorite remedy for rheumatism.

Bark from the buckthorn or wild cascara tree is used to make a mild laxative.

Willow trees give us wood for many things, such as wooden shoes, baseball bats, fishing poles, and willow switches. Charcoal made from willow is so good that it is preferred for medicines, chemicals, and gunpowder. Artificial legs are often carved from willow.

Basket willow and osier willow are grown for wicker furniture, baskets, and other wickerware. String or rope may be made by twisting willow bark.

Deer like to eat the winter buds and twigs of willow. In spring honey bees use willow flowers for an early supply of pollen and nectar.

Cottonwood trees were favorites of Indians and early settlers. They grew quickly and easily from branches stuck in the ground and watered. The Indians of the Great Plains used cottonwood roots for starting fire by rubbing. It is said that Indians got the idea for making tepees by twisting a cottonwood leaf into a cone. Indian children still make play tepees from cottonwood leaves.

Bees use the waxy coating of the slender, sharp cottonwood buds to make beeswax. Ground-up cottonwood is used in high-grade plaster.

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There are hundreds of small sawmills in Iowa that cut some 97 million board feet of lumber each year. Yet the lumber is only one of many important values of timber.



The hind feet of box turtles are usually described as stump-shaped. They are well adapted to packing dirt over the eggs laid in burrows dug in loose soil.

Turtles...

(Continued from page 113)

bury their eggs in underground nests—burrows dug by the females. When the hole is as deep as the female's hind leg will stretch, the eggs are placed in the bottom of the burrow and covered with sand and dirt. Many of the turtles are extremely adept at hiding the nest and smoothing the ground after the nest is covered. This precaution is necessary, for many animals consider turtle eggs quite a welcome addition to their diet. The nest is usually built, filled and hidden during the night. The ornate box turtle usually nests in late June and the young turtles hatch two or three months later. Some of the eggs may not hatch until the next spring.

Our box turtles are fairly long-lived even though they do not get very large. The maximum length of the carapace of an ornate box turtle is 5.75 inches. Captive specimens have been kept over 12 years, and it is probable that some individuals live to be over a hundred years old. Turtles, in general, are not as long-lived as many people think. Dr. C. H. Pope in his book on *Turtles of the United States and Canada* estimates that the average turtle of the United States matures in five to seven years. Probably the average turtles live about twice that long.

In gardens, ornate box turtles may cause some damage by eating the ends out of cantaloupe and melons or by biting into tomatoes. On the other hand, they also eat large numbers of grasshoppers and other insects. Food studies indicate that box turtles eat about equal amounts of vegetable matter and of insects.

Only one other turtle in Iowa has a hinged plastron similar to the box turtle. This is the Blanding's (*Emys blandingi*), which is also sometimes known as the semi-box turtle. The plastron will not close

over the hind legs and tail to give the full protection which an ornate box turtle has. The Blanding's turtle is not as strictly terrestrial and often spends long periods of time in ponds or streams. It does wander overland quite a bit, however, and is probably the turtle most often appearing in back yards and in towns in Iowa. It has not been reported from south of Polk or Muscatine counties, however.

In some areas the Blanding's turtle appears to be almost entirely aquatic in habits, while in others it seems to spend most of its life on dry land. Many of the more aquatic species of turtles are not able to swallow food unless they are under water, but the Blanding's can and does feed on berries, grass, lettuce, and other terrestrial plant material.

Blanding's turtle is a medium-sized turtle with a maximum carapace length of 10 inches. The carapace is dome-shaped and quite smooth. It is usually black with many small yellow dots. The plastron is yellow with a black blotch on each plate. The chin and throat are bright yellow and the upper jaw has a notch in front, like a harelip, and is not beaked as is the upper jaw of the box turtle.

The third species of land turtle found in Iowa is the wood turtle (*Clemmys insculpta*). The only locality from which this turtle has been reported in Iowa is near Charles City in Floyd County. As the name signifies, this turtle is usually found in wooded areas. The plates of the carapace have many concentric ridges or growth rings which appear to be finely sculptured, particularly in younger individuals. The plastron also has growth ridges and is almost as long as the carapace. It is yellow with black blotches similar to the plastron of Blanding's turtle, but does not have a hinge and therefore cannot close up to form a box. The carapace is dome-shaped, but not as high as in the other two species,

and is greenish to blackish with inconspicuous yellow spots.

Wood turtles are good climbers and have been seen to climb a three-foot chicken wire fence. In feeding they use their forelegs more than most turtles and have been reported to hold strawberries with their forefeet while biting and tearing them apart. The food of this turtle appears to be about one-half vegetables and one-half animal matter. The latter consists primarily of insects and snails.

Wood turtles have sometimes been called "whistling turtles" because of a "teakettle-like whistle" which they give, particularly during the courting season. Few other turtles have a call note or give any vocal sounds.

The feet of these three turtles are less completely webbed than are those of the more aquatic species found in Iowa. The carapace is also more dome-shaped. This latter characteristic may have some survival value, for there is less danger of a dome-shaped turtle's being stepped on than a flatter turtle's. Also, unless run over squarely in the middle, a dome-shaped turtle usually slips from under the wheel of a car and is not so easily mashed. Traffic on our highways is probably the most serious enemy of adult turtles, however. Young turtles are often soft enough and indefensible enough to readily fall prey to many animals.

In Iowa turtles hibernate during the winter. The aquatic species spend the winter dormant in the mud at the bottom of the pond, lake, or stream. The ornate box turtle and probably also the wood turtle spend the winter under leaves and leaf mold or in burrows or in small ponds. We do not know where Blanding's turtle hibernates, but probably most of them seek out ponds, lakes, or streams where they sleep in the bottom mud.

Turtles are most often seen on land in late April through June

MURDER OF THE INNOCENTS

How many people in the state of Iowa remember the two little deer that were on exhibit at the State Fair in Des Moines last fall? Perhaps a good guess would be half the people in the state, at least.

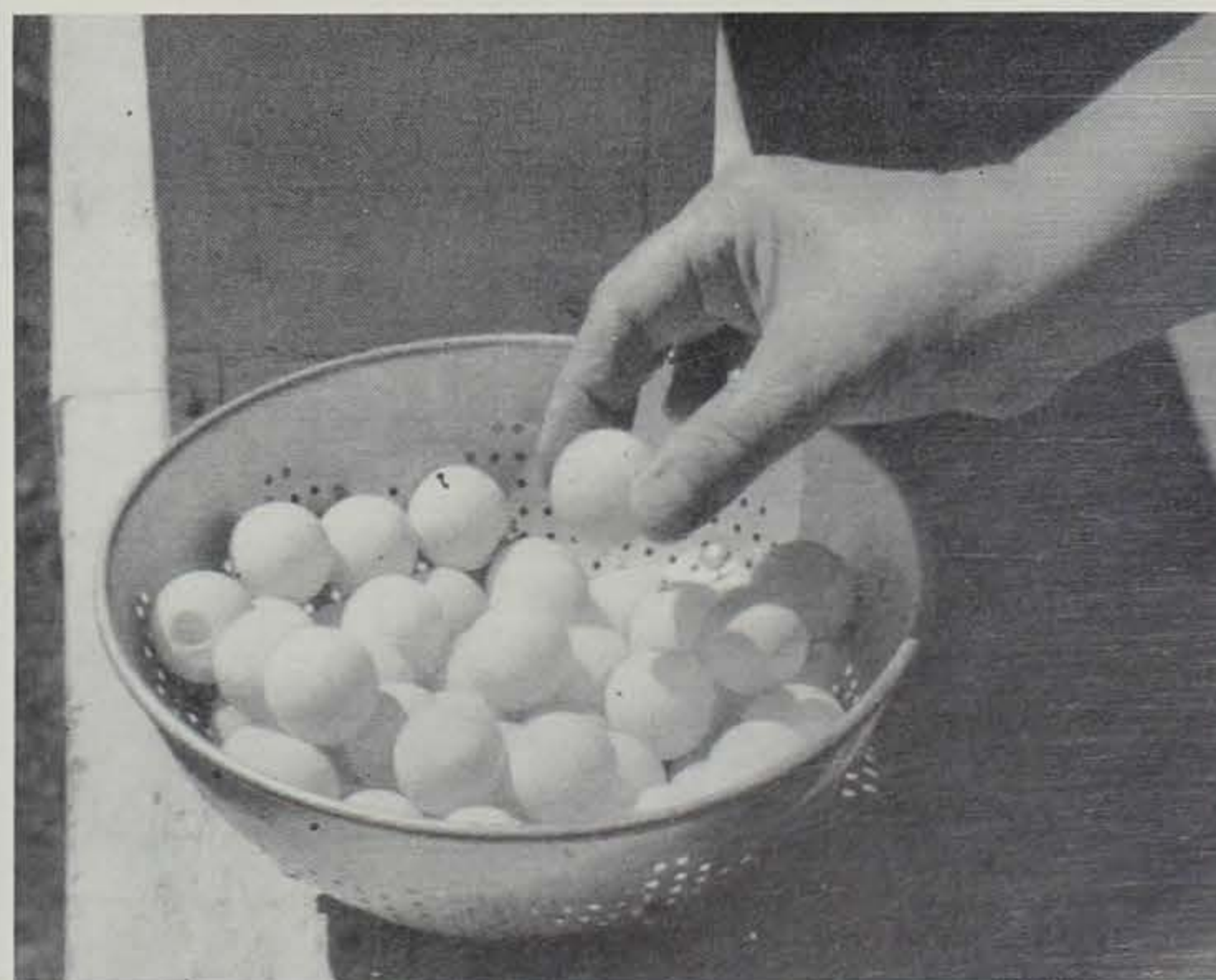
The two fawn were shot while in a cage at the Ledges state park game farm Christmas Eve by a hunter or hunters who apparently know nothing about sportsmanship.

Warren Wilson, state conservation officer, said there was no possible way the persons who killed the deer could get them out of the cage to utilize the meat and therefore no excuse in the world for killing them.

The two animals were on exhibit at the fair grounds last year on the east side of the conservation building and thousands of children spent hours watching them. They have also been used throughout the state for other exhibits and shows.—Boone News Republican.

Florida's miniature key deer, nearing extinction, average less than 50 pounds in weight and measure 38 inches in length. They are about 26 inches high at the shoulder.

when they make their nests and lay their eggs. During the nesting season, even the more aquatic species may be found some distance from the water, but none of them spend as extended periods of time on dry land as these three species. There is an interesting study in the difference in behavior of land turtles and aquatic turtles. Dr. R. M. Yerkes found that box turtles and other land turtles were very hesitant about walking off a table if the drop was one to three feet and would not attempt a drop of six feet, whereas the thoroughly aquatic painted turtles showed little hesitancy over making such drops — presumably because the painted turtle is used to dropping off logs into the water.



Turtle egg shells become leathery prior to hatching. When fresh, the shell is rather brittle. The eggs, buried in the ground, are often discovered by skunks and are a favorite food of this animal.



Sioux quartzite is a very hard and resistant rock. It sticks up through the soil in many places in southeastern South Dakota and southwestern Minnesota, as well as in Gitchie Manitou State Park.

Formation . . .

(Continued from page 113)

southwestern Minnesota, as well as in Gitchie Manitou Park. The formation is known to underlie an area of about 6,000 square miles in the three states. At Pipestone, Minnesota, the rock used by the Indians for making pipes occurs with the quartzite. The falls from which Sioux Falls was named is over quartzite. Fragments of this purplish quartzite are to be found in the subsoil and along the streams in Iowa and elsewhere in the mid-west.

Quartzite, when crushed, is highly desirable for use as concrete aggregate. It is widely used for this purpose in South Dakota and Iowa. It may be recognized in the highway pavements because of its pink color. It was once used as a building stone, and still is to some extent. Some of the buildings in Stone Park are constructed of it. So also are many in Sioux Falls, in Sioux City, and in other towns of the area. Most of the quarries are near Sioux Falls.

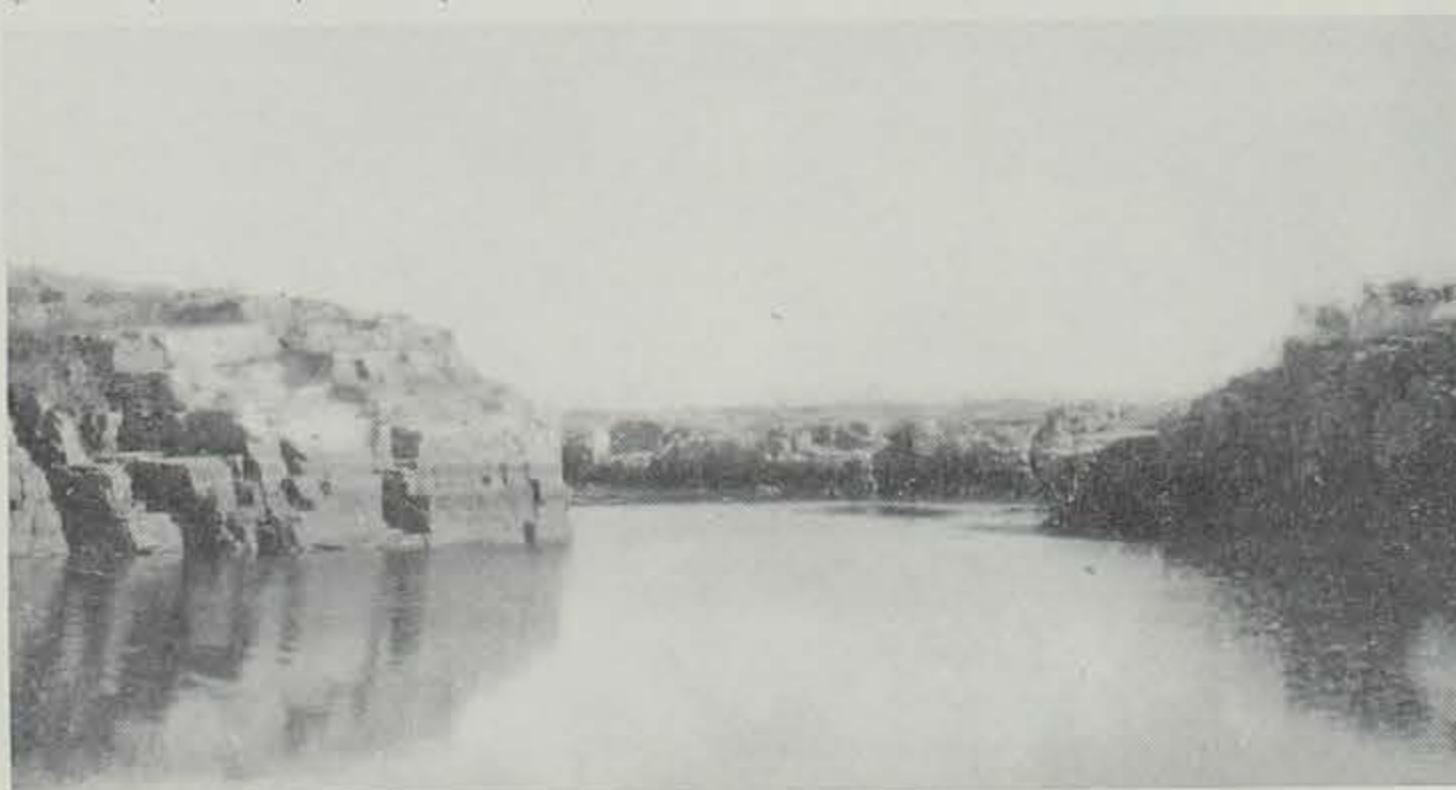
At Gitchie Manitou Park the rock outcrops irregularly in the form of a low ridge, shining and beautiful in the sun. The surface is in part covered with gray lichens, and is elsewhere polished and smoothed by the action of wind and rain. It also bears circular and crescent-shaped marks. These may

have been made by glacial action. More likely, however, they were made by a large river of glacial meltwater which once flowed down the Big Sioux valley. Rocks carried along by the swift current banged against the rock surface, producing circular cracks. Outcrops just outside of the park to the east have smoothed and scratched surfaces made by the glaciers which passed over the region during the Ice Age.

The rock also has many straight cracks. Some of these are the cracks between the beds of quartzite, and are known as bedding planes. Others cut across the beds and are known as joints. There are two prominent sets of joints, at right angles to each other. These cracks help in the weathering and erosion of the quartzite.

Big Sioux River bounds the park on the west. It is now a rather small stream except in times of flood. During glacial times, however, a great river of meltwater flooded the valley. It washed away much of the soil, leaving the bare quartzite exposed. It also helped in the smoothing and polishing of the surface of the quartzite.

The park has a small pond, with low quartzite cliffs, called Jasper Pool. In this is reflected the purple of the quartzite and the blue of the sky. It is truly a jewel in this area of ancient rock.



The beautiful Jasper Pool is rimmed by low quartzite cliffs, and their purple color is reflected on the surface of the water.

Wardens Tales . . .

(Continued from page 115)
metzburg Democrat, relays this tale:

"A good story came out of the last wildlife school for boys at Vinton. The school was attended by three Palo Alto boys, Craig McAtee, Bruce Atkinson and John Reinders of Mallard. They were sponsored by the county Izaak Walton League.

"One of the events at the school was a trapshoot, at which few boys or men can be proficient without training. When John Reinders, who is about 12, started shooting, it was evident that here was an exception. John smashed six clay pigeons straight, to the delight of the game warden assigned to coach him. No other boy was doing nearly so well, despite the help received from the wardens assigned to them. John's warden was generous with suggestions as to the best way to handle the gun, etc. To these suggestions the boy had one answer, 'That isn't the way Uncle Vic told me.'

"The Mallard boy has a black forelock, which he always shook back on top of his head just before shooting. The eager warden urged John to wear a visor and escape the troublesome forelock. As he reached his seventh target without a miss, against his better judgment John put on the over-sized eye shade and missed the seventh bird. He took it off for the rest of the targets and smoked them all.

"He never told his warden coach who 'Uncle Vic' was, but most everyone here at home would need only one guess. He is Vic Reinders of Waukesha, Wisconsin, formerly of Mallard and one of America's very best trapshooters, who won the AA championship at the Grand American at Vandalia by shattering 350 targets straight.

"At any rate, it looks as if nephew John is coming up the same road his uncle traveled."

Conservation Officer Herb Eells, in charge of Howard and Chickasaw counties, writes:

"We collect right legs of pheasants for the biology department each year, and I am beginning to think that fate isn't kind to me. Year before last I saved legs and have several clubs save them for me. I would gather the pheasant legs faithfully each time I contacted hunters with birds, and I also picked them up from gathering points established by the clubs. I put the legs in their respective boxes in the garage, Chickasaw County legs in one box, Howard County legs in another. I had a couple of hundred of the darned things, and when the time came for me to send them in, lo and behold! the rats had carried almost all of them away!

"Last year Jim Baldwin, conservation officer from Burlington came up to give me a hand during the opening days of the season, and he brought his dog, Duke, a golden

Labrador, along. Jim and I snipped legs all day the 11th and put them in a box in the back seat of his car. When we came in that night—yes, you guessed it! Duke had eaten all the legs we had collected!"

Lumber . . .

(Continued from page 118)

Everyone knows that walnut kernels are tasty and nutritious. Did you know that the shells of walnuts are burned to produce a special and valuable kind of charcoal? This walnut shell charcoal is used in gas masks. Fancy belts, buckles, salt and pepper shakers and other novelties are made from walnut shells. The Sioux Indians made brownish-black dyes from green walnuts and hickory nuts.

Sumacs are among our most beautifully colored autumn plants. Berries of common (smooth) sumac are used for brewing "Indian lemonade" or sumac tea. A crude ink was once made from sumac leaves and bark. The large pith centers of sumac stems can be punched out. This leaves wooden tubes which are used for boys' popguns, pea shooters, and spiles to drain the sap from maple trees.

Speaking of maple trees, the Chippewa Indians made blue and purple dyes for their clothes and faces by boiling very old rotten maple wood. Many other dyes were made from trees by tribes of Indians. The Blackfeet made black dyes from alder bark. The Potawatomi used the inner bark of the speckled alder and red oak for yellow, red and brown dyes. They got scarlet from the roots of the sandbar willow. Butternut husks produce a yellow dye.

The persimmon is famous for its luscious fruit. Not many of us knew that 'simmon seeds were ground into meal by Indians. These seeds were also roasted and ground by pioneers and used as a substitute for coffee.

Trees were important to Indian tribes and pioneers. They are even more precious today.

Officers . . .

(Continued from page 115)

time to conservation work; Edgar M. Queeny, St. Louis, chairman of the board of Monsanto Chemical Co. and well-known wildlife photographer; Will J. Reid, Long Beach, California, president of Hancock Oil Co.; and Harvey L. Sorenson, president of DU, Inc.

12 PHEASANTS KILLED

Twelve ringneck pheasant cocks were killed in the state last year during the two-day open season on these birds in four counties. The total compared with 17 in 1949. Seven of the birds were bagged in Brooke County and three in Ohio County. Marshall and Mercer accounted for one each.—*West Virginia Conservation*.