IOWA CONSERVATIONIST

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Bulrushes Are Useful to Iowa Waterfowl

By ADA HAYDEN

Though few persons distinguish one bulrush from another, waterfowl appear to have preferences among the bulrushes. For instance, the slender bulrush so widespread in the shallow water of pot-holes and lake borders of northern Iowa is very popular with blackbirds, coots, ruddy ducks, and redheads as material for building or anchorage of nests. The soft-stemmed bulrush, which frequents similar locations and often covers acres of low-lying, level ground, furnishes materials suitable for weaving nests, and fruits heavily. The hard-stemmed bulrush is perhaps the most constantly present of the utilizable bulrushes in the aquatic habitats of northern Iowa. In low, flat lands subject to alternate flooding and drying, this species forms rank growths which provide nesting places for the black-crowned night heron, coot and redhead duck. The labyrinthine waterways among these bulrushes also afford excellent cover for water birds. It persists in the shallow lakes two to four feet in depth or less continuously throughout dry or wet seasons. The plant occurs throughout the state.

Martin and Uhler place the genus **Scirpus** (bulrush) second in a list of 68 plants utilized for food by game ducks as indicated by the analyses of 7,998 stomachs of 18 species from 247 localities in the United States and Canada.

Eight species of bulrush which are useful to waterfowl occur in Iowa. They include the hard-stemmed bulrush (**Scirpus acutus**), the soft-stemmed bulrush (**S. validus**), the slender bulrush (**S. heterochaetus**), the river

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Preservation of Prehistoric Indian Mounds Purpose of New National Monument

Although it is primarily to preserve and make accessible to the public the prehistoric mounds, the Yellow River Mound Area is without peer in the Middle West from a scenic standpoint. This view is from one of the bluffs in the new park and shows in the distance Pike's Peak State Park below McGregor, some six miles downstream from this high point.

Yellow River Area One Of the Most Beautiful Spots In Iowa

Hopes and dreams of conservation leaders for more than 30 years were realized with the recent completion of the purchase by the State Conservation Commission of the Yellow River Mound Area in Clayton and Allamakee counties. By authority of an enabling act of the 49th General Assembly, the 1,000-acre tract will be deeded to the National Park Service to be administered as a national monument—Iowa's first.

The importance of the acquisition of this land, containing more than a hundred Indian mounds, described as among the "very finest on this continent", cannot be over-emphasized when it is remembered that since the beginning of white man's occupancy, these most important evidences of the mound builders have been vandalized and destroyed in most of the state until only a pitiful remnant of their original thousands remains intact.

The accumulated purchases cover a tract of non-agricultural land approximately three miles north and south and a half mile east and west situated at the mouth of the Yellow River north of Marquette, and include some of the roughest terrain in Iowa's "Little Switzerland" district. The massive limestone bluffs are heavily timbered at some points and are barren rock at others. The whole east edge of the park towers like an amphitheatre before which the pageant of the

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Preserving Iowa's Surplus Fish Crop Is Urged by Writer

By ANNA MARGRETHE OLSEN

Foods spoil, some more readily than others. How to prevent this spoilage and keep foods fresh from one growing season to another has been an important economic problem down through the ages. By observing what happened to foods in nature, man used various methods to preserve foods centuries before the Christian era. Some of these have gradually evolved into present day methods of food preservation. Only those that are adaptable to and practical for the preservation of fish are discussed.

All animal and vegetable foods contain enzymes that will in time cause fresh foods to become stale and eventually deteriorate un-

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Bulrushes

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bulrush (**S. fluviatilis**), the American bulrush (**S. americanus**), the dark-green bulrush (**S. atrovirens**), the linear-leaved bulrush (**S. lineatus**), and the prairie bulrush (**S. paludosus**).

The first three, which are round-stemmed and leafless except a few scale-like leaves near the roots, are most useful because of their wide distribution, relative abundance, regularity of fruit production, and the size of the fruits. The linear-leaved and the dark-green bulrushes have leafy stems and resemble each other. Though they fruit regularly and abundantly, their seeds are very small. The American, the river, and the prairie bulrushes have three-sided stems. The American or three-square has inconspicuous leaves, and fruits freely in western Iowa, but less heavily in the north. The leafy stemmed river bulrush bears its fruits on a cluster of drooping stems at the end of the stalk, and is stouter than the prairie bulrush, which bears its stemless clusters of fruiting spikes in a compact terminal head.

The crop of bulrushes and their products depend largely on the water supply. Series of wet seasons succeed series of dry seasons in cycles. This results in periodic rationing of available native plant products. If foods best in quality are not present, substitutes appear. The extensive drainage of lakes and marshes has resulted in an unstable water supply. These areas formerly retained the run-off from rains and released it slowly, thus preventing floods as well as furnishing excellent supplies of food and cover for native waterfowl and animals. The rapid run-off of water bearing loads of soil has caused silt to be deposited in the lake or riverbed. The resulting turbidity of the waters reduces their penetrability by light and so limits the areas in which aquatic plants will thrive.

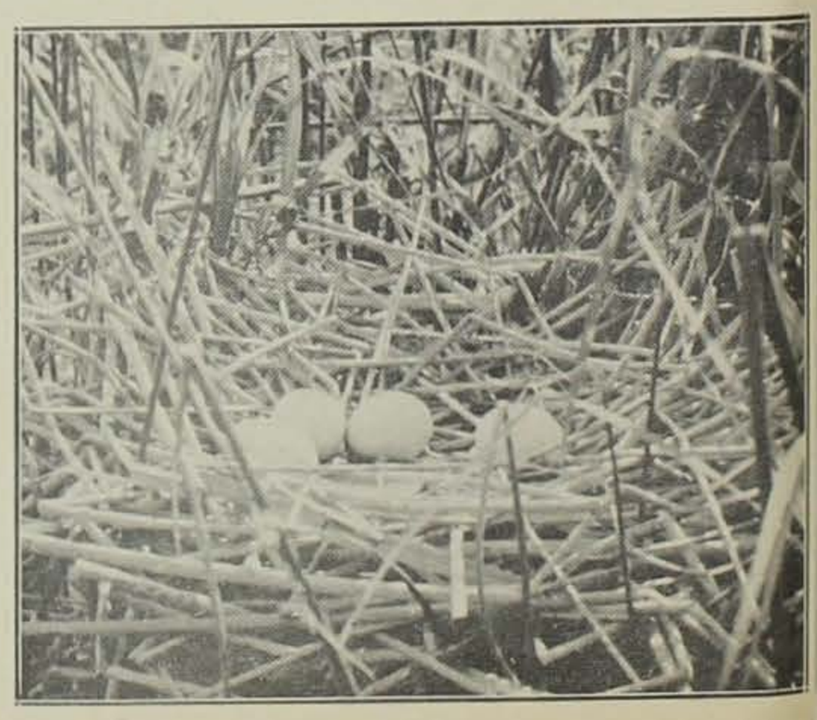
It is not generally recognized that bulrush seeds do not germinate in the same conditions which surround the mature plants. Their seeds germinate most extensively in August on mud flats where the sub-stratum is saturated but not submerged with water. The best subsequent growths occur in shallow kettle holes and marshes around the outlets or inlets of lakes in shallow ponds or on river floodplains. The young plants when established will advance into the deeper waters by means of underground stems.

The river bulrush is widespread in shallow water or even wet soil. It is said that it seldom fruits. However, when growing in one to two feet of water it generally fruits abundantly. Of the eight bulrushes growing in Iowa, four are high ranking food plants, both quantitatively and qualitatively. The three leafless, the round-stemmed and the river bulrush are not always found growing together at the same time, but replace each other in periods of drought or transition from low to high water levels. The dark-green and the linear-leaved bulrushes produce a constant supply of small seeds of slight quantitative value. The American bulrush produces seed of good quality, but occurs infrequently. The prairie bulrush seeds copiously but is rare in Iowa.

Reference Cited

Martin, S. C. and Uhler, F. M. Food of game ducks in the United States and Canada. U.S.D.A. Tech. Bul. 634. 1939.

The slender bulrush is widespread in the shallow water of potholes and lake borders and is popular with blackbirds, coots, ruddy ducks, and redheads for nest material and for anchorage of their nests.—Photo by Ada Hayden.



The hard-stemmed bulrush is one of the most constantly present in northern Iowa and its rank growth provides nesting places for many water birds. This black - crowned night heron's nest is woven from hard-stemmed bulrush. — Photo by Ada Hayden.

WARDENS' TALES

SHOP TALK FROM THE FIELD

Conservation Officer Jock Graham arrested a group of seiners during 1939. All of the men were prosecuted except one, who skipped out during the night. He had never been seen in the vicinity until July, 1944, when he returned to his home town for a visit. He was promptly recognized by the justice of the peace, who had heard the pleas of his companions five years before, and advised that Jock had a fishing charge against him. The culprit, a resident of Missouri, plead guilty and was fined.

—WT—

"Dear Jim: The Cedar Rapids post office sent me a letter addressed 'State Fish and Game Warden, Geo. A. Lincoln, Cedar Rapids, Iowa,' asking me for a current copy of the fish and game laws. Mr. Lincoln was State Fish and Game Warden in 1901. I wonder if the man who sent me this request has been operating under the laws in effect since 1901. Sincerely, (Signed) Ray Beckman."

Kills Partridge with Finger

Ray Hoffman of Park Falls, Wisconsin, now regards his index finger with considerable awe. Why? Because he killed a partridge with it!

Hoffman spied a partridge sitting on a roof. Idly, he pointed at the bird and said "Bang". The startled partridge took off hurriedly and wildly, hit an obstruction and dropped dead.

The early morning and late evening seem to be the most productive for bait fishing except in early season fishing or when the water is high and roily.

An aerial photograph showing distinctly one of the "effigy" mounds in Allamakee County. Note white figure in center of illustration.

Yellow River Mounds

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Mississippi parades 400 feet below.

It is high above the Father of Waters on the top of Iowa's 'mountains" that the mound builders laboriously constructed their earth mounds, sometimes in groups, sometimes in series, and rarely singly.

Most of the mounds in the new area are of three distinct types. The circular mounds appear much like greatly enlarged gopher hills and are as much as nine feet above the general surface and are sometimes more than 35 feet in diameter. The linear mounds are some six feet high, 20 feet wide, and some are longer than 200 feet.

It is the "effigy" mounds, however, that are the greatest wonder to archaeologists and laymen alike. These mounds, some exceeding 140 feet in length, 60 feet in width, and four to six feet in height, are designed to represent animals and birds. The principal patterns are those of giant bears and flying birds. For some reason the effigies were nearly always constructed to represent the animals lying on their right sides, and in most instances the heads are pointed downstream.

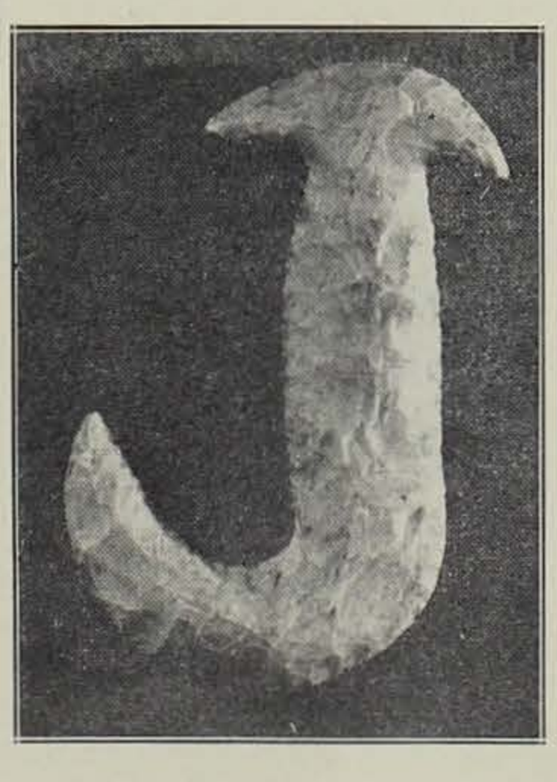
Although there is little known of the mound builders, it is believed that they are ancestors of historic Indians, and it is also believed that at least two cultures are represented by the mounds. Some competent archaeologists believe the oldest mounds were built before Christ, and that possibly some were built after the discovery of America.

The soil from which the mounds were constructed has been taken from the immediate vicinity, and in some mounds evidences indicate that the earth was carried in animal skins and placed in position. Some of the mounds in the Yellow River Area have been excavated, and it is believed that all were burial places.

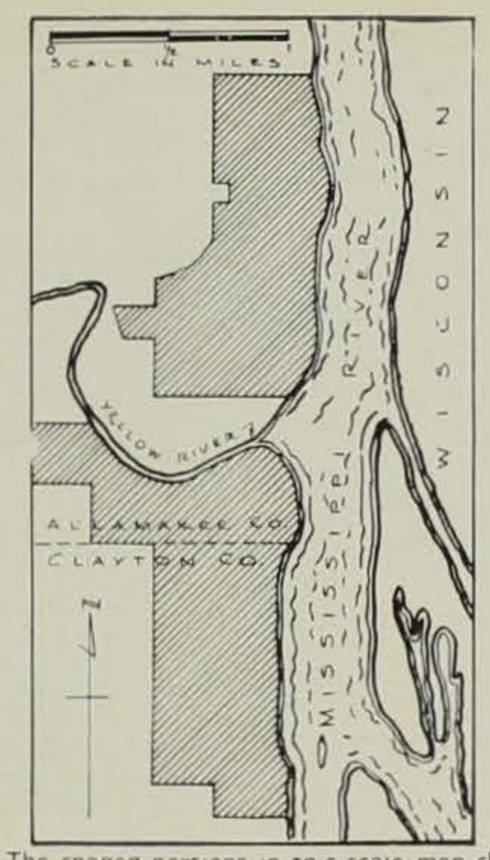
Two types of burials have been discovered, one in which the entire body or bodies of the deceased (multiple burials are most common) were placed on the original surface or a few inches below and then the earth heaped over them. In other instances (the so-called bundle burials) it is believed that the bones were collected after disintegration of the flesh and transported to the mound site for burial.

It is interesting to note that in the "effigy" mounds the human remains are almost invariably found in the same portion of the mound—for instance, in the bear effigies the graves are located in the head and in the heart region. Where skeletons are found in other parts of the mound, it is possible that the mound was made use of as a burial site by historic Indians who lived in the vicinity after the disappearance of the mound builders.

Some of the mounds have been vandalized by souvenir seekers. However, these ancient graves, generally speaking, are not rich in artifacts. The human remains are always in advance stages of disintegration, and arrowheads, axes, pipes, and the like are not abundant. The most important relics found, and rather commonly found, are the remains of "burial pottery". These, however, for the most part, also are fragments.



Ancient fishermen used hooks made of various material, such as bone, ivory, flint, shell, and even thorns of proper shape. This beautiful flint fishhook was found near the Fish Farm Mounds at New Albin along the Mississippi in 1944 by Dale Hemming of Decorah.



The shaded portions in this scale map show the new thousand-acre Yellow River Mound Area.

Although it is primarily to preserve and make accessible to the public the prehistoric mounds, the Yellow River Mound Area is without peer in the Middle West from a scenic standpoint. The valley of the Wisconsin River, where in May, 1673, white man first saw Iowa, may be seen from any one of the new park's numerous overlooks. The broad historic bluff-lined valley of the Mississippi may be seen upstream and downstream for many miles, with its constant and romantic river traffic slowly changing the panorama of the nine-foot river channel. The historic town of Prairie du Chien, Wisconsin, is easily discernible from the park, as well as the mile-long bridge into Marquette.

Through part of the park area the old military road from Fort Crawford at Prairie du Chien to Fort Atkinson in Winneshiek County, Iowa, is deeply rutted and especially interesting where it skirts a series of the "effigy" mounds. It is possible in the future development that one of the park roads to be built will follow the line of the military road, or be built adjacent to this historic travel lane.

Tentative plans have been made for the development of the national monument, and in all probability the mounds on the area which have been vandalized will be returned to their original condition. It is expected that the transfer of title to the National Park Service will be made immediately after the war.

Regardless of what immediate developments are made in the Yellow River mound area, it will be a monument to the wisdom and forethought of those hundreds of conservationists whose long-time drive finally resulted in public ownership; and with the monument held in trust for the public, it does not take a great deal of imagination to see these 2,000-year-old mounds existing undisturbed for many centuries to come.

Preserving Fish

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less their action is checked or destroyed.

The saving of foods from spoilage, important at all times, becomes increasingly important during wartimes or at other times when food shortages threaten. A minimum goal of four and one-half billion pounds of fishery products for the United States and Alaska has been set for the year. It has been estimated that, largely due to manpower shortage, the desired maximum poundage will be reduced by a billion or more pounds.

The harvesting of fish crops whenever possible, and the preserving of all surplus fish over and above the prevailing demand, therefore assumes great significance. Iowa's commercial fish, the carp, buffalo fish and freshwater sheepshead, can be preserved in many different ways in the home, and the products are delicious when properly prepared. Only freshly caught fish in prime condition should be used.

Temporary Preservation While Fishing

The sportsman must bring in his catch in good condition—alive, if possible, in a fish-well in his boat, in a mesh live bag, or in a wooden "live box". He should never permit his fish to slowly smother to death, but rather kill them quickly by removing the gills completely to bleed them.

The camper or overnight fisherman should clean his catch as soon as possible. The Fish and Wildlife Service recommends the following procedure when refrigeration is not available:

Fillet or dress the fish as for baking, washing the body cavity thoroughly. Drain and cover all surfaces with as much salt as will cling to the flesh with careful handling. From 1/3 to ½ pound (½ to 2/3 cup) of salt to five pounds of fish should be used. Pack the salted fish in a basket, box or deep dish. A loose packing of green leaves around and over the fish and several thicknesses of burlap, well moistened and kept moist, covering the basket but not resting on the fish, is useful for lowering the temperature and keeping the fish fresh for 24 hours or more. Before using, the fish are rinsed thoroughly and no salt is added during the cooking.

Refrigeration and Freezing Preservation of Fish

Preserving of fishery products by low temperatures includes the storing of fresh fish at various temperatures above freezing and

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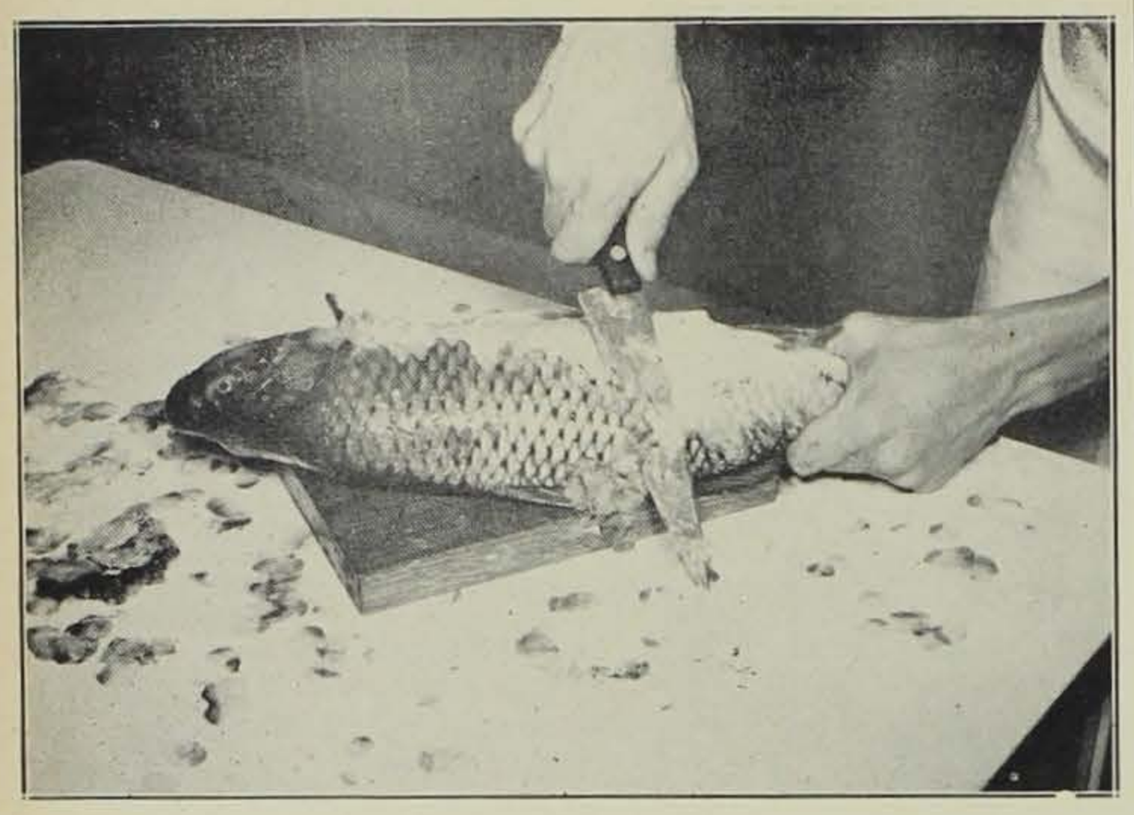

Buffalo and carp have large scales and deep scale pockets and are usually fleeced rather than skinned. Grasp the fish firmly by the tail, insert a sharp knife under the scales, tilting the edge upward slightly. With smooth, saw-like strokes cut off the scales in strips, working forward from the tail.—Iowa State College Photo.

Preserving Fish

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at temperatures low enough to keep the fish solidly frozen. As the temperature is lowered, the action of enzymes as well as the growth of the microorganisms steadily decreases. Very few microorganisms grow to any appreciable extent at the lower locker storage temperatures in frozen fish. However, enough viable organisms remain to cause spoilage quickly after defrosting if the fish are left at room temperature for any length of time.

Gilled, fleeced or scaled and eviscerated fish, wiped clean but usually not washed, can be kept fresh for several days when thoroughly iced and held iced in a covered box with the water draining off as the ice melts.

In the average home fish may be kept fresh in the refrigerator for several days when chilled, well wrapped and stored in the coldest part of the box. In commercial refrigeration, when temperature, humidity and air flow are carefully controlled, fresh fish can be stored for a longer period.

Freezing preservation is the most ideal method for keeping fish fresh for a long period. With Iowa leading all states in the number of locker plants distributed throughout the state, it is possible for many Iowa families to make use of this service and freeze fish for future use.

Canning Of Fish

Salmon, lobster and oysters were the first foods canned in the United States. Canning, established as an industry in this country in 1819, is still one of the most satisfactory methods developed for preserving perishable foods. During processing enzyme action is checked entirely and the microorganisms likely to cause spoilage in the hermetically sealed containers are destroyed or inactivated by the action of the heat.

Home processing can be done at high heat (10 to 15 pounds pressure) in the pressure cooker or canner for a short time or at the temperature of boiling water in a rapidly boiling water bath for a long time. All yeasts, molds and the active or vegetative bacteria are destroyed; the spore or dormant forms of the heat-resistant bacteria that may survive in either method of processing are very likely to remain inactive and harmless if containers are cooled promptly and stored in a cool dark place. These spore-bearing, heat-resistant bacteria, present in almost all foods, are more easily destroyed in acid foods; and the greater the acidity and the higher the temperature, the shorter the processing time required.

Fish are nonacid foods and should be canned at high heat in the pressure canner. The addition of three teaspoons of vinegar or half as much of lemon juice to each pint jar of fish before processing improves the texture and flavor of many fish and aids in the softening of fish bones.

All canned foods should be examined for spoilage before tasting. Bulging sides of tin cans, broken seals of glass containers, gas bubbles, discoloration, softening or deterioration of contents, or sour, foreign, or putrid odors are easily detected. The possible presence of a poisonous toxin produced by any surviving spores of the heat-resistant botulinus bacteria is not always apparent.

Food poisoning from canned foods and especially from home-canned nonacid vegetables, meats or fish does occur occasionally, though very rarely. Since this toxin is made harmless by high heat, all homecanned fish and other nonacid foods should be heated thoroughly for at least 10 minutes, even though the food may show no signs of spoilage.

Pickled Fish

The pickling of fish as done in the home usually is limited to the cooking or processing of fish in a highly seasoned vinegar, lemon or tomato sauce. Unless canned, pickled fish has limited keeping qualities — of several weeks when stored in clean covered containers in the refrigerator or in a cold room. The growth of organisms is retarded or checked, but the organisms are not necessarily destroyed. The spices, condiments and acid used have some preservative action. Distilled vinegar does not darken or flavor the fish and is preferable to cider or other fruit vinegars which contain tannins that may combine with some of the minerals in the fish and darken the flesh.

Practically all food fish are palatable when pickled. With no additional preparation, pickled fish can be used as appetizers, or as the chief protein food on cold or hot plates for luncheon or dinner or in lunch boxes.

Salting And Air-Drying Of Fish

Though one of the oldest methods used for preserving fish, air-drying alone is not practiced extensively in this country because of weather conditions. However, most of Iowa's commercial fish are lean and can be dried successfully in warm and dry climates without the oxidation or rusting likely to occur in fat fish. Drying does not destroy enzymes and microorganisms, but it does retard and check their action.

A combination of salting, either dry or brine-salting, and air-drying requires much less skill and time than air-drying alone. The length of time required for each process depends upon the size of the fish and the weather.

Whether dried on wire mesh trays or hung on racks, the fish are removed at night, stacked in rows and weighted down evenly to press out additional moisture. The cured fish are wrapped in waxed paper, packed in covered light-weight wooden boxes and stored in a cool dry place. Lean fish keep for a longer time than fat fish. Usually dry-salted fish are better keepers than brine-salted. If mold or rust appears, fish are scrubbed in salt brine and air-dried for a day or two. All salted fish are soaked in water before using, the length of time depending upon the cure.

Smoked Fish

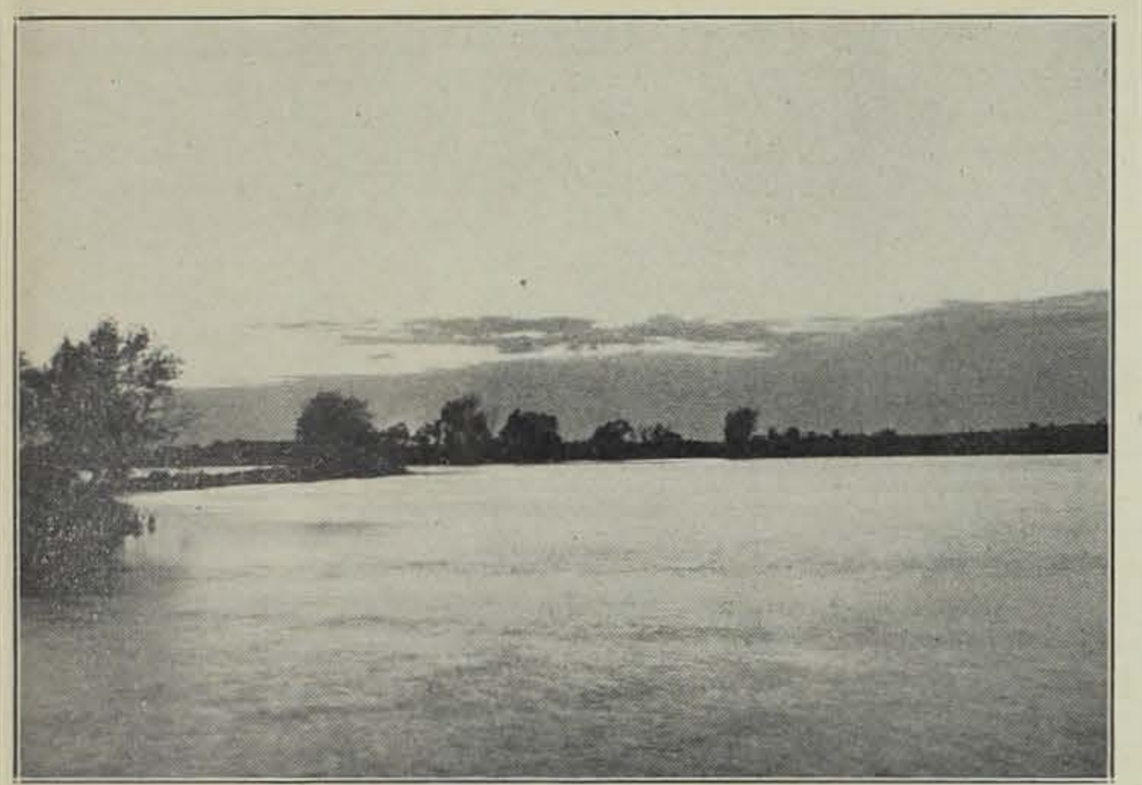
Fish can be smoked easily and economically with simple home-made equipment, and smoking should be practiced much more extensively. When properly prepared, smoked carp, buffalo fish and sheepshead are delicious and will delight many who do not care for them as fresh fish. Smoked fish keeps but a relatively short time. The smoking has been done improperly if fish spoil quickly or are of poor quality. If stored without stacking or wrapping at or about 40 degrees F., well-smoked fish will keep without molding for several months. For the average home, smoked fish are sprinkled lightly with salt, wrapped separately in waxed paper and kept fresh in a cool, dry storage.

Simple smokehouses can be made from scrap items such as discarded culverts or big tiles, metal or wooden barrels placed over pits, or large wooden boxes.

Wood smoke in itself has little if any preservative properties. The smoke colors and flavors the fish. The heat from the fire dries it and, in general, the longer they are smoked the better the keep-

(Continued to Page 70, Column 3)

Surplus fish may be canned at home. The pressure canner is ideal for processing all non-acid foods. However, the pressure gauge should be checked for accuracy and the canner must be operated correctly.—Iowa State College Photo.



At ceremonies July 4, the name of Medium Lake was changed to Five Island Lake.

Medium Lake and Park Renamed and Dedicated

Dedication ceremonies were held July 4 near Emmetsburg, Iowa, in Palo Alto County, for Kearny State Park, a 40-acre recreational area acquired by the State Conservation Commission in 1940. This tract had formerly been known as Medium Lake State Park, and the dedication program included the official renaming of the 991-acre lake adjoining the area from Medium Lake to Five Island Lake.

When Alexander Peddie brought seed of Scotch pine trees from Scotland and planted them on the land that is now Kearny State Park, he little dreamed that this beautiful site would some day be dedicated as a recreational area forever free to the public. He came to this country in 1871 and soon thereafter bought this 40-acre tract on the west shore of the lake, planted many varieties of trees, built drives, laid out fields, and built a large mansion in the natural oak grove overlooking the lake. He named the area "Rutland Park" after his ancestral home in Scotland. The house burned down years ago, but the trees are still there to add to the natural beauty of the park.

Some 50 years earlier, in July, 1820, Stephen W. Kearny, then a captain in the U. S. Army, with about 19 officers and men and an Indian guide, formed an expedition which was dispatched from Council Bluffs to explore a practical route for United States troops from that point north to Camp Cold Water, later called Fort Snelling. They travelled northeast, stopped to eat on this lakeshore, and then proceeded to the northern post.

Later in June, 1835, Stephen W. Kearny, now a lieutenant colonel, was ordered by the War Department to establish posts to the north of old Fort Des Moines at Montrose and explore the land to the north and west. With a detachment of Dragoons, he travelled northward, and on the return route when near the head waters of the Des Moines River they had a skirmish with the Sioux Indians. The expedition then crossed over from the east fork to the west fork and followed the Des Moines River southward. Their journal and map show that the Dragoons traversed the higher land to the east of the river when passing through this part of the country and camped not far from this very spot.

It is fitting that this historic site, rich in the beauties of nature, be preserved for future generations to enjoy through all the years to come and that it be named Kearny State Park in honor of this famous soldier-explorer.

In prehistoric as well as historic times, Five Island Lake, adjoining Kearny State Park, was the "happy hunting grounds" for various tribes of Indians, and the remains of their camp sites, as well as arrowheads and other implements, may be found here. With the advent of the white man its waters still harbored fish and game in abundance and through the years have provided recreation for all who came to its shores.

In 1910 a crisis arose when one of the landowners on the upper lake petitioned the Executive Council of the State of Iowa to drain the lake so its bed could be planted to corn. The citizens of Emmetsburg raised a defense fund and appeared in protest before the Executive Council. They not only objected to the draining of the lake, but insisted that all the lakes of Iowa be preserved for future generations. The petition to drain was denied and the Council indicated that thereafter no more state-owned lakes would be drained. This was one of the pioneer efforts in the conservation movement.

Shortly after this victory the citizens of Emmetsburg formed a "Medium Lake Improvement Company" and purchased a dredging outfit with a 150-horsepower steam engine and a 12-inch centrifugal pump. Several years were spent dredging and deepening the lake at the lower end, building up parks and boulevards, and filling in adjacent marshy land. Soper Park on the south shore of the lake is part of this filled-in area. Over $50,000 was spent by the people of Emmetsburg for these improvements.

In spite of diligent efforts, it has been impossible to discover the origin of the name of this lake, and it seems to have no historic significance. Although unnamed in the earliest surveys of the region, this lake has long been known as Medium Lake. Thinking that the name was not appropriate for such a beautiful and unusual lake, the Emmetsburg Chamber of Commerce promoted a lake-naming contest in the spring of 1944 with the avowed purpose of requesting the State Conservation Commission to re-name the lake with a name of more significance. Over 400 suggested names were received from all parts of the United States, and after due consideration of all the factors involved, the Commission changed the name of this lake from Medium Lake to Five Island Lake.

This water body is five miles long, has an area of approximately 991 acres and contains five wooded islands. First and Second Islands are at the south end and opposite the state park. Third Island, long noted as a picturesque picnic site, is well toward the center. Fourth and Fifth Island, at the upper or north end of the lake, are now included in a 200-acre state game refuge. Much of the shore line is publicly-owned, and it is noted for its beauty.

There are right and wrong ways to put minnows on hooks, too. When fishing with live minnows where holes are deep and no casting is to be done, hook the minnow through the lips or just in front of the top (dorsal) fin. If hooking in the lips, be careful not to set the hook too far back into the lips or the hook will pierce the brain of the minnow.

To make hoppers more attractive, it is best to pinch off their outer wings. This leaves the hopper's bright yellow or red wings showing.

The Old Crappie Hole

by C. H. STEMPEL

Cork on the water,
Peace in my soul,
Sitting, just at sunrise,
By the old crappie hole.

Fishing pal beside me
Hasn't said a word;
Gurgle in his pipe stem
Only sound I've heard.

Bobber hasn't bobbed yet,
Don't know what to say,
Hardly slept a wink last night,
Sure they'd bite today.

Something took my minnow
From my jointed pole;
Told you they'd be biting
At the old crappie hole.

Put another minnow on;
There he goes again;
Haven't had a bite like that
Since the Lord knows when.

There he is on your line
With the yellow float;
See the rascal travel,
Like a motor boat.

Give him plenty line, Bob;
Work him toward the bar.
Darn the luck, it's only
A lousy billy gar.

Cork on the water,
Peace in my soul,
Sitting here for hours
At the old crappie hole.

Haven't had a nibble
Since we caught the gar;
Better beat it home, Bob;
'Tain't so awful far.

What's the use of crabbing,
'Bout our luck, I mean;
When the fish ain't biting
There's no fish to clean.

Better seine some minnows
Down there on the shoal;
Sure to bite tomorrow
At the old crappie hole.

Cork on the water,
Peace in my soul,
Sitting in the twilight
At the old crappie hole.

The "old crappie hole" is an institution in almost every Iowa community.

The Bob-White Quail in Iowa

By GEORGE O. HENDRICKSON

Between 1870 and 1910 the bob-white quail, native in Iowa, were numerous, particularly in southern counties. Then with more intensive agricultural practices the bird decreased in numbers greatly until by legislative enactment the taking of quail was stopped in 1916, and not permitted again until 1933. Less intensive agricultural practices during the latter part of the closed period left additional suitable food, nesting and shelter cover better dispersed than in the early part of the closed season, during and following World War I. During the closed season a very commendable educational program advising the leaving of suitable cover was in action.

The new five-man Fish and Game Commission organized in 1931 early announced its intent to place game management on the principles laid down by the American Game Policy. The fundamentals of the Iowa game plan, which is still in effect, were stated as:

(1) **to build environment so that when adequate seedstock of game exists or is placed it will have a reasonable chance of producing annually surplus crops which may be harvested by the man who likes to hunt,**

(2) **to gain some measure of control over the take so that adequate breeding stocks remain on the land,**

(3) **to build a favorable relationship between the hunter and the landowner so that adequate areas may be kept available to the hunter,**

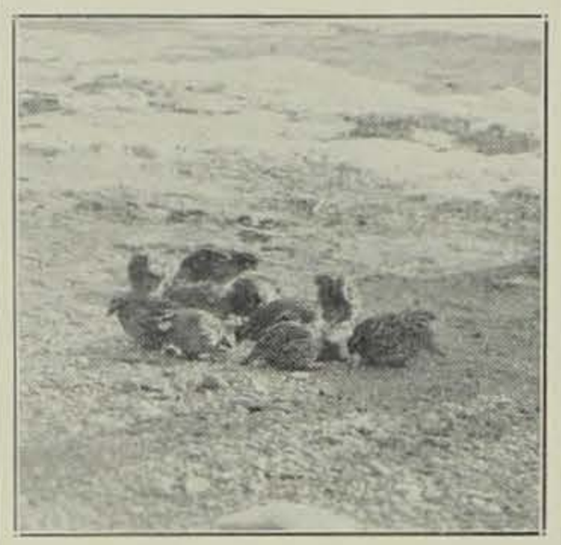
(4) **to conduct research and obtain facts upon which to base recommendations and practices, and**

(5) **to conduct an educational program.**

In accord with these principles the game management area plan was started. Each area comprised the land of one or more farmers, organized nearly always in cooperation with a sportsmen's group that aided in cover improvement, and with the support of the Fish and Game Commission to advise and assist in the work and to enforce the control measures instituted.

Shortly after its organization the Commission arranged a research and educational unit with the cooperation of the Iowa State College of Agriculture and additional financial support contributed by J. N. Darling for a three-year period.

In the fall of 1933, after a preliminary survey of all areas, 14 of the best quail management areas were selected for experimental shooting. A careful quail census was made on these management areas before the open dates for shooting to determine the surplus of birds present. It was then decided to shoot various percentages of the quail stock present on the different areas in order to determine which percentage of seedstock left after the harvest of wild game would bring back the best quail population the following year.



Bob-white quail are more numerous than 25 years ago and, in spite of open seasons, are safer than ever before.—Photo by R. E. Sloan.

The number of permits was very low as each area was opened for only a limited number of days and for only a few hunters per day. These permits were issued through the Commission's central office in Des Moines. The number of hunters was determined according to the number of birds on each area as ascertained by a pre-season census, and a daily bag limit of six birds to a hunter was set by the Commission.

When the areas had been established, one of the most conservation-minded farmers was selected by the others as the key farmer or leader. This leader's farm was made the entrance to this particular quail management area during the open shooting season, and every hunter wanting to share in this experiment was required to enter through this man's farm, showing his permit to do so. At the close of the day's hunting, he was again required to go to the leader's residence, allow his day's bag to be checked, and furnish the deputy game warden in charge with certain data. Each quail shot was banded with a non-reusable band.

A deputy warden and an auxiliary field man were assigned to each area opened for shooting. One of the men patrolled the area to see that no one entered without a permit to do so and to see that they did not enter at any point other than the designated entrance. The other man worked with the key farmer to see that the proper permits were presented and at the close of the day's hunting entered the collected data in a journal which was forwarded to the central office. This information was to aid the Commission in determining the future quail shooting policy. The method was somewhat inconvenient to the hunters, of course, but they cooperated splendidly. On the 14 areas of 24,252 acres 541 hunters flushed 11,145 quail in 799 coveys and bagged 1,396 birds with an unretrieved loss of 386 quail.

The quail regulations opened the next season, 1934, from October 15 to November 15, both dates inclusive, on certain Class A game management areas. Shooting was not permitted on any two consecutive days, nor was more than 40 per cent of the quail population to be taken from any area open to the shooting of quail. The bag limit was six birds a day. Hunters obtained tags from farmers on areas open to shooting. The tags, supplied by the Commission, were to be placed on all birds shot, the farmer retaining the stub from the tag. These stubs were mailed to the central office at the close of the season.

In 104 opened areas containing 257,833 acres in 24 counties 17,458 tags were issued, and returned stubs indicated a known take of 1,749 birds. It was difficult for hunters and dogs to flush birds because of the hot weather and the dense green vegetation.

In 1935 the quail season was open 30 days later, from November 16 to December 10, on certain Class A game management areas on which the quail population was not less than one bird to six acres. Shooting hours were from 8 a. m. to 4 p. m., and the daily bag and possession limits were

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Preserving Fish

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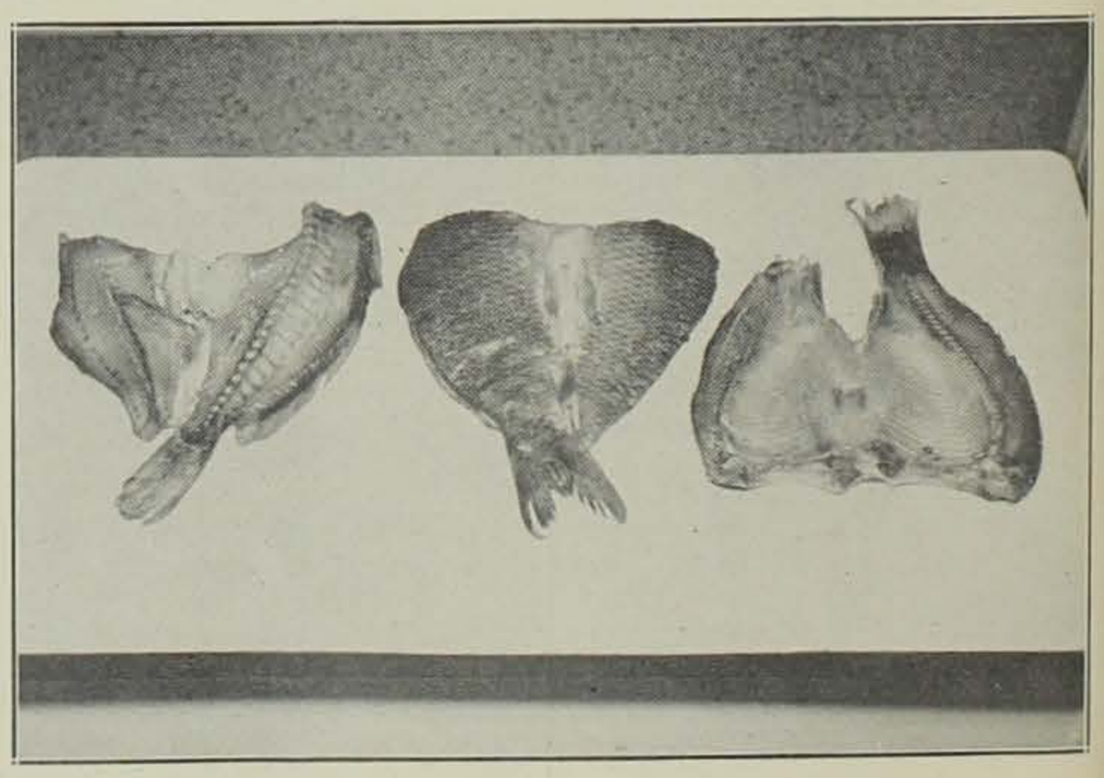
ing qualities. Almost any non-resinous wood such as oak, hickory, maple, birch and alder may be used. Sawdust and chips smoke and smolder slowly. Corncobs flare up and burn out quickly and require close watching.

The prepared fish may be given one of several treatments: a dry salt, a spiced salt brine, or a salt brine cure. The length of time for curing depends upon the size and thickness of the fish, the preference for light or heavily cured fish, and the length of time the smoked fish are to be held. For color and finish the fish must be dried until a pellicle or skin forms over the surface before smoke is applied.

Two general methods are used in smoking fish. In cold smoking the fish are smoked over a low, continuous smoldering fire with the temperature below 90 degrees F. for various lengths of time. The drying action of the prolonged heat removes much moisture from the fish. Cold smoked fish have to be cooked before they are eaten.

Hot smoking or barbecuing, as it is sometimes called, cooks the fish, and they can be eaten cold with no additional cooking, or they may be steamed or heated with butter and eaten hot. Hot smoking can be done in one of two general ways. By a combination of cold and hot smoke, the fish are usually smoked at a smoldering fire with temperature at or near 90 degrees F. for about 12 hours; then the fire is increased until the temperature is between 130 degrees and 150 degrees F. and the smoking is continued for about three hours, or until the fish have a glossy brown surface. Or the fish may be smoked with continuous hot smoke for about five hours, with temperature at 130 degrees to 150 degrees F. the last half of the smoking period.



Iowa's so-called rough fish are delicious when smoked. These carp are split and ready for the smokehouse. They should be smoked with the scales left on.—Iowa State College Photo.

Frank Powers Tells of "Iowa Twenty-five Year Conservation Plan"

I wonder how many readers of this column remember what the "Iowa Twenty-five Year Conservation Plan" is, or have ever heard of it at all. I have been perusing it for the past several weeks and can tell you that it is one of the most comprehensive layouts imaginable. When that plan was adopted it covered the conservation subject in a most thorough manner, and it is the envy of a good many of the states where such a plan is not being followed.

In March, 1931, the general assembly adopted a joint resolution, approved by the governor, instructing the State Board of Conservation and the State Fish and Game Commission to collaborate on the preparation of a long term conservation plan and program. While every branch of the state government is obviously concerned, particularly such departments as those of agriculture, forestry and public health, nevertheless, the two agencies named in the resolution were deemed best to cover the fields not otherwise well covered, and to coordinate all the projects into one plan which they and other agencies, both public and private, could use as a guide.

The resolution reads, "such plan . . . when completed and approved by the State Board of Conservation and the Fish and Game Department, subject to the approval of the Executive Council, shall constitute a definite and well-ordered twenty-five year budgeted program . . . toward which the various funds available for conservation in Iowa . . . may be concentrated and spent in orderly and scientific development of the natural resources, recreational areas and park systems of the whole state. . . "

In making the original survey for the plan, 40,000 miles of main route driving and flying were covered. If you look at the map showing the routes covered, it looks like a maze of wiring in the back of a radio or such. Questionnaires numbering 12,000 were distributed among Iowans, and from these questionnaires 2,000 points were studied and examined for various purposes. Some for hunting, some for game refuges, fishing, parks, recreational areas and such.

The historical background of the state was delved into, starting with the state in geologic time, on down through Indian life and then the white man's era. All of this was known to have a distinct bearing on any sound conservation plan.

Other things came in for consideration such as the land in Iowa, the landscape, the people and the future population, the population drift in the state and life in the state as related to conservation.

Next the subject of the conservation of Iowa's soil is covered. Soil waste and erosion, the importance of control and the measures for erosion control are taken up.

The conservation of Iowa's waters comes in for considerable discussion in the plan. The following is taken from the chapter on the conservation of waters:

"Iowa's rivers are of outstanding value for water supplies, for sewage dilution, for fishing, for waterfowl and other wildlife, for swimming and boating, for stock watering, for navigation (on the two big rivers), for hydro-electric power, for sand and gravel, and for the pleasure they give in the Iowa landscape and particularly where the people can find recreation near them.

"It is impossible to say which are the more important uses. The conservation problem is to devise a balanced utilization of these waters, so that each legitimate use may take its proper place along with the others."

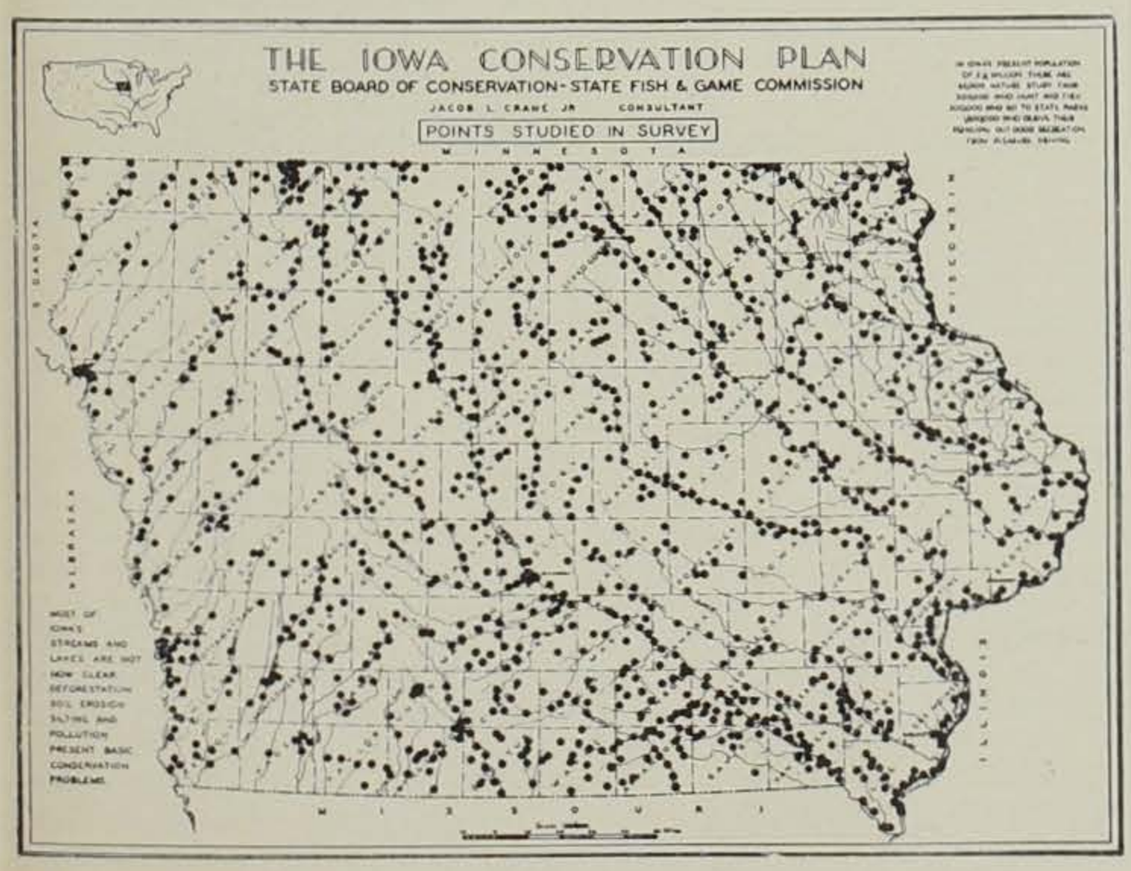
All the lakes in the state at the time the plan was adopted were visited and the needs of each definitely established in the plan. These are being taken care of as rapidly as funds permit. Public access to the shores of these lakes has been and is being obtained as rapidly as possible.

Most of you know some of the work that has been done in the creation of artificial lakes, and this work will no doubt go on if more suitable sites are found.

The two things most people are familiar with are the fish and game propagation part of the program. A visit to one of the state fish hatcheries will convince you that this part of the plan is progressing admirably, and the past year should have convinced all hunters that the upland bird propagation is more than holding its own. The originators of the plan and the able advisors and counsellors with whom they had associated did not have a very optimistic viewpoint on this particular phase of the program. Not one of them, I am told, would have guessed that we would have a 37-day open season in Iowa on pheasants, nor 45 days open on quail.

Woodlands and state parks are well covered in the plan.

I know this all seems quite droll and humdrum to you, but I have felt for some time that I would like to bring to you some of the potent parts of this twenty-five year plan. Those in charge of administering it are mighty proud of the things that have been accomplished, and especially so when they are complimented so highly by conservation people from other states. All Iowans should rightly be proud. It's your plan and being carried out in your state. The different boards of conservation and the fish and game commissions, from the first ones on down, are the ones who are administering the plan for you, receiving no compensation other than the satisfaction of seeing the thing develop from a plan in a book to a complete realization.—Frank Powers, Cedar Rapids Gazette.



During preparation of the Twenty-five Year Plan questionnaires numbering 12,000 were distributed, and 2,000 points of interest were examined and studied for various conservation purposes.

In baiting worms for bass, hook the worm through the middle and thread for about one inch, allowing both ends to be free to wiggle.

Bob-White Quail

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set at eight birds. In order to encourage quail hunting further, the Commission passed a regulation permitting quail to be taken on lands other than regularly established game management areas in the following manner: landholders having a shootable surplus of quail on their farms could make application to the Commission to have their farms open to quail shooting during the regular 1935 open season. If, after investigation by a Commission representative, it was found that there was a shootable surplus of quail, the Commission issued a permit to the applicant to open the farm to hunting. He was also supplied with a trespass permit book of the type used on all regularly established game management areas and with cardboard signs reading as follows: "Hunting Permitted on This Farm with Written Permission of the Landholder. State Conservation Commission."

A written trespass permit issued to the hunters by the farmers sufficed as a permit to have quail in possession in 1935. From the 379 areas open to quail hunters, other than the regularly established game management areas, a total of only 37 report cards showed 422 quail taken by 193 hunters on the 37 areas, although it was known that many more birds were taken than this report indicated.

Nevertheless, the experimental shooting in the 1933, 1934, and 1935 seasons definitely proved that quail could be shot by the hunters and still leave the coverts filled to the maximum winter carrying capacity. A survey of the reported experiences of hunters and farmers and of the high costs to the Commission pointed definitely to the need of a simple, practical program that could be handled by the farmers with the help of the sportsmen and without expensive supervision.

The first three-year cooperative wildlife management research at Iowa State College directed the experimental quail shooting program, and the members assisted with censusing, cover evaluation, interpretation of data and the educational program. Late in 1935 the newly enlarged seven-member Conservation Commission set up several experimental game management areas in cooperation with the U. S. Bureau of Biological Survey, the American Wildlife Institute, and the Iowa State College.

The period 1934 to 1940 had two very dry summers and three severe winters highly unfavorable to quail production. But these misfortunes were turned to good by the research workers who with the assistance of con-

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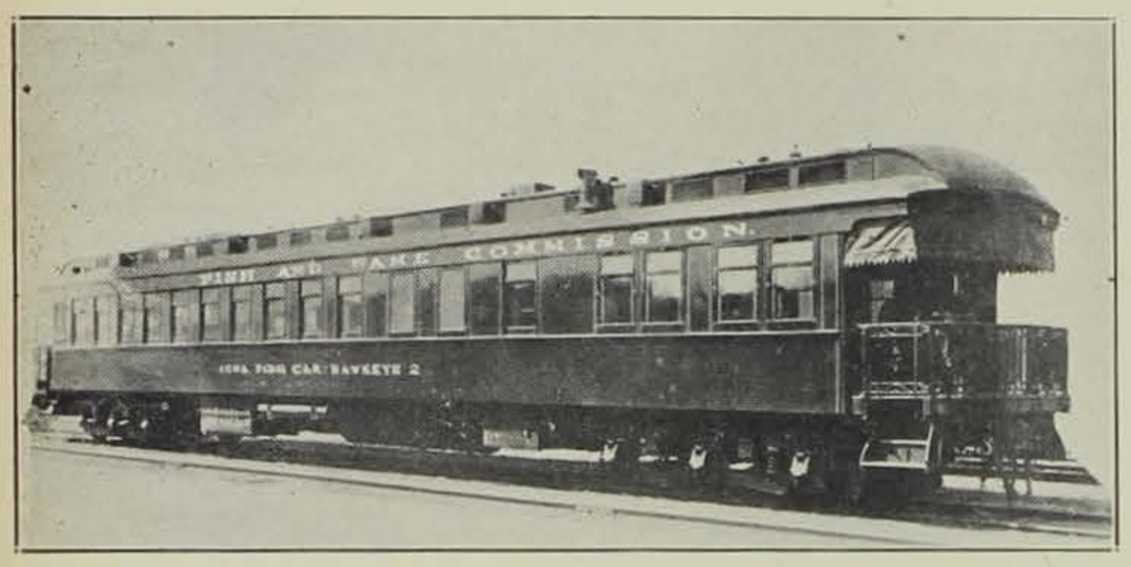
On Its Way to Tokyo . . .



Iowa's famous fish car, Hawkeye No. 2, was built for the State Fish and Game Department in 1913 especially for the transportation of game fish to stocking points throughout the state.

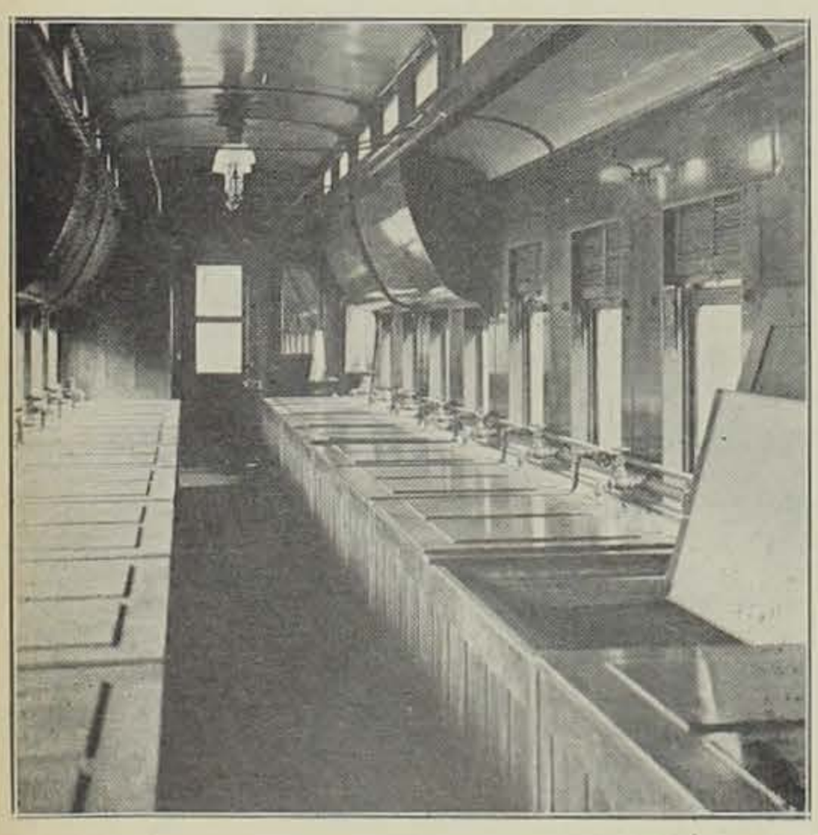
A Pioneer Passes

Iowa's famous pioneer fish car, Hawkeye No. 2, is to be scrapped, and in the near future the steel in its heavy carcass will be on its way to the war via the scrap route. The Hawkeye, a special railroad car, was built for the State Fish and Game Department in 1913 at a cost of $12,500 to haul live game fish from Sabula and Lansing on the Mississippi River to the inland lakes and streams for stocking.

The fish car contained 20 large steel tanks in which the fish were held and, in addition, was outfitted with eight berths, an office and a galley. Aeration of the tanks was accomplished while the car was attached to the train from the air line, but while on the siding it was necessary to man the pumps by hand. In later years an automatic pumping system was installed. The car's normal crew was five, and during its 20-year lifetime as a fish transport it travelled thousands of miles on every railroad line in the state. The car was hauled by the railroads for 10 cents per mile, and it delivered millions of fish to Iowa's angling waters in every corner of the state.

When fish stockings were made, the game warden at the stocking point was notified, and he met the train at the station with a caravan of farm wagons loaded with water-filled stock tanks. The fish were transferred from the fish car tanks to the farm wagons, and at an average three miles an hour the wagons jolted slowly over Iowa's dirt road system to the stocking point. Oftentimes when the car arrived with a load of fish, it was met not only by the warden with his farm wagons, but also by the city fathers and the town band. The arrival of a load of fish was a gala occasion in the days before fisheries trucks.

With the good roads program and the advent of motor trucks, the Hawkeye was succeeded by fleets of fisheries trucks, and the famous fish car was retired at the Spirit Lake fish hatchery in 1933, where its equipment was removed and where for a number of years it served as a storage building.



Game fish were transferred at the siding from the fish car's steel tanks to stock tanks on wagons and hauled by team to the stocking point over Iowa's dirt roads. — Photo courtesy of Geo Cooper.

Bob-White Quail

(Continued from Page 70)

servation officers, farmers, and other sportsmen gathered invaluable information on carrying capacities of various types of cover and on reproductive rates. They found that additional substantial shelter cover such as trees at gullies, woodlots, and farmsteads was needed in severe winter weather and that food patches of sorgnum and corn should be planted close by for winter use. They learned that quail increased at a rate as high as 456 per cent from moderately low seedstock in a favorable summer where the high land carrying capacity permitted. Very detailed investigation of the food habits of predators such as fox and great horned owl showed them **not responsible for losses in coveys well-situated in regard to protective cover and food.** Also, the research workers devised a simple quail covey range census sampling device to be used by conservation officers in estimating quail populations on a county-wide basis. An enlarged educational program, together with agricultural adjustment practices and soil building methods, tended to increase the shelter cover and food for the bob-whites, which increased markedly over wide areas when seasonal weather was favorable.

The fall, 1936, quail census by conservation officers showed 1,290 birds on 128 covey ranges in the southern counties. The finding of bob-whites in 80 per cent of the ranges gave assurance that a hunting season could be opened safely. Hence, the Commission, after demonstrating that a shooting season on quail could be opened and yet save a sufficient seedstock to repopulate all suitable ranges, opened all farms, where the land operator's permission could be secured, in 20 counties for a 30-day season, and without any compulsory tagging or reporting.

The general weather and cover conditions in 1937 were more favorable to bob-whites than in 1936. Censuses at 103 typical covey ranges accounted for 1,350 bob-whites, and 90 per cent of the ranges were occupied. Additional obesrvations made during the fall and early winter sustained the census findings and confirmed the indication of a greater population than in the previous year. But legal complications made it necessary for the Commission to open 30-day seasons in only 12 counties in 1937 and 1938.

For the autumn, 1939, with legal restrictions removed and census figures showing a harvestable surplus, 19 counties were open to quail hunting for 30 days.

During the biennium ending June 30, 1940, the Commission distributed 1,852 quail from its newly established game farm adjacent to Ledges State Park. In conjunction with an intensive educational campaign among adults and youth, these quail were released in vacant ranges in counties bordering the better quail area. Sportsmen groups, under the direction of the local conservation officers, carried out the planting program.

By 1940 the quail educational and action programs throughout all suitable counties were in full swing in schools, youth organizations, and adult farmers' and sportsmen's groups. Economic, agricultural, and weather conditions were favorable. During the biennium ending June 30, 1942, 10,483 quail were distributed to be reared and released at suitable vacant covey ranges, chiefly in border counties of the quail section. This program is continuing at the present time.

Thirty-day seasons were open in 19, 24, and 31 counties in the autumns of 1940, 1941, and 1942 respectively. In 1943, 35 counties were open to the 45-day quail harvest, including Polk County, and without unfavorable comment. More farms are opened each year to hunters, who are multiplying in numbers, and the use of bird dogs is increasing tremendously.

It is not necessary in this article to state the number of quail taken, number of hunters participating, and related information for the past four years, for they have been supplied regularly through news releases and articles in the "Iowa Conservationist".

Although an intensive production schedule has been set for Iowa farmers on good land during the present war, the marginal lands of southern counties which produce quail in largest numbers are not being pressed into as heavy use as in the World War I period. Consequently, good food and cover conditions continue for bob-whites there. Should weather conditions arise to cut down quail production despite man's assistance in cover construction and feeding program, the Commission will modify or close the open seasons after careful inventory of the quail population and environmental conditions.

Both farm and town folk are now well acquainted with the measures necessary to have and keep quail in this state and how the quail fits into the long-time economic and cultural welfare of the state. Our people can be depended upon to support the Commission in its findings and regulations, and to rally to the care of the bob-whites should emergencies arise. The bob-white quail are more numerous than 25 years ago and certainly are safer now than ever before in Iowa.