

IOWA CONSERVATIONIST

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Annual Take Of Fur Bearers Soon to Begin

Soon thousand of Iowans will be scouring the fields, streams, and marshes for fur bearer signs, and the annual fur harvest will be under way. Last year the efforts of our trappers resulted in 979,315 pelts reaching the nation's fur markets.

Not only does Iowa produce furs numbering into the millions, but contrary to popular belief, our furs are of the highest quality. Especially is this true of muskrat, which in numbers and dollar value exceeds all other pelts.

To those poor unfortunates who have never experienced the thrill of "stringing steel", the hardships and physical punishment that the trapper endures even in these days of television and airplanes seem a little on the nutty side. Be that as it may, trappers as a group are the most impatient of all the outdoor enthusiasts for their season to open so that they can test wits with the fur bearers and match their ruggedness against the weather, fatigue, and pneumonia bugs.

Ask any trapper what about the game most interests him, and he promptly replies, "The fur check," and undoubtedly profit is the impelling motive without which few of the fur animals would be trapped, even though quite a number of them are edible. But in addition to financial rewards, which in the case of some professional Iowa trappers total three or four or more thousand dollars annually, every follower of the trap line experiences all the thrills and healthful recreation common to the sports of hunting and fishing.

The fur take during the past
(Continued to Page 75, Column 4)

Iowa Plans Comprehensive Postwar Conservation Program

Strip Tease

Eternity was just a pup
When nature pulled the curtain up.
Cave man, Persian, Greek and Roman
Knew her as a master showman;
Paul Revere and Bonaparte
Marveled at her cosmic art;
And the lady has a way
With her audience today.
Strip-tease connoisseurs will please
Take a seat among the trees;
Nature now presents October,
The world's most colorful disrober.

—Ogden Nash, in The Forest Log.

The Versatile Musquash Makes a Delectable Dish

By ANNA MARGRETHE OLSEN

Small aquatic fur-bearing mammals called muskrats, musquash, or any of its closely related Algonquian derivatives, have played a significant part in the life and development of North America. Histories, as well as the literature of this country from the days of the Colonists to the present time, contain numerous references to both musquash and muskrat, used interchangeably, and frequently together. As early as 1616 Smith in his history of Virginia called these mammals "mussascus or muskats", and described them as "beasts of the forme and nature of our water rats, but many smell exceedingly strongly of muske". Another early historian, Jossetlyn (1672),

says, "There is a little beast called a mushquash—their cods scent as sweet and strong as musk." In Carver's Travels (1778), one reads, "The musquash or muskrat is so termed for the exquisite musk which it affords." The very early recognition of the economic value of the musk and fur is a matter of record. Silke-wormes' Observations (1620) contain the following: "Muske-rats skins, two shillings a dozen; the cods of them will serue for good perfumes." And again one finds in Lawson's History of Carolina (1714), "Musk rats frequent fresh streams and no others; as the bever does. He has a cod of musk which is valuable as is likewise his fur." In Alsop's Mary-

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Director Schwob Makes Report to Commission

By F. T. SCHWOB, Director,
State Conservation Commission

(Editor's Note: The following is from Director Schwob's report to the Committee on Conservation of Resources of the Iowa Postwar Rehabilitation Commission, August 7, 1944, at the Statehouse in Des Moines. The report parallels and augments the wildlife and recreational program advocated in the Twenty-five Year Conservation Plan adopted in 1934 and being carried out under the direction of the State Conservation Commission.)

Other major reports on conservation to the Rehabilitation Commission at this meeting included: soil conservation, by Clyde Spry, Assistant Secretary of Agriculture, and Frank Mendell, Director of the Soil Conservation Service in Iowa; and public health and sanitation, by A. H. Wieters, Director of Sanitation and Public Health Engineering, State Department of Health.)

Soil and water conservation is the fundamental basis upon which our wildlife and recreational programs must depend for success. The future of agriculture, industry—in fact, our entire economic and social structure—can survive and prosper only if we conserve our soil and water resources. It is important that, at the close of the present conflict, conservation of natural resources be recognized as the most important problem facing the American people.

As we study the complexities of providing outdoor recreation, we find that to obtain maximum

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was around \$385,966.00. For an interesting and informative account of the daily life and habits of the musquash or muskrats, also as to how they are trapped, read the article in the Iowa Conservationist for October 15, 1943, on "Under-Ice Trapping for Muskrats, Most Valuable Fur-Bearing Animal", by Frank Tellier and Glen Yates, conservation officers.

Musquash Versus Muskrat as A Food

The following adage, "Certain names always awake certain prejudices", applies, beyond doubt, to the name muskrat in any effort made to reestablish the use of the flesh of this animal as a food. The fact that the musquash or muskrats belong to a large group of rodents including mice, rats, beavers, rabbits, squirrels, and porcupines, and that they have slightly webbed hind feet and long, narrow, rudder-like tails, particularly useful in swimming, does not make rats out of them. They possess strongly developed instincts for self preservation. Sites for their houses are chosen in or near marshes, on lake edges and in creeks and shallow rivers. The houses are built to offer protection from extreme cold, floods, droughts, and predatory weasels, minks, red foxes, raccoons, owls, and the like. Their fierce or pugnacious natures make them good self defenders on land. They are clean in their habits and keep their homes clean. The marshes are their storehouses the year round, providing them with most of their foods such as three-square sedges, rushes and cattails; the stems and leaves are eaten during the summer, and the roots and root stalks in the winter. They can be destructive to nearby rice and cornfields and vegetable gardens.

Nor do they scorn animal foods such as slowly moving fish, turtles, mussels and crabs.

The Musquash Has Been And Is Used as A Food

The flesh of the musquash or muskrat was eaten and relished by the Indians and early trappers and woodsmen. Colonists soon learned to cook them with corn, Indian style, eat them and like them. Roasting them over the glowing coals of campfires was one of the most popular methods of preparation used by professional trappers, hunters and voyageurs. In Thoreau's Maine Woods (1848), one learns that the "musquash are their principal food on these expeditions". Dried musquash meat was used for winter food by the Indians and traders.

The native Indians of this country used game and fur animals only for essentials—not for the fun of hunting. As settlers arrived and civilization progressed, the attitude toward game gradually changed, with increasing emphasis on the use of game largely for recreational purposes, and with little or no thought to the food value of the kill and its conservation. The use of many of the small fur-bearing animals as food gradually declined until it was practically discontinued.

Within the last 40 or 50 years efforts to revive interest in these mammals as desirable foods have met with variable success in the different states. States such as New Jersey, Pennsylvania, Delaware, Maryland, Virginia, Michigan, and Louisiana have succeeded fairly well in reestablishing the musquash or muskrats, also called marsh rabbits or marsh hares, as food. For the last 36 years or so they have been sold extensively in some of the mar-

kets in the larger cities. The demand for them during the trapping season, which extends usually from November to April, frequently exceeds the supply. They are sold as marsh rabbits; however, no attempt is made to conceal the fact that they are muskrats. Featured at church dinners and banquets for various organizations and clubs, the musquash has become known to many and is bought and eaten by all classes of people in these states. As the musquash are trapped for their fur, the meat can be prepared for the market with little additional labor and, therefore, sold cheaply.

Musquash As Food in Iowa

Iowa has a wealth of wildlife, including native fish. The state is following a definite program to acquaint Iowans with the life and economic value of each kind of wildlife. To arouse an interest in the food value of wildlife in general and to stimulate the use of many of them in the diet has been the purpose of a special study in progress this last year at Iowa State College. The Fish and Wildlife Service of the U. S. Department of the Interior, The American Wildlife Institute, and the Iowa State Conservation Commission are cooperating in this project. The work is being done under the direction of Dr. George O. Hendrickson, Assistant Professor of Entomology and Economic Zoology, and Dr. P. Mabel Nelson, Head of the Food and Nutrition Subsection of the Home Economics Division, and recently appointed Dean of the Division to succeed the retiring Dean, Miss Genevieve Fisher. The writer of this article is in charge of the study. All products prepared in the laboratory were scored on aroma, flavor, and texture by a panel of staff members chosen from the different divisions sponsoring the project. From six to 12 scored the different musquash dishes. The discussion and recipes that follow are based on the findings and high scores of the panel.

The musquash is one of the most numerous and valuable fur-bearing animals of the state. Several months have been devoted to the cookery of this game. Approximately 100 musquash or muskrats were sent to the College in two different consignments, shortly after the opening of the trapping season in November. They had been skinned, drawn, cleaned and were in good condition. Each one in the first lot was coated with a covering of ice to protect from excessive drying out of flesh, then sharp frozen and stored in an individual locker in the College locker plant. In the second lot each one was wrapped in waxed paper before freezing. There was no apparent difference in the keeping quali-

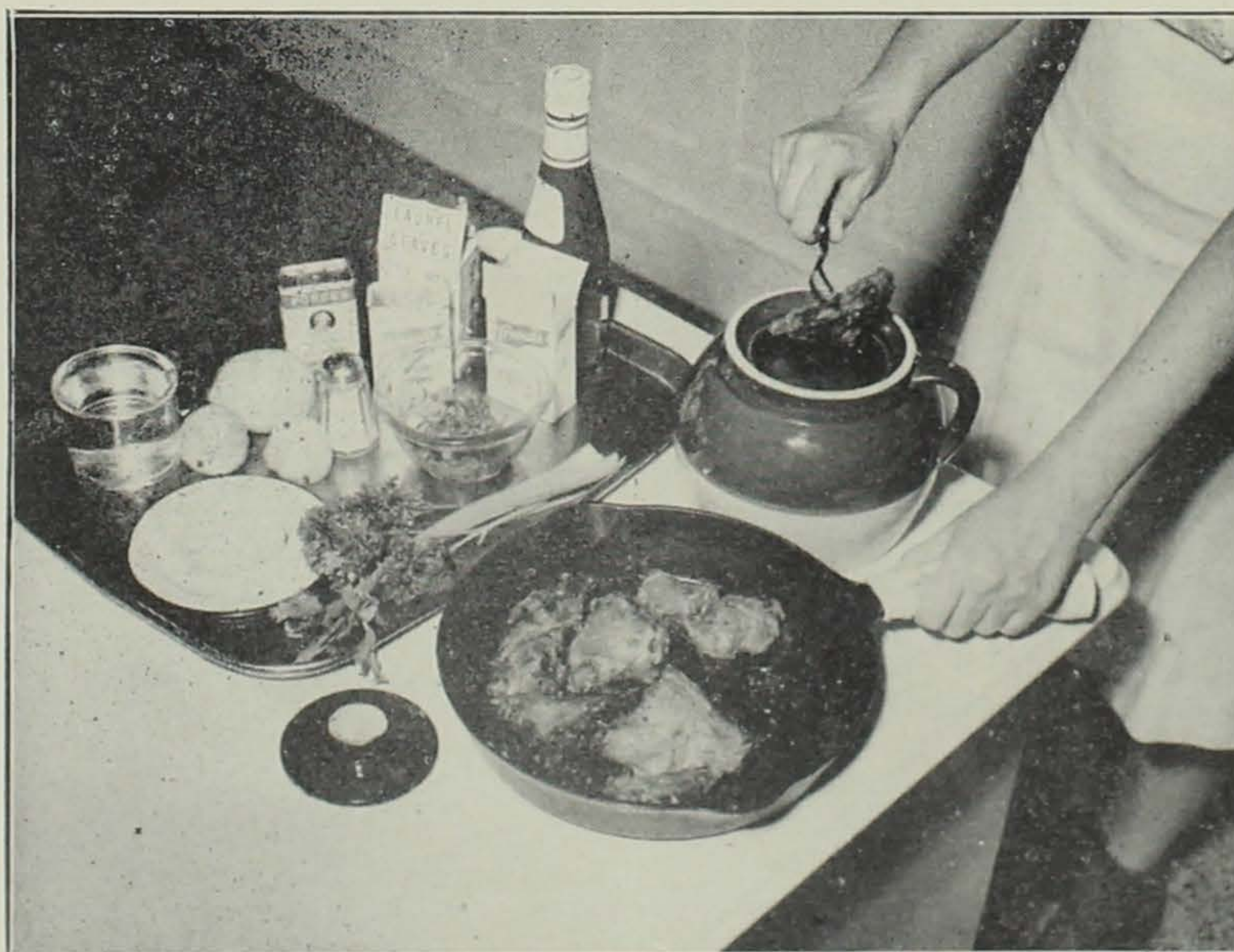
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The Versatile Musquash

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land I (1666), the Indians are given credit for making "furs and skins of beavers, otters and muskrats vendible, and selling them to the inhabitants."

The development of the fur industry in this country has been rapid. During World War I fur workers were brought here from Europe to work on the crude skins. Today America is the greatest producer and consumer of furs, and the musquash or muskrat is the leading fur-bearing animal. About 17 million pelts of musquash are said to be taken annually. Iowa averages from 263 to 350 thousand per year. With the average value of a pelt at \$1.47, the net returns to Iowa trappers in the 1942-43 season



Jugged Musquash. Old but new. Don't let the tray full of ingredients frighten you. They are listed in the recipe and you'll like the combination when served to you right out of the jug. Cookbooks dating back to the sixteenth century feature jugged meats of various kinds.—Iowa State College Photo.

Postwar Program Planned

(Continued from Page 73)

results the recreation program must be correlated with and become a part of a comprehensive land and water use plan in which all use of these resources is dovetailed into an all-inclusive plan, providing an equitable distribution of benefits to all. Such a plan must include agriculture, forestry, flood control, hydroelectric power development, public water supplies, public health, manufacturing and industries, recreation, navigation, and all other interests.

The Conservation Commission's postwar program is to be a continuation of the Iowa Twenty-five Year Conservation Plan, revised and extended in the light of experience and changing conditions.

The Commission recommends the following schedules, which

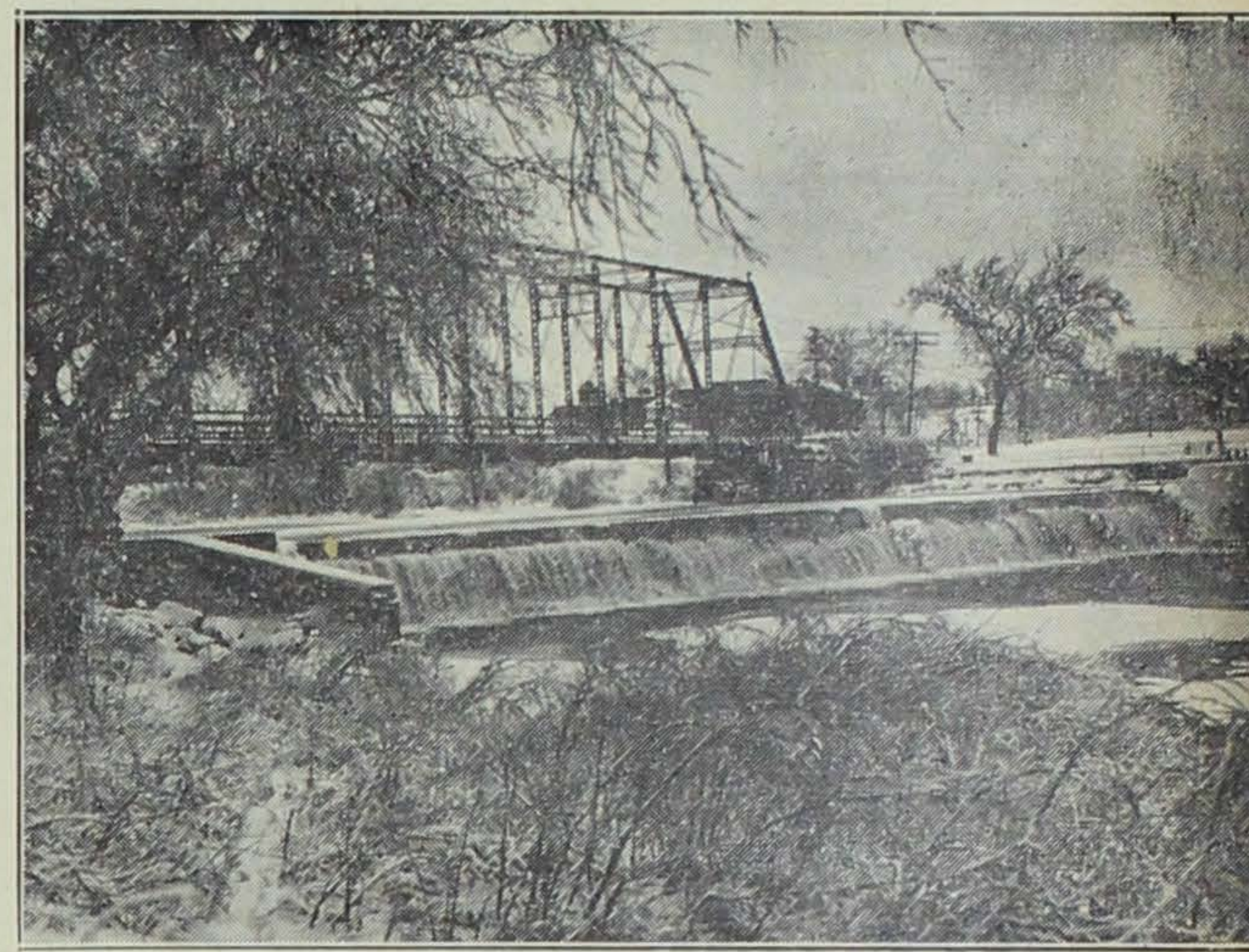
will definitely improve conditions for wildlife and recreation and which in the opinion of the Commission augment and are in harmony with other phases of an all-inclusive conservation plan.

This proposal is presented in two parts, the first relative to areas already in state ownership, the second covering various extensions of the program. These plans include research, surveys, planning, acquisition and development of land and water areas for recreation and forests.

The outline and estimates for work to be done on areas already in state ownership are shown in Table A.

This \$7,147,650 program should be carried out as fast as funds are available. If recent revenues from hunting, fishing, etc., licenses can be maintained, \$250,000 per year can be provided from this source for the fish and game part of the program. The

In providing maximum opportunities for outdoor recreation the State Conservation Commission is convinced that the recreation program must be correlated with and become part of a comprehensive land and water use plan that provides equitable distribution of benefits to agriculture, forestry, recreation, navigation, power development, public health, water supplies, and all other interests. From a narrow viewpoint, industrial developments, such as power dams, are sometimes of great benefit to recreation, and other times these developments may be disastrous.



balance must come from legislative appropriation.

Costs over five-, 10- and 15-year periods for the first part of the plan are shown in Table B.

The second phase of the plan is the extension conservation program. Included in this program are purchase and development of 500,000 acres of unproductive marginal land for state forests and rehabilitation; construction of 50 multiple purpose artificial lakes; acquirement of 10 state park and preserve areas; and purchase of public access on 2,000 miles of the best fishing streams.

This program can be accomplished as fast as and with whatever funds are provided. Labor and cost estimates are shown in Table C.

Table A
DEVELOPMENT ON AREAS IN STATE OWNERSHIP

	Estimated Man Days of Labor Provided	Labor Costs	Material & Equipment Costs	Total Cost
FISH & GAME				
Surveys, plans, buildings, roads, bridges, water supplies, fish screens, fishways, fencing, stream improvement, riprapping state lakes, outlet control dams, habitat improvement, etc.	265,160	\$1,325,800	\$ 674,200	\$2,000,000
DREDGING PROGRAM				
Dredging 28 lakes—3,914 acres	167,000	835,000	1,670,000	2,505,000
STATE PARKS & PRESERVES				
Development on present state areas: Roads, bridges, power lines, buildings, sewage systems, water supply, fencing, dams, timber improvement, landscaping, erosion control, etc.	205,650	1,020,250	248,150	1,268,400
STATE FORESTS				
On existing forest areas: Roads, bridges, fire trails, fencing, timber stand improvement	174,850	874,250	90,000	964,250
SURVEYS & MAPPING				
On state-owned areas: State lakes, marshes, and land to determine high water and property lines	37,500	365,000	45,000	410,000
TOTALS	850,160	\$4,420,300	\$2,727,350	\$7,147,650

Table B
DEVELOPMENT WORK ON AREAS NOW STATE-OWNED

CONTRIBUTING AGENCY	Over 5-Year Period		Over 10-Year Period		Over 15-Year Period	
	Per Year	Total	Per Year	Total	Per Year	Total
Fish & Game per Year (Hunting, fishing licenses)	\$ 250,000	\$1,250,000	\$ 250,000	\$2,500,000	\$ 250,000	\$3,750,000
Conservation Appropriation (Legislative appropriation) ..	1,179,530	5,897,650	489,765	4,897,650	226,510	3,397,650
TOTALS	\$1,429,530	\$7,147,650		\$7,147,650		\$7,147,650

Table C
THE EXTENSION CONSERVATION PROGRAM ESTIMATES

PROJECT	Man-days Labor Provided	Labor Costs	Equipment, Land Purchase, Material Costs	Total Costs
50 Artificial Lakes	750,000	\$3,000,000	\$2,000,000	\$ 5,000,000
State Forest & Marginal Land Extension: Purchase 500,000 acres marginal land at \$10.00 per acre, fencing, planting, timber improvement, buildings, equipment, etc.	670,000	3,125,000	6,875,000	10,000,000
State Park Extension: 10 State Parks & Preserves	197,000	985,000	774,700	1,759,700
Program to acquire access to best fishing streams: Public access—2,000 miles	210,000	940,000	3,340,000	4,280,000
Surveys & Plans: For lake and marsh restoration, development of artificial lakes, public access to streams, marginal land, etc.	52,500	519,000	50,000	569,000
	1,879,500	\$8,569,000	\$13,039,700	\$21,608,700
GRAND TOTAL OF ALL PROJECTS				
Man-days	2,729,660			
Labor		\$12,989,300		
Equipment, Land Purchase & Material		15,767,050		
				\$28,756,350

Annual Fur Bearer Take

(Continued from Page 73)

season reached an all-time high in Iowa and totaled \$2,961,462.55. Without increasing the number of animals that were taken, this figure could have been boosted, according to reliable authorities, some 15 per cent, or \$444,219.38, merely by better handling of the pelts from the time the animals were trapped until the raw fur reached the fur buyer.

Definite efforts are continually being made to teach the new and remind the old trapper how to prevent loss of fur profit by improper handling.

Last year for the first time an Iowa trapper, Clifford Walker of Ogden, won the national sweepstakes prize for the best handled animal pelt received by one of the outstanding fur houses in America. Walker, part-time trapper and in no sense a professional, prepared a \$2.50 skunk pelt in such a manner that the judges awarded him the \$1,000 first prize.

Of course that \$1,000 was extremely important to Walker. The program to teach fur handling that resulted in the prize-winning has been much more far-reaching than is shown by the dramatic award. Dollars and cents figures cannot be shown, but unquestionably the increased value of furs brought to market because of the

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Last year for the first time an Iowa trapper won the national sweepstakes prize for the best-handled pelt received by one of the outstanding fur houses in America. Here the prize-winner, Clifford Walker of Ogden, examines a fox pelt entered in the competition.—Photo Courtesy of Sears, Roebuck & Co.

Annual Fur Bearer Take

(Continued from Page 75)

trappers' understanding of what constitutes properly prepared fur has been very great.

Open seasons on fur-bearing animals are not set so that the weather will be cold and disagreeable for the trapper, but rather when furs are most nearly prime (that is, heavily furred) and of greatest value to the fur manufacturers, who in the final analysis determine what price shall be paid for each particular fur. The trapper who traps before the furs are prime not only violates the law, but also gets less in cash for his labor. The early trapped skin may not find its way into a fur garment, or if it does, is of little value. For instance, last year unprime muskrat skins taken illegally brought 25 cents

in bootleg markets. Six weeks later the same skins were bringing more than 10 times as much.

While loss from poorly primed furs is an important item, it is not the most important, for the simple reason that most trappers are law-abiding and square-shooters. However, even the square-shooters quite often have considerable loss on furs that are marked down for improper skinning and stretching.

Exact methods for skinning various animals have been developed by the fur industry so that there is little or no waste of raw fur. If a properly skinned muskrat provided 100 square inches of useful fur worth \$2.50 and an improperly skinned muskrat provided only 80 square inches of fur, what trapper could expect to get \$2.50 for the latter?

Learn how to skin your trapped

animal properly so that it is more valuable and acceptable to the fur buyer. This care will pay important dividends.

There are two methods used in skinning fur animals. Some pelts require one, some the other. The two types are called "cased" and "open" pelts, and operations are commenced in exactly the same way on both.

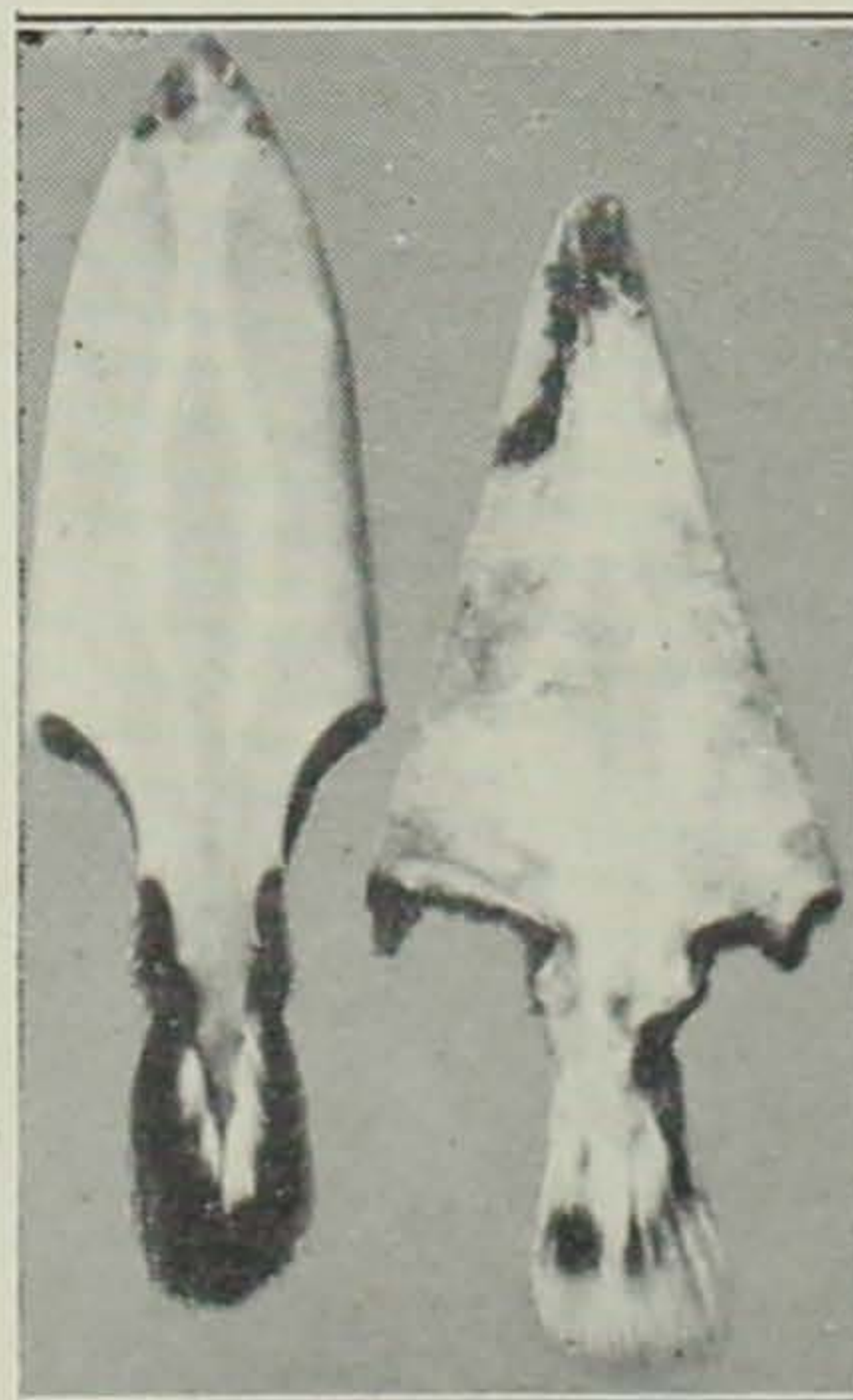
If the animals are dirty, bloody, or burr-covered, they should be cleaned up before skinning. Burrs may be picked out or removed with a coarse comb. The mud or blood stains may be washed out in cold water, after which the fur should be thoroughly dried by shaking or drying with a cloth.

In the actual skinning operation the first step is to cut around the hind paws at the hair line and slit the skin up the **backs** of the hind legs to the base of the tail. Cut through the tail without cutting the skin, except with muskrat and opossum, the tails of which are thrown away. Then work the skin carefully away from the flesh of the hind legs.

For cased pelts the skin is removed from the carcass by peeling like a stocking turned wrong side out. The forelegs are pulled through and, except in the case of certain animals on which the forepaws are left attached to the skin, the skin is cut through at the hairline and pulled off the forelegs. The skin is then carefully pulled over the skull until the cartilages in the ears are revealed. These are cut through close to the base of the skull without injuring the skin. The eyes, nose, and lips are cut loose in the same manner.

In skinning out the head care should always be taken not to cut through the skin.

Pelts that are handled open are removed from the carcass by slitting the pelt down the center of the belly from the mouth to the tail, also down the inside of the front legs, except with beaver.



Clifford Walker's \$1,000 pelt was a \$2.50 skunk skin as shown at the left. The right-hand pelt, while prime, has been improperly stretched and is almost in the "junk" class.—Photo Courtesy of Sears, Roebuck & Co.



The trapper may sell furs either locally or to buyers within the state without securing a permit to ship. However, for all furs shipped outside of Iowa, except by licensed fur dealers, a permit must be secured from the State Conservation Commission, 10th & Mulberry, Des Moines 8, Iowa.

The cut on the hind legs is made exactly in the same manner as for cased pelts, and as with cased pelts care should be taken in removing the skin from the head without damaging it.

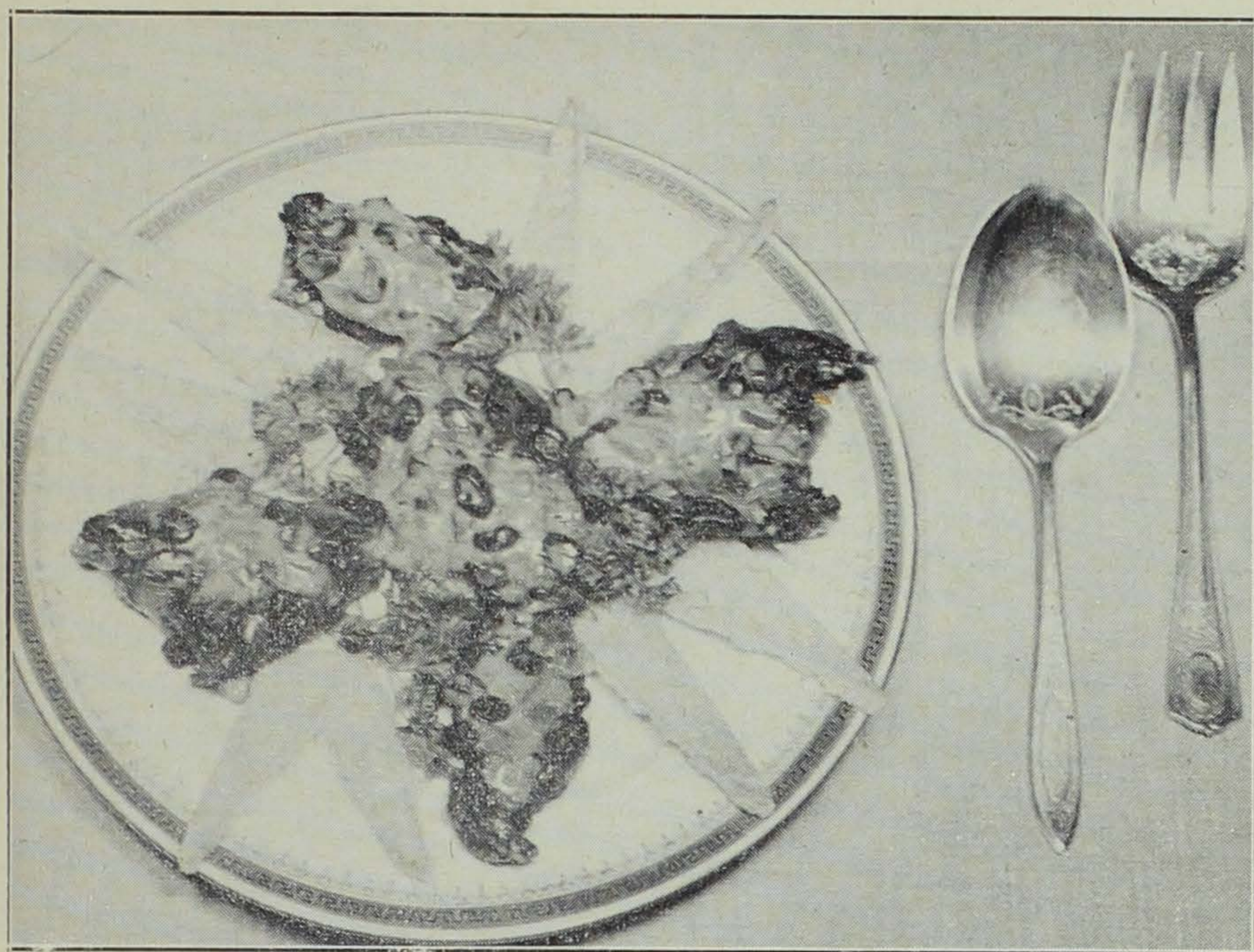
After the animal has been skinned, the next step in proper fur handling is to remove the fatty tissue that adheres to the flesh side of the pelt. The reason for this operation is to prevent the skin from "heating or burning" and causing the hair to "slip". The most commonly used system for fat removal is to slide the pelt, fur side in, over a small fence post that has been anchored horizontally on the workbench. Then, scraping from the nose toward the tail with a dull knife, the tissue and fat are carefully worked off.

In some of the large fur houses where muskrats are the most important item, great success has been had with fat removal by running the green muskrat skins through the tight-set rollers on the wringer of a washing machine.

The final step in skin preparation is to "stretch" the pelt and allow it to dry. The term "stretch" is not quite correct, for fur should not be stretched, but rather blocked. The pelt is placed on wooden or wire stretchers that will shape it to natural size, skin side out, and as it dries the skin tightens, taking out the slack. The trapper will do well to remember that stretching merely means helping the skin retain its proper size and shape while drying.

After the fur has been placed on the drying board and tacked down, it should be placed in a cool, well-ventilated building for several days to dry. Do not try to hasten the drying process by the use of artificial heat, and never place a raw skin in direct sunlight. After the skin is thoroughly dry, it may be removed from the stretcher. Collections

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Musquash Sauerbraten is not too different from your favorite meat prepared this way. Use the recipe for some of the heavier musquash. You'll like the modified game flavor. Try broccoli or green snap beans with parsleyed buttered potatoes as a setting for the pieces of musquash.—Iowa State College Photo.

The Versatile Musquash

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ties of the two methods used within the three months the musquash were held in storage.

The musquash, skinned, and carefully drawn to remove the musk glands with the entrails, fell into three rather distinct weight groups: The small ones averaged 13 to 15 ounces; the medium-sized, 17 ounces; and the large ones, 19 ounces; the heaviest one weighed 22 ounces. They are muscular rather than fat animals, with well-developed hind legs but short fore legs. Some fat is distributed around the abdominal cavity. The bones are brittle and break with a rather jagged edge. The flesh is dark red in color; the fore part is likely to be darker and more diffused with blood in the trapped animal. The flesh has short fibers and is tender. The musk or rather gamy odor may vary in degree in different carcasses and even in different parts of the same one; it is usually stronger in the heavier carcasses. Flavor and aroma are closely allied. The musquash has a game flavor, quite different from most game and difficult to describe. Some liken it to the flavor of the wild duck which has fed on marshes. Others think it has much in common with the famous terrapin of the Chesapeake Bay. Some think it gamy and like it very much. Others will eat it but are not especially enthusiastic, and then there are those who dislike game flavor of any kind. How true is the old Latin proverb, "There is no disputing about tastes." Those who like game will find the flavor of musquash different from most anything they have eaten. Excluding strong prejudices, anyone who approaches a new food with an open mind can cultivate a

liking for it, even in time become a worthy epicurean. The musky odor which pervades the flesh of musquash during the summer months disappears with cold and frost, and unless the musk glands are carelessly removed, the meat should have very little if any of it. Before preparing a musquash, or in fact any game, and especially game that has been held in storage for some time, it is wise to examine the flesh carefully for any strong odors and discard these parts.

The musquash supply superior proteins to a diet equal in value to the proteins in meats, poultry, fish and other game. In addition, they contribute the different minerals and vitamins usually found in animal protein foods. At present little or no data on the composition of game including the musquash are available, and all statements made as to their actual food value are general rather than specific.

Cooking Musquash Meat

A preliminary soaking of the carcasses overnight or longer, either in a weak brine solution (1 to 4 tablespoons salt to 1 quart of water) or a weak vinegar brine (2 tablespoons each salt and sugar, and ¼ cup vinegar to 2 cups of water), improves the appearance and flavor of the flesh. The blood diffused throughout the fresh is drawn out and the gamy odor and flavor reduced. The vinegar brine definitely modifies the "wild taste" and darkens the meat. The members of the panel were divided as to choice, the majority preferring the brine treatment. All blood and visible fat should be removed and the carcasses washed thoroughly in running water after soaking.

The methods used in the cooking of meats, poultry and fish are used in the cooking of game of all kinds. Young musquash, like

young rabbits and squirrels, can be cooked by dry heat, and are good broiled, fried, baked or roasted. Older musquash are better if cooked by moist heat for a long time as in braising, stewing, and in casserole dishes, or by grinding the raw or cooked meat and using it in dishes such as patties, fritters, croquettes, burgers, or meat loaf. A few representative recipes have been selected. The illustrations are self-explanatory. Those who enjoy the thrill of a new food—good and different, too—will do a bit of adventuring after preparing these recipes. Here is a suggestion: Substitute musquash for chicken or rabbit in favorite recipes. You'll like broiled, fried, or baked young musquash; smothered, fricasseed, barbecued, or ragouted older musquash; musquash burgers, patties or loaf for picnics; left-overs made into pies, casseroles, creamed dishes or even hash. Iowa's annual supply of musquash meat, available as human food during normal years, is from 250,000 to 500,000 pounds. An excellent protein food of animal origin is wasted when this meat is not used in the diet.

Breaded Musquash

1 musquash	½ tablespoon water
½ teaspoon salt	½ cup fine bread
⅛ teaspoon pepper	crumbs
¼ cup flour	3 tablespoons fat
½ egg, or 1 egg yolk	
beaten	

1. Soak musquash in slightly salted water or weak vinegar brine overnight or for 24 hours, changing brine once. Wash thoroughly, removing all blood and fat. Disjoint and cut into pieces for serving.

2. Roll pieces in seasoned flour, dip in egg mixed with water and roll in crumbs.

3. Drop into hot fat in heavy frying pan and brown on both sides, allowing from 7 to 10 min-

utes. Add 1 tablespoon hot water, cover tightly and bake in slow oven (300 deg. to 325 deg. F.) about 1 hour, turning pieces once and adding hot water by tablespoonful, as needed.

4. Arrange on hot platter, garnish with broiled small orange slices topped with a spoonful of apple or red plum jelly on each, sprigs of parsley or water cress. Makes about 4 portions.

Musquash Sauerbraten

1 musquash	1 medium onion,
½ teaspoon salt	sliced
Dash of pepper	¼ cup chopped green
Dash of nutmeg or	pepper or parsley
ginger	2 tablespoons chopped
6 tablespoons vinegar	celery
3 tablespoons sugar	½ cup raisins
3 cups water	1 tablespoon flour
½ bay leaf	¼ cup sour cream
2 tablespoons fat	

1. Soak musquash in slightly salted water overnight; wash thoroughly, removing all blood and visible fat. Disjoint and cut in pieces for serving; drain.

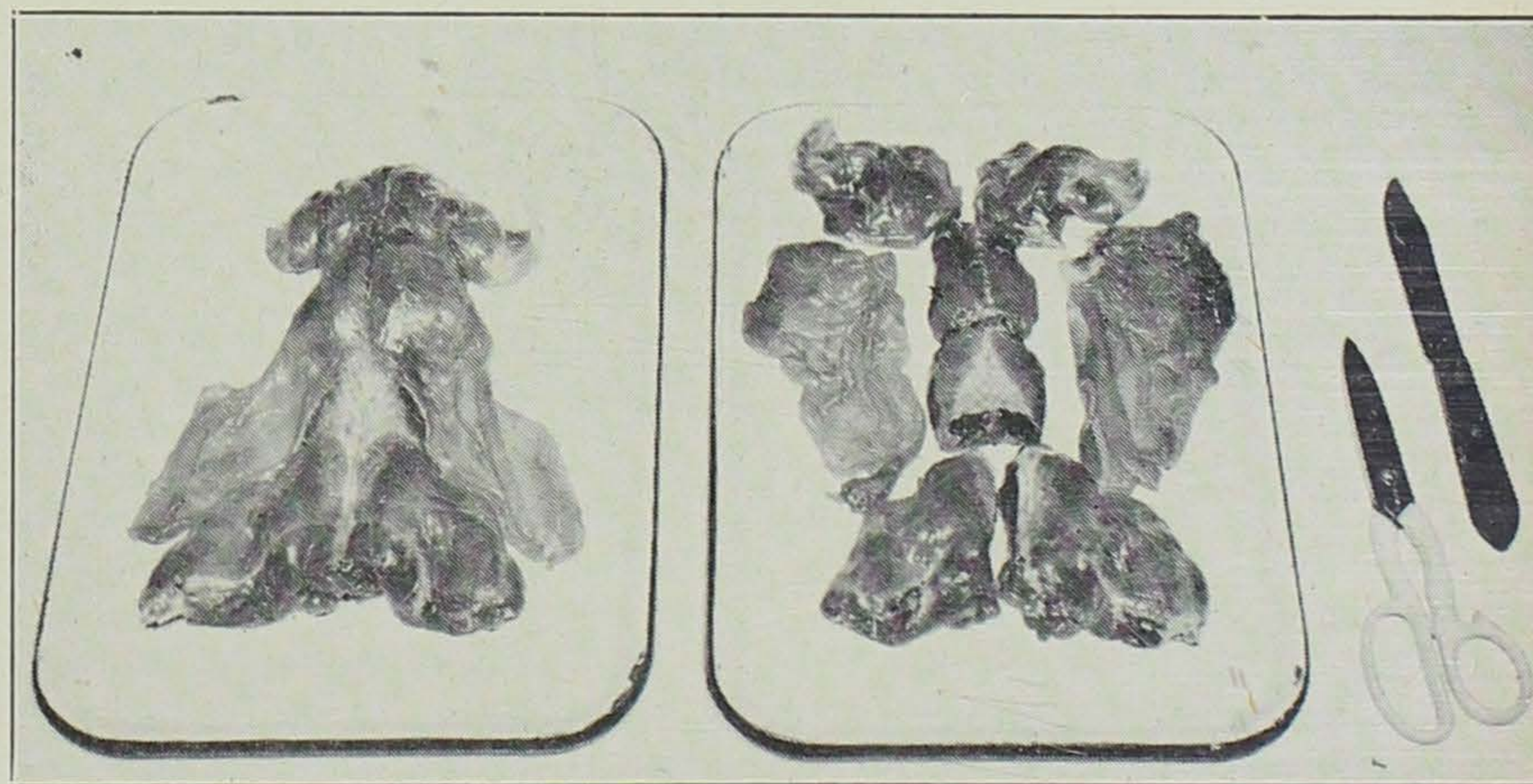
2. Rub pieces with mixture of salt, pepper and nutmeg or ginger; place in crock or deep pan. Pour 2 cups of boiling hot mixture of vinegar, sugar, water and bay leaf over meat and let stand 4 to 8 hours. Remove meat and drain; discard mixture in which meat was soaked.

3. Brown meat in hot fat in heavy frying pan, turning to brown all sides; remove meat to stewpan. Cook vegetables slowly in fat in pan about 10 minutes, turning to brown slightly; sprinkle over meat. Add remaining 1 cup of vinegar-sugar mixture to drippings in pan, bring to a boil and pour over meat.

4. Cover tightly and simmer about 1½ hours, or until tender, adding a small amount of hot water if needed. Arrange meat on hot platter and keep hot.

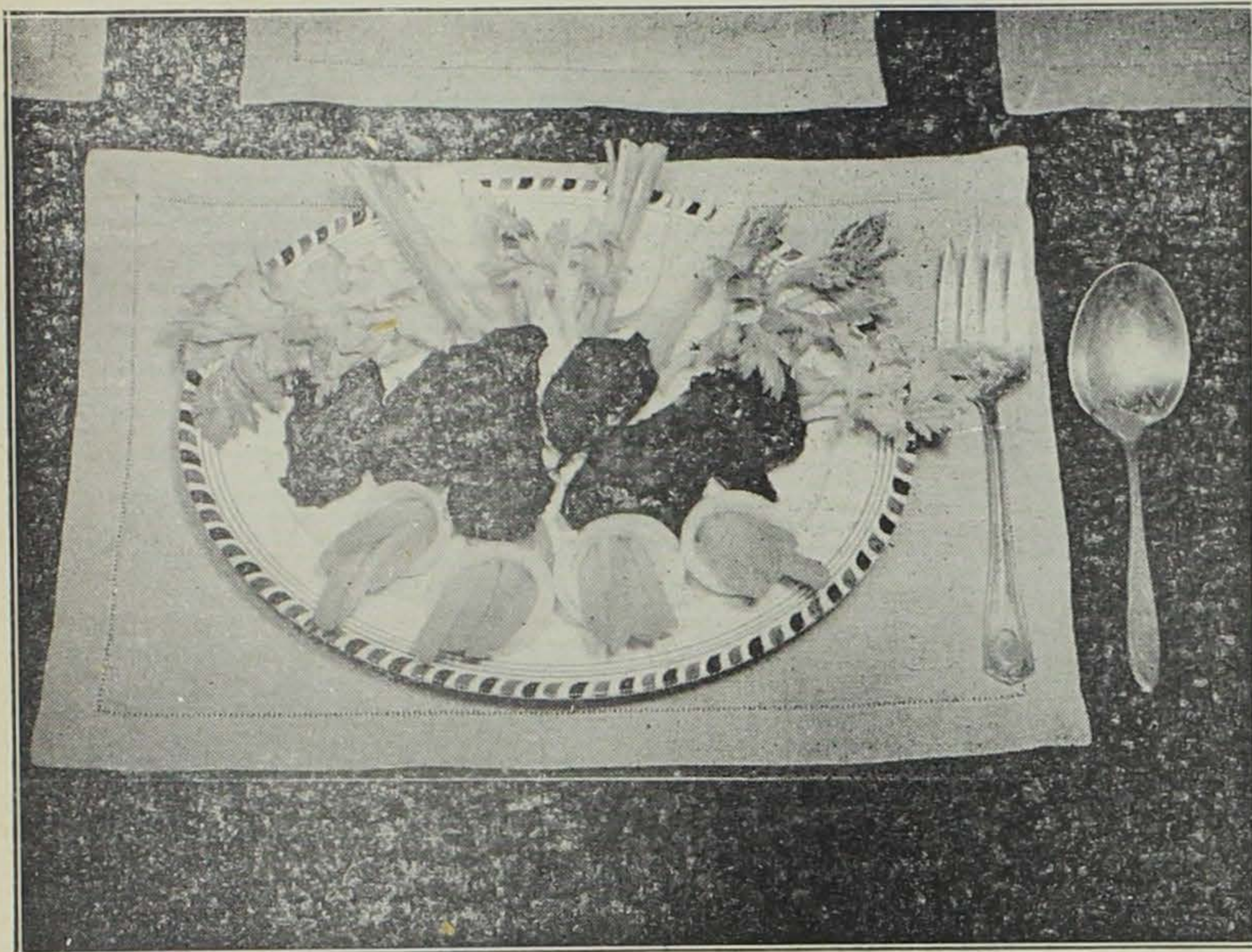
5. Add raisins to liquid in pan; thicken with flour and sour cream

(Continued to Page 78, Column 1)



As the illustration to the left indicates, the aquatic and largely vegetarian musquash is a small animal with meaty hind legs and a muscular back, well-developed from swimming, and small rather under-developed front legs. The large, thin apron-like flank and huge chest cavity with its long ribs are extensible to take care of the bulky diet of the musquash.

With sturdy kitchen shears and a sharp knife, the carcass is easily dismembered into eight pieces as indicated to the right. The legs and back pieces make four small or average servings. The flank and rib pieces are juicy and good but unattractive as servings. With bones removed these pieces measure 1/3 cup (1½ oz.) solidly packed. One cup from the flanks of three musquash will make a delicious meat loaf, patties, and the like.—Iowa State College Photo.



Breaded Musquash. These golden brown breaded pieces of meat will keep your guests guessing. Dress them up with attractive vegetable combinations. Asparagus tips bunched in onion rings, curled crisp celery, and tender celery leaves add to the attractiveness of this platter.—Iowa State College Photo.

The Versatile Musquash

(Continued from Page 77)

mixed to a smooth paste. Pour small amount of sauce over meat on platter; serve remaining sauce in bowl. Garnish with toast triangles and sprigs of parsley or water cress. Makes about 4 portions.

Jugged Musquash

2 musquash 1/4 teaspoon thyme or 1/3 cup flour 1/2 teaspoon nutmeg
3/4 teaspoon salt 1/4 bay leaf
1/4 teaspoon pepper 2 medium onions
3 tablespoons bacon 6 whole cloves
drippings 1/4 lemon
1 cup water 1 1/2 tablespoons
2 tablespoons chopped ketchup
parsley 2 tablespoons butter
2 tablespoons chopped
celery

1. Soak musquash in slightly salted water overnight or for 24 hours, changing brine once. Wash thoroughly, removing all blood and visible fat. Cut in pieces for serving; drain.

2. Roll pieces in flour seasoned with salt and pepper. Fry in hot fat, turning to brown both sides. Allow about 10 minutes.

3. Place meat in large bean jug or earthenware pot; add water to drippings in pan and bring to a boil.

4. Sprinkle parsley, celery and thyme over meat; add bay leaf, onions with 3 cloves inserted in each, lemon (juice and peel), and ketchup; pour hot water with drippings over all, adding hot water as needed to barely cover the meat.

5. Bake, covered, in a slow oven (275 deg. to 300 deg. F.) for 2 1/2 to 3 hours, or until very tender. Half an hour before meat is done, add roux of butter and 1 tablespoon of remaining seasoned flour to thicken liquid.

6. Serve hot from jug or pot with parsleyed potatoes and a mildly flavored vegetable such as carrots, squash, peas, green snap

beans, or spinach. Makes 6 to 8 portions.

Baked Musquash Barbecue

1 musquash 1/2 clove garlic,
3 tablespoons fat crushed
2 tablespoons vine- 1/2 teaspoon salt
gar 1/8 teaspoon black
2 tablespoons tomato pepper
ketchup Dash of cayenne

1. Soak musquash in slightly salted water or in a dilute vinegar brine for 12 to 24 hours. Wash thoroughly removing all blood and visible fat. Cut in pieces for serving; drain.

2. Place in greased shallow pan; baste with sauce made of remaining ingredients.

3. Bake, uncovered, in moderate oven (325 deg. to 350 deg. F.) for 1 1/4 to 1 1/2 hours or until tender, basting every 15 minutes with sauce.

4. Place on hot platter, garnish with parsley, celery leaves or curly endive, and serve with vegetable combination such as: fried onions and carrots; parsleyed potatoes and beet greens; baked sweet potatoes and green snap beans. Makes about 4 portions.

Musquash Burgers

1 musquash Dash of cayenne
1/8 pound suet Dash of sage, thyme
1/2 medium onion or nutmeg
1 stalk celery 1/2 slice white bread
1/4 teaspoon salt 1/4 cup hot water or
Dash of black pepper milk

1. Soak musquash in slightly salted water overnight or for 24 hours. Wash thoroughly and remove meat from bones; makes about 1 1/4 cups, solidly packed.

2. Put meat, suet, onion and celery through food grinder; run through the second time for finer grind. Add seasonings and bread soaked in hot water or milk and mix thoroughly.

3. Shape into patties and broil, panbroil or fry in a small amount of fat 8 to 12 minutes, or until well done. Makes about 6 pat-

Mudhen Good for Food

Mitchellville, Iowa.

Editor, Iowa Conservationist
State Conservation Commission
Des Moines, Iowa

Dear Sir:

After 28 years hunting on Iowa streams and marshes, I have discovered that the American coot, more commonly known as mudhen, is very good for food if properly prepared. It seems as though some of us are slow to catch on, and I can remember that on many hunting trips I held the coot in more or less contempt and wondered just why the bird was ever created—half chicken and half duck.

It is true the mudhen is not a bird of great beauty, but it is very desirable for the table. I had always believed that it was thin without much flesh, but this is far from true, and coot are invariably in fine condition during the hunting season.

In preparation we cut off the feet and skin by cutting straight down the breast from the neck to the tail. Then with both hands pull the skin both ways until the entire breast and lower thigh joint are exposed. We cut out the breast meat and cut the thighs from the back. This completes the job, for there is very little meat then left on the carcass, and that which is left is strong and if cooked with the better portions gives the whole dish a strong flavor. It is important that all the strong-tasting fat from legs and breast be removed before cooking. The flesh from each dressed bird will weigh approximately a pound, exclusive of the very large gizzard, which many of my friends hold in high esteem.

In cooking coot we steam them, putting the well-salted meat with about a half cup of water in a roaster. In addition, we put slices of white potato cut in long slivers in the pan to absorb the gamy taste. The roaster is then covered tightly and the bird cooked at about 300 deg. F. until done. The potatoes are removed from the roaster before

Ducks killed in the early morning flight make splendid decoys for use in midday when the shooting is slow. Here a half-dozen mallards and pintails are stooled in front of the blind. A small willow is pushed into the soft bottom and broken over about six inches above the water level, the top

end placed between the ducks' jaws and adjusted so that the birds look natural. In shallow water one or more of the ducks may be placed in a feeding position similar to the pintail at the left. This old market hunters' stunt proves particularly effective during the early part of the hunting season.

ties. For campfire or picnic large buns or slices of bread with serve between buttered halves of a generous dash of ketchup.

Annual Fur Bearer Take

(Continued from Page 76)

of furs after they have been taken from the stretching boards are best held until marketing by threading on a wire stretched from the ceiling. Leave a space of an inch or two between each pelt for air to circulate. Under no circumstances stack green hides for any length of time.

There are hundreds of local fur buyers, as well as many out-of-state dealers, any of which will be glad to give directions for packing and shipping raw furs. The trapper may sell either locally or within the state without a shipping permit. However, for all furs that are shipped to buyers outside of Iowa, the seller, unless he is a licensed fur dealer, must secure a permit to ship from the State Conservation Commission, 10th & Mulberry, Des Moines.



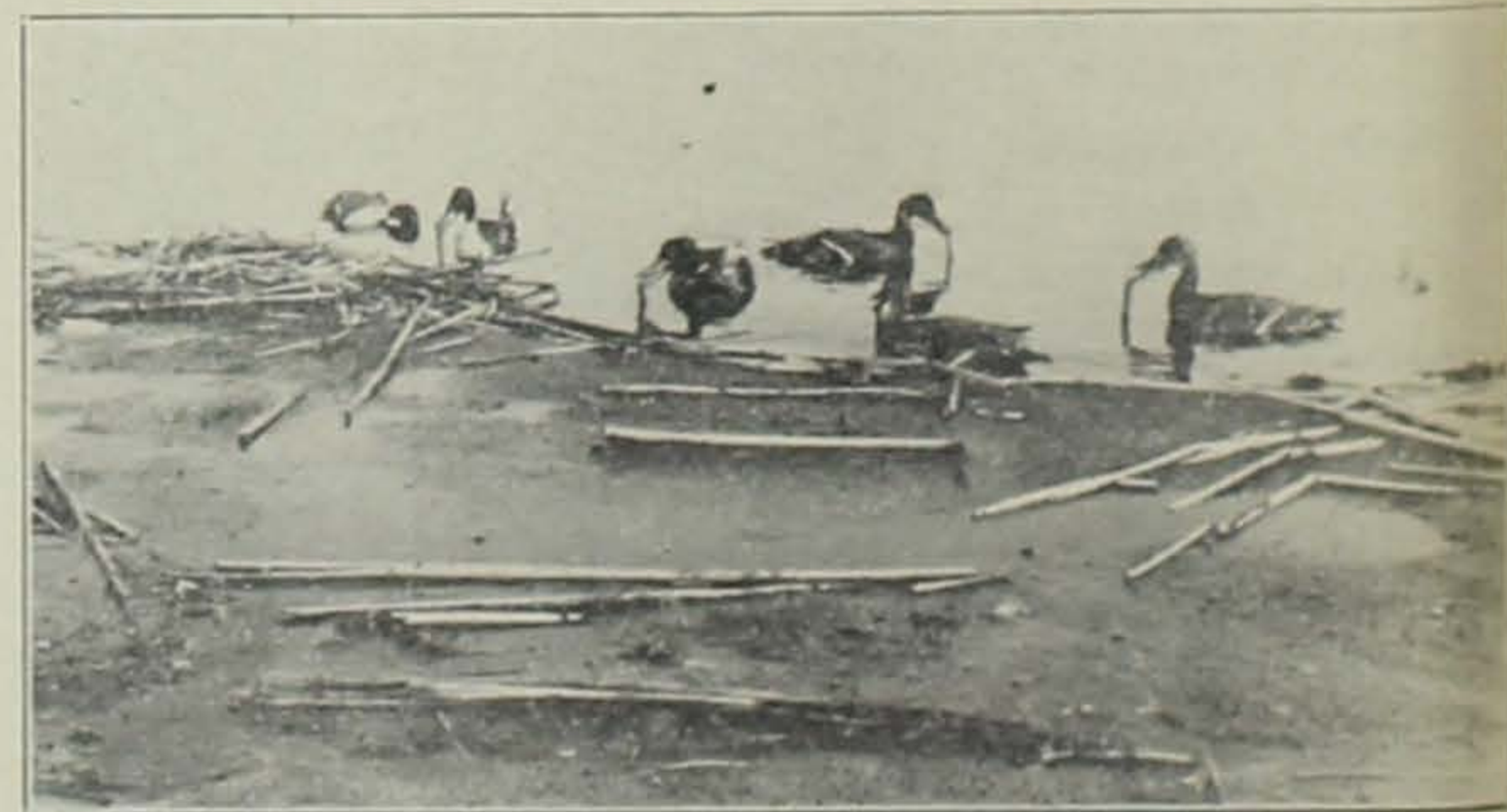
To those poor unfortunates who have never experienced the thrill of "stringing steel", the hardship and physical punishment that even a modern-day trapper endures seem fantastic; but trappers as a group are the most impatient of all the outdoor enthusiasts for their season to open.

they fall to pieces and discarded. The coot is then served with sage and onion dressing.

I think if more hunters tried this dish the American coot would no longer be called "mudhen", but would be addressed with respect as "Mr. Coot".

Yours truly,

(Signed) Thomas S. Wildman.



Know Your Outboard Motor

In the selection of a boat, as in the selection of an outboard motor, it is in the long run best to rely on the knowledge and experience of others. Buy and use the type and size that others have found most satisfactory for the same purposes on the same water. The one place where all such information comes to a focus is your boat dealer who is also, very likely, your outboard motor dealer, too. A good boat and motor dealer would rather not sell you an outfit at all than see you get one that he himself knows is not practical or is unsafe for your boating conditions. It is well to rely on him as well as on information you get from other boaters like yourself.

Probably the most frequently asked question is "How fast will it go?" That is similar to asking "How far is up?" Because there are a lot of factors entering into boat speed. One outboard motor manufacturer has this to say: "Boat speeds are governed by numerous variables such as: Boat design; boat weight and length; load and trim; actual motor power; wind and waves; currents and tides; skill of operation—and others."

There are, nevertheless, a few very "general" rules which can serve as a guide. The accompanying table is only that, and no more, so please don't use it as a factual criterion.

It must be explained here that from the performance standpoint boats again divide into two classes: displacement boats and boats that plane on top of the water. Usually, any types of boat for the regular use of motors up to around six horsepower are displacement boats when in operation; they ride in and through the water. If, however, that same boat has a wide flat stern and is equipped with a large motor, say 16 horsepower, then, if the load isn't too heavy, it will become a hydroplane. Many of the boats built especially for large motors will plane with up to three or four people of average weight. Even a small boat of the fishing type and of light weight construc-

Just a Dog

(Reprinted from February, 1941, issue of Field and Stream)

Freedom, New Hampshire
November 24, 1940

Ray P. Holland
Editor of Field & Stream
New York, N. Y.

Dear Ray:

I know this is a kind of unusual request but I'd like to borrow some space in your columns to write an open letter to a man I do not know. He may read it if it is in your columns or some of his friends may notice his name and ask him to read it. You see, it has to do with sport—a certain kind of sport.

The man's name is Sherwood G. Coggins. That was the name on his hunting license. He lives at 1096 Lawrence Street, in Lowell. He says he is in the real estate and insurance business in Lowell.

This weekend, Mr. Coggins, you drove up into New Hampshire with some friends to go deer hunting. You went hunting on my property here in Freedom. You didn't ask my permission; but that was all right. I let people hunt on my land. Only, while you were hunting, you shot and killed my bird dog.

Oh, it was an accident, of course. You said so yourself. You said that you saw a flick of something in the bushes, and you shot it. All you saw was the flash of something moving, and you brought up your rifle and fired. It might have been another hunter. It might have been a child running through the woods. As it turned out, it was just a dog.

Just a dog, Mr. Coggins. Just a little English setter I have hunted with for quite a few years. Just a little female setter

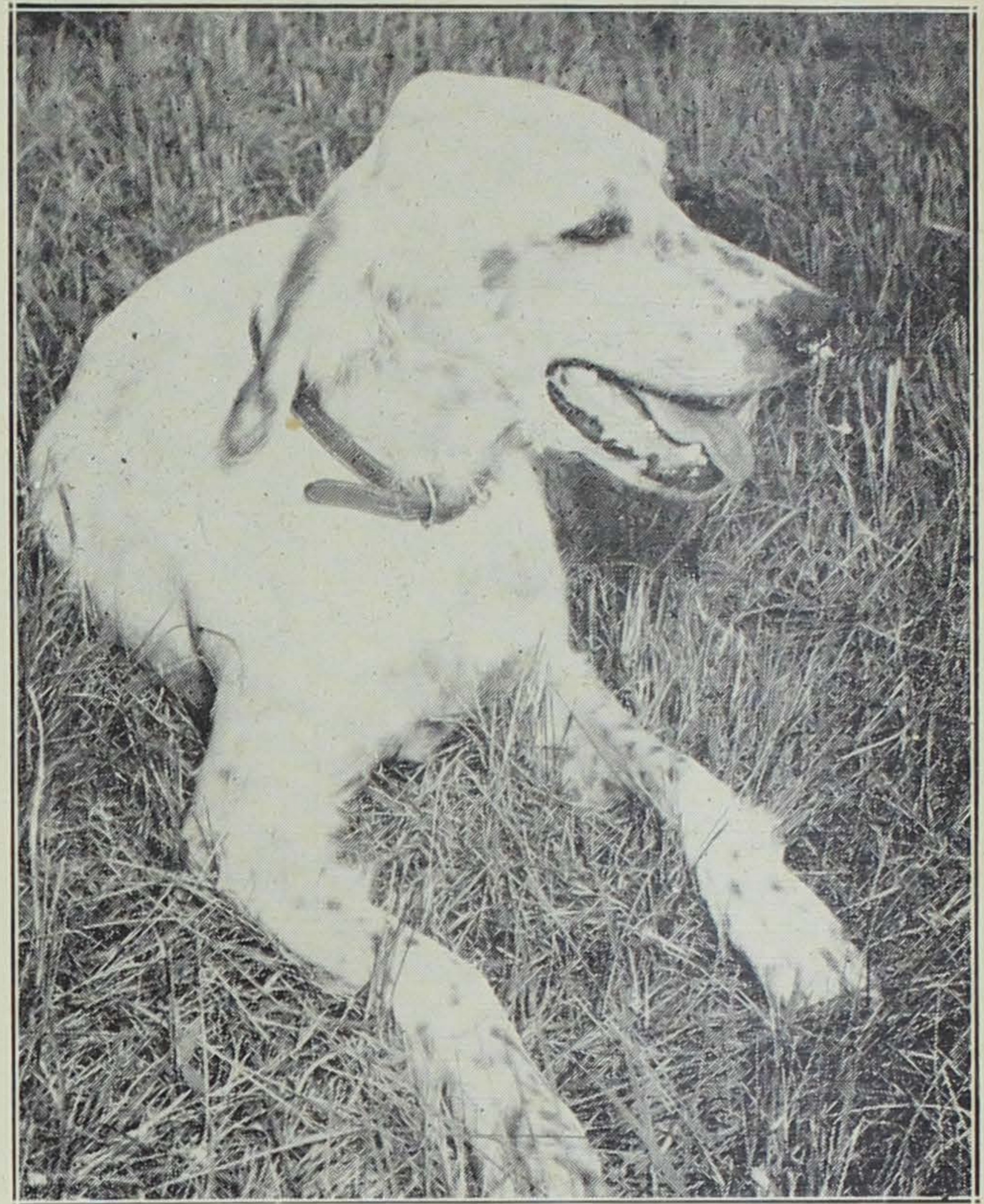
when operated with only five or six horsepower will plane at considerable speed.

Doubling the power on the stern of a purely displacement type boat will increase the speed only a little. But if a suitable boat can be pushed "over the hump"—from down in the water to up on top—by getting it up to speed, then at that point the speed may go up 50 to 100 per cent. All the racing records are made with very small, light weight hydroplanes with motors that have been designed and built especially for racing.—Johnson Motors.

Motor H. P.	Type of Boat	Length Boat Feet	Weight Boat Pounds	*Top Speed Range in M.P.H.
1½ to 2	Rowboat or Canoe	12-15	100-150	6-7
2½ to 3	Rowboat or Canoe	12-15	100-150	7-8
5 to 6	O.B. Boat or Fish Boat	12-16	125-200	9-10
9 to 10	Runabout or O.B. Boat	14-16	200-300	10-18
16 to 18	Runabout or O.B. Boat	14-17	200-300	18-25
20 to 23	Runabout or Large O.B. Boat	15-18	300-500	22-30
30 to 35	Runabout	15-18	300-500	25-35

* M.P.H.—Miles per Hour.

It was just a dog—just a little female setter who was very proud and staunch on point, who always held her head high, and whose eyes had the brown of October in them.



who was very proud and staunch on point, and who always held her head high, and whose eyes had the brown of October in them. We had hunted a lot of alder thickets and apple orchards together, the little setter and I. She knew me, and I knew her, and we liked to hunt together. We had hunted woodcock together this fall, and grouse, and in another week we were planning to go down to Carolina together and look for quail. But yesterday morning she ran down in the fields in front of my house, and you saw a flick in the bushes, and you shot her.

You shot her through the back, you said, and broke her spine. She crawled out of the bushes and across the field toward you, dragging her hind legs. She was coming to you to help her. She was a gentle pup, and nobody had ever hurt her, and she could not understand. She began hauling herself toward you, and looking at you with her brown eyes, and you put a second bullet through her head. You were sportsman enough for that.

I know you didn't mean it, Mr. Coggins. You felt very sorry afterward. You told me that it really spoiled your deer hunting the rest of the day. It spoiled my bird hunting the rest of a lifetime.

At least I hope one thing, Mr. Coggins. That is why I am writing you. I hope that you will remember how she looked. I hope that the next time you raise a rifle to your shoulder you will see her over the sights, dragging herself toward you across the field, with blood running from her mouth and down her white chest. I hope you will see her eyes.

I hope you will always see her eyes, Mr. Coggins, whenever

there is a flick in the bushes and you bring your rifle to your shoulder before you know what is there.

—Corey Ford.

Then, Now and Later

Wonder how many of the half million hunters who will sally forth this month to participate in the "best hunting year in a decade" will take any thought of human endeavor that has made hunting possible in this state 50 years after the prophets of gloom had pronounced hunting dead for all time.

This situation did not just happen. Individuals and organizations have been wrestling with the problem of perpetuating fishing and hunting since the danger signals began to fly along late in the last century. There was a lot of lost motion and mistaken judgment and numerous mistakes in procedure, but out of the confusion has come restored wildlife and fish far ahead of the outlook back a couple of decades. Considering the vastly increased number of hunters and fishermen, and the absorption of habitat by the march of civilization and extended agriculture, the resources retained for sportsmen are remarkable. It is such that conservationists may well be encouraged to go forward with the campaign to go farther and fare even better, especially in fundamentals of water supply, erosion control, forestry and law observance. We must hold our forces intact for the duration, and thereafter go ahead to finer results. This is a heritage we owe to those who are to follow us—the free men and true sportsmen of the future.—Ohio Conservation Bulletin.

Iowa Muskrat Situation In the Fall of 1944

By DR. PAUL L. ERRINGTON

Iowa's harvest of wild raw furs for the winter of 1943-44 was sold for a little less than three million dollars and was the most profitable in recent history. This was chiefly due to the abundance and high pelt prices of muskrats. The Conservation Commission reports a season's catch of 722,360 of these animals, which yielded trappers a total of \$1,625,310.00.

Naturally, a big question in the minds of trappers and fur buyers relates to the 1944-45 prospects of a muskrat crop. We can foretell the latter only in a broad way from the information at hand, but the indications point to a considerably lower population over the state as a whole, although perhaps still a fair abundance. It also seems quite probable that many fall populations (especially those of streams subject to flooding) will have large proportions both of full-sized adults and of late-born "kits".

Our grounds for these generalizations may be briefly presented.

The 1944 breeding populations of muskrats varied greatly in central and northern Iowa where regular studies have been in progress since 1934. Some areas showed clear evidence of having been over-trapped. Others, despite severe trapping, had the highest spring densities of a decade or longer. Many formerly excellent muskrat marshes, because of changes associated with water levels, accommodated few muskrats, whereas marshes formerly too shallow to furnish good muskrat environment were well stocked. One marsh was known to have been depopulated of muskrats by disease.

Considered from a state-wide viewpoint, the muskrat populations at the beginning of spring constituted a reasonably promising breeding stock and one that became well distributed in the course of the usual cross-country movements of March and April.

Then at least two things went very much wrong.

Presumably as a consequence of high water, immense stands of cattails died in spring or early summer, which meant the loss of the greater part of the natural food of some of our most important muskrat marshes.

Little Wall Lake, south of Jewell, furnishes a carefully studied example. On this one marsh, the almost solid growths of cattails and the favorable water levels of the fall and winter of 1943-44 easily accommodated a population calculated at close to 1,300 muskrats. A census of breeding territories in early May, 1944, gave a figure of 437 pairs, or



The floods of May and June killed countless young muskrats at a helpless stage. In this marsh the water has covered the houses, drowning the young. Two adult muskrats are perched safely on the floating marsh debris.

equivalent. Such, for the 270-acre marsh as it was in 1943, should have been a moderate and most productive breeding density. On the basis of information from long-time researches on population phenomena of muskrats, we would have predicted a late fall, 1944, population of between 5,000 and 6,000 from the above "seed stock" on condition that the environment remained favorable.

The environment, however, did not remain favorable, as the cattails comprising fully nine-tenths of the marshy vegetation died out, and the hungry muskrats of midsummer cleaned up nearly all of what was left and did extensive foraging on land surrounding the marsh. Complications arising from the food crisis were pronounced and resulted, in one way or another, in reduction of the population to only a few hundred animals by the middle of September, or the time of preparation of this article.

The second adverse development for Iowa's muskrats was even more clearly a matter of water changes: the floods of May and June killed countless young muskrats at helpless stages, in fact, practically all young born before midsummer along the central Iowa water courses kept under observation. To a considerable extent, those losses have been counterbalanced by the adult females giving birth to more late-summer litters than they otherwise would have done—which is a form of population adjustment often recorded during the Iowa investigations.

(Look up page 27 of the Iowa Conservationist for April, 1943, for an account of the adjustment that took place following the flood losses of young in June and July, 1942; in this year, the number of young raised along central Iowa streams up to the trapping season was "normal" for the breeding populations involved, though trappers' catches contained unusually high percent-

ages of low-value "kit" pelts.)

Aside from possible extremes of weather that could drastically affect muskrat populations within the next month or two, there are two imperfectly known factors that might have to be considered.

One of these is disease, but this so far seems to be a local rather than a regional problem. The most serious disease found is as yet unidentified by pathologists; its characteristic symptoms are spotted livers and inflamed intestines, great deadliness to muskrats. It has not been recognized in anything except muskrats, but we are not sure that other animals are immune to it and urge trappers to take intelligent precautions in handling muskrats, notably any dead from unknown causes.

The other is "cyclic" decline, some of the manifestations of which are low rates of increase and high rates of mortality for the population densities concerned, not only of muskrats, but also of many other wild species. Its cause has not been at all satisfactorily determined. It appears to show much independence of differences in weather and environment and comes at intervals of about ten years. Insofar as the last clear evidence of "cyclic" decline in Iowa was seen in 1936 and 1937, the time for a repetition may not be quite upon us now, but it conceivably might come a little early.

FUR KINKS

One of the slickest stretchers for mink and muskrat may be made from lath. For muskrat cut two lengths 24 inches long, one 10 inches, and one four inches. Shape the two long pieces with the same curve as the outside edge of a solid stretcher. Smooth the edges. Nail the four-inch piece in the top center of the two square edges with one 1 1/4-inch finish nail at each side from an angle. Tack the 10-inch piece on one leg at the bottom. Slide the skin on the frame, spread the stretcher legs, and tack the cross arm to the second leg. Stretch the lower edges of the skin to the cross arm and tack on both sides.

Mink boards are made in the same way with the use of longer legs and shorter cross arm, and with the omission of the spreader at the top. The pelts are taken off by removal of the skin edge tacks and one of the nails from the spreader, then collapsing the stretcher legs.

The tails of many fur animals are left on the pelts, but the bone must be removed to prevent hair slipping. Some tails are split; in others the bones are removed without splitting the skin.

To split the tail insert an umbrella rib between the skin and the bone on the under side. Push

Let's Have Cooperation

The boys who catch their fish in the Floyd by means of fish traps aren't giving the rest of the fishermen a square shake. . . . Game wardens, or conservation officers, or whatever you choose to call them, can't be everywhere and it shouldn't be expected of them to accomplish much in enforcing the law if they don't have local cooperation, which is the only thing that can put an end to poaching on the other fellow's rights. A good healthy example, well publicized in the newspapers, might do the trick. A good many know at whom to point the finger of suspicion, and all it takes is a little proof to do the rest.—Alton Democrat.

the rib to the end of the tail. Use the groove in the rib as a guide, and split with the point of a sharp knife.

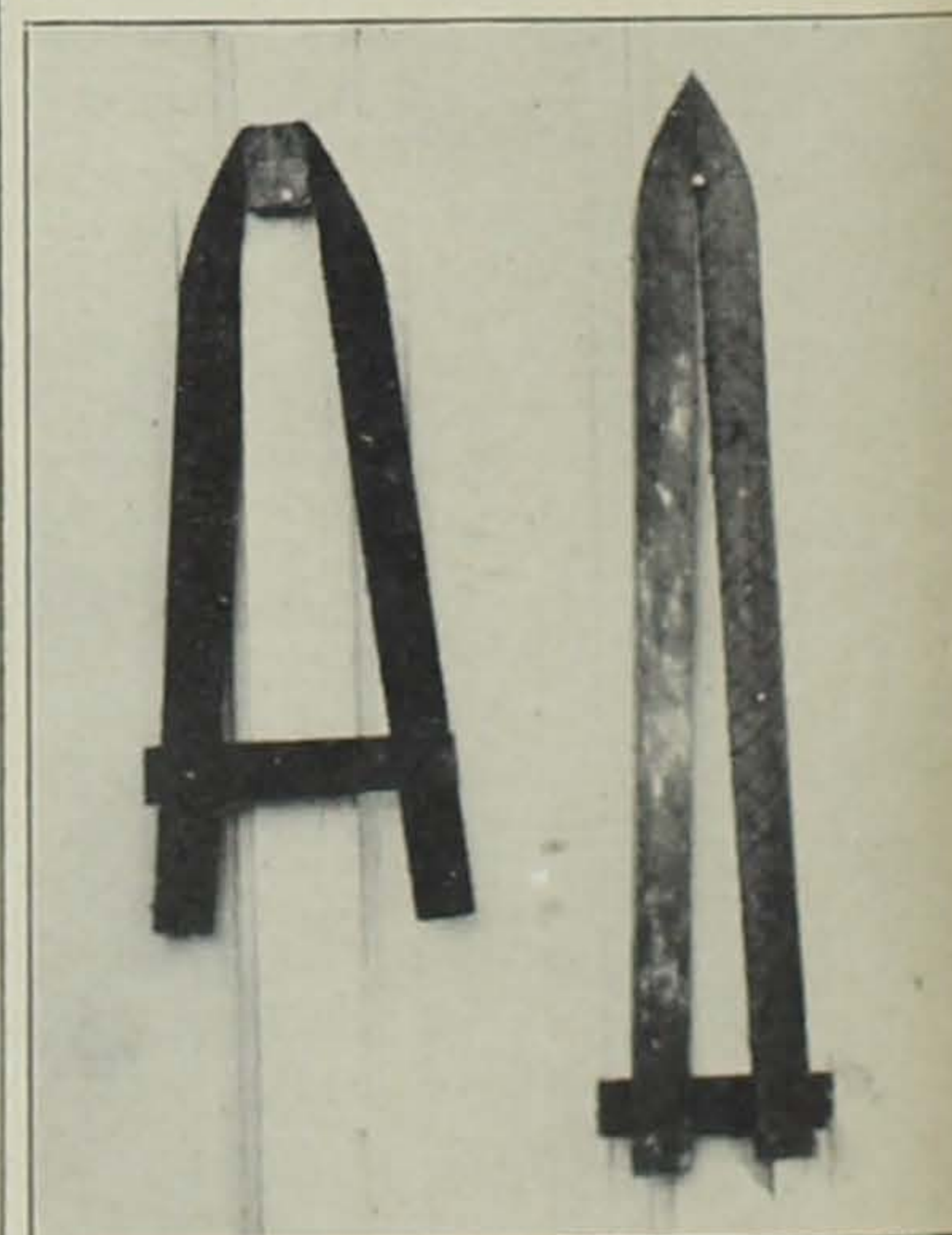
To remove the bone without splitting, put a half-hitch with a stout cord around the tail stump. Fasten the cord end to a firm base. Put a pencil-sized stick on the upper and lower sides of the tail, squeeze sticks together tightly, and pull down. The bone pops out like a ripe banana.

These pelts are cased and marketed fur side in: mink, muskrat, civet, skunk, weasel, and opossum. Case wolf and fox fur side in, but turn when drying is almost complete for marketing.

Skin badger and raccoon pelts open and stretch (do not trim) approximately square. Beaver are skinned open and stretched round. See next month's "Conservationist" for beaver pelting.

Leave feet on fox, wolf, weasel and mink.

Split the tail on skunk, mink, raccoon, and fox to remove the bone, but do not split the tail on weasel and wolf. Tails of beaver, muskrat, and opossum are discarded.



Furs that are properly prepared pay dividends to the trapper. Simple stretchers made of lath are easy to construct, inexpensive, and effective.