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THE REAL VALUE OF WILDLIFE

By Charles Callison

Editor "The Missouri Conservationist"

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Historians will spend centuries discovering and analyzing the changes brought about in the world by cataclysmic World War II. In America the triumphant and relatively unscathed victor, great changes are not yet apparent; but even here has come about a drastic reappraisal of values which should point the way toward more intelligent living and, therefore, a stronger democracy.

One of the public discoveries of the war has been the fact that hunting and fishing are America's favorite forms of recreation. With this surprising discovery—surprising only because it had to be discovered at all—there is due a reappraisal of the value of wildlife resources and a new conception of the function of wildlife in modern civilization.

Once was the time when wildlife was regarded and used primarily as a material resource—furnishing food and clothing for a people struggling to conquer the wilderness. That idea still prevails in the minds of a few—game hogs perhaps who prize the food they slaughter more highly than the sport, and some who would exploit wildlife for profit with no thought of the rights of fellow citizens.

Today it is clear that the most important function of wildlife is to provide recreation and pleasure to the millions of people who live and work in the complex society of modern America. It is in this role that wild creatures and the en-

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One of the discoveries of the public during the war is the fact that hunting and fishing are America's favorite forms of recreation.—Jim Sherman photo.

A Treatise on the Art of FISHING

The following article is taken verbatim from a very rare volume, "The New Royal Cyclopaedia, and Encyclopedia; or, Complete, Modern, and Universal Dictionary of Arts and Sciences," printed in London in 1790.

The right of fishing and the property of fish belong to the lord of the manor, when he hath the soil on both sides of a river; but where a river ebbs and flows, and is an arm of the sea, they are common to all; and he who claims a privilege to himself must prove it. In the Severn the soil belongs to the owners of the land on each side; and the soil of the river Thames is in the King, etc., but the fishing is common to all.

There are several statutes for preventing the destruction of the fry of fish; and persons using nets for that purpose, or taking salmon

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WILDLIFE NURSERIES

By Ellis A. Hicks

Cooperative Research Unit

Part II

THE dens and nurseries of mammals are more difficult to find and observe than the nests of birds. They are usually better concealed and more inaccessible in rock cavities, hollow trees, underneath buildings or in the ground. Even though a bird with a nest of eggs or brood of young is disturbed, it will usually return to its housekeeping. However, a mammal with a litter of young may carry them to another den if disturbed.

Many newly born mammals are blind, hairless and entirely helpless; however, some are better developed than others and do not require constant care.

The opossum has the most remarkable means of caring for its new-born young of any of our mammals. It is the only pouch-bearing animal in the United States. The opossum den itself in which the young are born may be any hole, cavity or protected place usually in or near woods. The young at birth look more like grubs or thick worms than mammals. Each is about the size of a navy bean. It is a light pink color with a tail about one-fifth of an inch long. It is blind but nevertheless manages to find its way after birth into the mother's pouch without any assistance from her. It negotiates the distance by using a foreleg crawl similar to that used in swimming. In spite of the young's small size, its respiration and digestion appear to be well developed at birth. Until a young one finds a pouch teat and becomes attached to it, the young opossum appears to create a continuous mouth suction which aids it in becoming permanently at-

(Continued on page 38)

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*Killed in action.

PREDATORS HIT HARD IN FRANKLIN COUNTY

Three hundred and fifty active members of the Franklin County Conservation League in a competitive predator control hunt report taking fifty-seven adult foxes, along with fox cubs, starlings, crows, crow eggs, and gophers. The Hampton chapter took first place ahead of Bradford and Shelby with 13,535 points. The winning chapter accounted for 25 adult foxes, 4 cubs, 1,707 starlings, 271 crows, 28 crow eggs and 90 gophers.

According to Leonard Deal, secretary-treasurer of the club, the total number of predators turned in was 57 foxes, 4 fox cubs, 4,165 starlings, 128 crows, 28 crow eggs, and 114 gophers.

COMMISSION ACTION MARCH, 1946

THE March meeting of the State Conservation Commission was held in the central office at Des Moines March 18th. Members present were: James C. Jenson, Council Bluffs; F. W. Mattes, Odebolt; Mrs. Addison Parker, Des Moines; F. J. Poyneer, Cedar Rapids; and Ewald G. Trost, Fort Dodge.

The Commission:

Accepted option on the eighty acre Horras Marsh tract in Keokuk county.

By administrative order opened to clammings certain sections of the Shellrock, Cedar, Wapsipicon, Des Moines and Iowa rivers.

Approved options on the six parcels of marshland in the Goose Lake area in Clinton county to be paid from Pittman Robertson participation fund.

Approved training school for sixty-four highest candidates on recent conservation officer's examination.

Approved earlier opening of the crappie and wall-eyed pike fishing season in Storm and other specified lakes if biological investigations determine earlier opening advisable.

Approved the restoration and re-establishment of Goose Lake in Greene county as a migratory waterfowl area.

Authorized agreement with the U. S. Fish and Wildlife Service for removal of "nuisance" muskrat in Union Slough in Kossuth county.

Approved applications for commercial dock space on Lake Okoboji at Arnolds Park.

Accepted the resignation of Willys Morf, conservation officer.

Authorized investigations by the biological section to determine advisability of opening the bullhead fishing in all artificial lakes at an earlier date.

Authorized the acceptance of J. Bernie Petrus land, consisting of 97 acres five miles north of Council Bluffs, to be known as the "Richard M. Petrus Memorial Forest."

Approved the application of the Okoboji Lakes Commercial Club for a permit to construct a dock at the swimming beach east of the Okoboji pier for general public use.

Awarded concession privilege at Lake Manawa to J. Ralph Marsh for a two-year period.

Approved digest of regulations governing use of seaplanes on inland waters of the state presented by the Civil Aeronautics Administration, the Iowa Aeronautics Commission and the State Conservation Commission.

Approved concession application of Ray W. Smith at Red Haw Hill Recreation Reserve.

Approved safety training school for prospective lake custodians.

Approved transfer of lease of Steamboat Island in the Des



"The best place to bury a dog is in the heart of its master."

WHERE TO BURY A DOG

A SUBSCRIBER of the Ontario Argus has written to the editor asking, "Where shall I bury my dog?"

We would say to the Ontario man that there are various places in which a dog may be buried. We are thinking now of a setter, whose coat was flame in the sunshine, and who, so far as we are aware, never entertained a mean or an unworthy thought. This setter is buried beneath a cherry tree, under four feet of garden loam, and at its proper season the cherry strews petals on the green lawn of his grave. Beneath a cherry tree, or an apple; or any flowering shrub is an excellent place to bury a good dog. Beneath such trees, such shrubs, he slept in the drowsy summer, or gnawed at a flavourous bone, or lifted head to challenge some strange intruder. These are good places, in life or in death. Yet it is a small matter. For if the dog be well remembered, if sometimes he leaps through your dreams actual as in

life, eyes kindling, laughing, begging, it matters not at all where that dog sleeps. On a hill where the wind is unrebuked, and the trees are roaring, or beside a stream he knew in puppyhood, or somewhere in the flatness of a pasture land where most exhilarating cattle graze. It is all one to the dog, and all one to you, and nothing is gained, and nothing lost—if memory lives. But there is one best place to bury a dog.

If you bury him in this spot, he will come to you when you call—come to you over the grim, dim frontiers of death, and down the well-remembered path, and to your side again. And though you call a dozen living dogs to heel they shall not growl at him, nor resent his coming, for he belongs there. People may scoff at you, who see no lightest blade of grass bent by his footfall, who hear no whimper, people who may never really have had a dog. Smile at them, for you shall know something that is hidden from them, and which is well worth the knowing. The one best place to bury a good dog is in the heart of his master.

—Ben Hur Lampman—Portland Oregonian.

TRAINED HOUND BRINGS \$550

Fritz Eckhart, living near Traer, has sold a pedigreed five-year-old black and tan hound at the fabulous price of \$550. The dog was shipped by express to William Murphy, Virginia Beach, Virginia. The buyer had never seen the animal, but knew of its breeding and knew that it had been well trained by Mr. Eckhart.

—Traer Star Clipper.

—BUY YOUR LICENSE FIRST!—

Moines River from Henry and Ernest Heckert to Robert Williams.

Denied request of the Clear Lake Yacht Club to use state owned docks for regattas and competitive contests.

Denied request of Harlan Wishart of Russell, Iowa, to purchase part of the land in the Chariton forest area.

Authorized allotment of \$3,000 from fish and game funds to be used in siltation control work on Lake Ahquabi water shed.

FARM POND

The United States Fish and Wildlife Service, Merchandise Mart Building, Chicago 54, Ill., has available for free distribution the following publications: Fishery Leaflet 17, "The Construction of Farm Ponds;" Fishery Leaflet 27, "Farm Fish Ponds and Their Management," and Fishery Leaflet 65, "An Outlet Gate for Farm Fish Ponds."

IOWA HIGHWAY AND OUTDOOR MAP

The "Iowa Highway and Outdoor Map," recently published by the Conservation Commission, is going fast. Only 40,000 copies were printed. As long as the supply lasts, the Conservation Commission will send a copy of this map, cost free, upon request.

Be sure to write your name and address plainly. Numerous requests have been received that cannot be filled because of lack of address, or the fact that the address is illegible.



"Now I have a week to do what I have been thinking about for the last three years. I am going to put Lil and the kid in the car and get off to a good fishing spot."

The Real Value . . .

(Continued from page 33)

Environment in which they live are essential to the very health and morale of the nation. It is with this fact in mind that wildlife resources must be managed today and in the future.

Americans demonstrated their dependence on nature during the war when they turned to field and stream at every opportunity to soothe the nerves tangled by work and worry. The sale of hunting and fishing permits stayed up in spite of tackle and ammunition shortages and travel restrictions which everyone predicted would send fish and game revenues into a tailspin. Sportsmen salvaged and improvised and shared, but they went hunting and fishing.

The public preference for participant sports, notably hunting and fishing, over spectator sports such as baseball and football was shown dramatically in a survey made last spring by the Dayton Journal-Herald. This alert Ohio newspaper, willing at least to listen to members of the Outdoor Writers Association, who argue it was devoting too much space to professional and commercialized spectator sports, decided to find out what the people of its territory thought about it. This is what the Journal-Herald found out:

While 9,000 persons watched the Cincinnati Reds play baseball, 90,000 persons turned out to do some fishing on neighboring Indian Lake. That same Sunday there were 65,000; 22,000, and 48,000 at other lakes in the Miami Valley. And these figures did not include fishermen on five streams flowing through that part of Ohio.

Convinced by their own figures, the Journal-Herald editors re-

vamped their policy and now divide the space of their sports pages equally between the show sports and the participating recreational outdoor sports.

President of the Journal-Herald Company is Col. Lewis B. Rock, who saw service with the Marines at Saipan and Tinian in the Marianas. Col. Rock has said that while in service he was struck by the almost universal yearning of officers and men, not for the bright lights of the city or a chance to see a ball game, but to get back to the outdoors with either a gun or a fishing rod in their hands. Under his enterprising leadership the Dayton newspapers conceived the Miami Valley Outdoor Program and launched it with a mammoth picnic which drew 33,000 interested hunters and fishermen.

Results of the Dayton survey startled newspapers throughout the country. Old-time sports editors began rationalizing their policies, and sports writers who have been juggling the phrases of show sports for so long they know no other language, defended their trade. "It's up to the fish and game columnists to make their stuff readable," argued Harry Grayson, writing for NEA features.

Grayson may have a point there, but it is a clear indictment of the newspapers. Real outdoor writers, like Jack Van Coevering of the Detroit Free Press and Leonard Hall of the St. Louis Post-Dispatch, do make their stuff readable, and their newspapers are cashing in. Witness also the bulging circulations of journals like "Field and Stream" and "Outdoor Life," which are fattening in a field of advertising that newspapers are missing almost entirely. Real outdoor writers can make their stuff readable, but it can't be

done by a baseball writer or the newest cub on the sports staff who is assigned the Sunday "rod & gun" column as an extra chore. It is time for a new breed of journalists—writers who know what wildlife management is all about and understand the human stake in conservation.

Probably nothing strips a man's thinking down to fundamentals like fighting a war. That is why the whole nation is trying to find out what the returning veteran thinks, and why the thoughts of some 12 million veterans augur well for the nation. Even though he may not care to make a speech or write an essay about it, the battle-hardened veteran knows pretty well what he fought for. And he knows what he wants out of the life he won.

American Legion magazine, polling returning veterans, found that 70 out of every 100 want to go hunting, and 62 out of every hundred listed fishing next to hunting as their favorite form of recreation.

Typical of the returning G.I. is Staff Sergt. Herbert H. Burr of Kansas City, congressional medal of honor winner, who sweated out the war for a chance to go fishing. "Now I've got a week to do what I've been thinking about for the last three years," he told reporters. "I'm going to pile Lil and the kid in the car and get off by ourselves at a good fishing spot."

For those who like dollars and cents reason along with intangibles like health and recreation, there is plenty to write down in the wildlife ledger. The duck hunter squatting in his willow blind on the Missouri River spent \$50 for his gun and buys a case of shotgun shells every year he can find them. His hunting garb cost in the neighborhood of \$50, not to mention the dry change he has in the car. Wooden decoys set him back \$15 and his boat, a necessity

for river shooting, another \$50. He bought ten gallons of gasoline for the trip and will spend from \$5 to \$15 for food and lodging before he gets home. And this is modest compared to the outlay of the wealthy wildfowler in an exclusive duck club.

The quail hunter goes out with a \$40 gun, \$25 worth of hunting clothes, and a bird dog which cost him \$100 to buy and \$50 per year to feed. He also buys shotgun shells, gasoline, oil, tires and food.

It is possible to go fishing with a quarter's worth of tackle but the average angler who has been initiated to the mysteries of fly fishing or bait casting—and his numbers are legion—probably owns \$50 worth of tackle, and he never catches up with his need for new and replacement lines, leaders, spinners, flies, plugs, etc. I know a man in St. Louis who admits that the only reason he keeps an automobile is to go fishing.

The magazine "Nation's Business," which is interested in big business, estimated that in pre-war years the job of supplying twenty million hunters and fishermen in the United States turned over two billion dollars annually. That was more than four times as many dollars as were spent for electric refrigerators, air-conditioning units, toasters, irons, fans and domestic electric heating units combined. "Nation's Business" predicts that post-war hunting and fishing trade will be up to three billions! Newspaper advertising managers, please note.

A survey by "Outdoor Life" magazine was even more optimistic, indicating that in the next few years 26,000,000 Americans will go hunting and fishing, and their annual expenditures will exceed four billion dollars!

So much for the dollars and cents reasons. All that is for the man figuring on doing business with the hunter and fisherman.

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Survey by "Outdoor Life" magazine indicates that in the next few years twenty-six million Americans will go hunting and fishing each year and their annual expenditure will exceed four billion dollars.—Jim Sherman photo.



A price tag can be put on hunter's equipment, but the real value of fish and game cannot be told in dollars. It is in the intangible values that the true worth is found.—Jim Sherman photo.

The Real Value . . .

(Continued from page 35)

The real importance of wildlife resources, as we said before, is in the recreation and pleasure they give millions of Americans, including millions who never fire a gun or bait a hook. Breathes there the man who does not thrill to the song of a warbler or the sight of Canada honkers against a gray November sky?

You can put the price tags of a hunter's equipment, or a fisherman's tackle, on an adding machine, but the real value of the game they bring home cannot be told in dollars, any more than it

can be compared to pork chops. The real value is in the urge that sends a man to the chill blind when ducks are flying, or across frozen fields behind a scampering pointer. It is to be found in the soul-lifting beauty of an Ozark stream in October, in the leap of a small-mouthed bass. It is to be found in companionship with fellow sportsmen, and in communion with something greater than man. It is in a renewed zest for living and a sense of kinship with frontiersmen who blazed trails and pioneers who lifted a nation from the wilderness. It is to be found in that freedom of spirit that keeps America young.

LET'S GO FISHING

AT THIS time of year especially, men are attracted to the water and north woods, and oft-times it only takes a suggestion to get men started on a fishing trip. They go fishing not especially for the fish they catch, for many times the fishermen will not eat fish but would rather have a steak or a leg of chicken.

Fishing is a most refreshing, soul satisfying, wholesome sport. Its rule leaves one free of worldly troubles; while fishing a man can drop his load of care beside the stream or on the lake. Worries are mighty small when on a fishing trip. In fact, a man immediately is transformed into a new world, and not until on the return trip does his mind start revolving around the worries of the morrow again.

Everybody has cares and worries to fret and irritate him. When you can push them aside and get out the rod and worms, boots and old clothes, battered looking old hat, then relief begins to make itself known.

It is not the fish that mean so much to most men, as it is the spirit of the holiday or days, or a week or even two. There is that

something that only comes with fishing. No other vacation can give you that feeling, because on a fishing trip man seldom if ever has to "dress up" and what man particularly likes to "dress up?"

Fishing has never been a real part of our life, but if we had our life to live over, then fishing would



Let's go fishing! but let's take a boy along.

play a most important part. We believe that every son of every father should be encouraged to cultivate the liking for a fishing trip.

—Courier, Reinbeck, Iowa.

—BUY YOUR LICENSE FIRST!—

"It has been proven," said the teacher to her class, "that a single carp may have two hundred thousand young."

Johnny raised his hand, the teacher nodded, and Johnny asked, "How many would the married ones have?"

TIMBER and GAME...Twin Crops

By Harold Titus

(Continued from last month)

Harvest Aids Life in Wilds

Perhaps it is in order to examine briefly how man can use those game resources and still anticipate a continuing supply—as we are now realizing that it is impossible to use our forests and still retain them.

Just as we erred when we believed that game was all over the place when forests were untouched, so are we mistaken when we assume that if hunters were removed from the hazards to wildlife then there would be no limit to the wildlife populations.

If a forest is let alone by man and manages to escape the menaces of wind, fire, pests and disease its individual trees mature, die and fall without serving any purpose other than enhancing the landscape—important but not always paramount. A forest, then, to serve man best, must be cut. In the light of current attitudes toward natural resources it is scarcely necessary to point out that we no longer encourage or condone that type of cutting which leaves the land barren but are following programs in all publicly owned and many privately owned forests designed to make yield perpetual. Inducements to increase such practices among private owners of timberland are manifest almost everywhere.

Just as it was a mistake for society to permit a wasteful form of timber harvest by taking too much and too fast, so it was lack of foresight which, at times and in places, let us take too many birds and animals from existing stocks. What happened to the buffalo and passenger pigeon attests to that. Even today we find in the southern Appalachians far less game than the environment could carry because sufficient protection has not been given wildlife against man, his modern weapons and means of transportation.

But if some game populations, once well-established, are not in part taken either by their natural enemies or by man, a disaster more spectacular than that befalling a mature and uncut forest may be anticipated. And with predator control what it is, and no doubt will be from now on, natural enemies are nowhere, except for brief periods, of marked consequence.

So if—and, remember, we are discussing well established game stocks only—we fail to take a reasonable and regular harvest the result is either waste comparable to letting forest trees fall and rot or else a marked reduction in numbers as starvation, disease or a combination of the two overwhelm them.

Long and able study of the bobwhite quail by H. L. Stoddard has demonstrated that there are levels beyond which abundance simply cannot be crowded. Where stock-

ing is scant an increase may be fast under favorable conditions until certain definite limits are reached. Then it stops dead. Errington and Haverstrom, by the examination of large numbers of coveys over a period of years in Wisconsin and Iowa, have shown that a given piece of quail cover will winter just about so many individuals year after year. If hunting is banned or its success poor and an unusual number of birds go into the winter the surplus is surrendered promptly to enemies or the climate. Again and again, a specific area has wintered just so many birds and no more. If the fall population is cut down below the wintering capacity of the environment, that is one thing. But if the fall population is above the winter maximum and is not reduced, then the difference is simply lost. Your trees, in other words, have fallen down to rot.

We have turned to quail for this example because more is known about quail than any other upland game bird. Wildlife studies take time and peculiar talents. Scarcely a start has yet been made on most forest type game birds although progress is being made in understanding the needs of wild turkey and sharptail grouse. There is no reason to suppose, however, that any basic principles differing markedly from those governing quail abundance will be discovered.

(Continued next month)

—BUY YOUR LICENSE FIRST!—

FAMOUS FLOATING BOGS DISAPPEARING

The famous floating bogs at Rice Lake are rapidly disintegrating and the lake now is largely an open body of water except for rushes along the margins.

The unique floating bogs were dense masses of rushes that drifted back and forth with the wind from one side of the lake to the other; often they were of several acres. The bogs were caused by the masses of vegetation being torn loose from the bottom of the old drained lake bed, when it was reconstructed and filled with water. As the water came in, the buoyant root masses floated and for several years clung together with rushes and other vegetation, continuing to grow as though they were securely anchored to the bottom.

Loyal citizens are pleased that the drifting rush masses will soon entirely disintegrate, nevertheless, the uniqueness of the floating islands caused many visitors to drive long distances to watch these great islands drift in the wind.

—BUY YOUR LICENSE FIRST!—

A sportsman brings home infinitely more than the game he has taken; he brings home a saner, finer and stronger self.

A Treatise . . .

(Continued from page 33)

and June, are the best months for fly-fishing, and the best hours are about nine in the morning, and three or four in the afternoon; in a still warm evening, they will bite as long as the daylight lasts, at those seasons when the gnats are seen most plentifully about in the air.

Carp Fishing

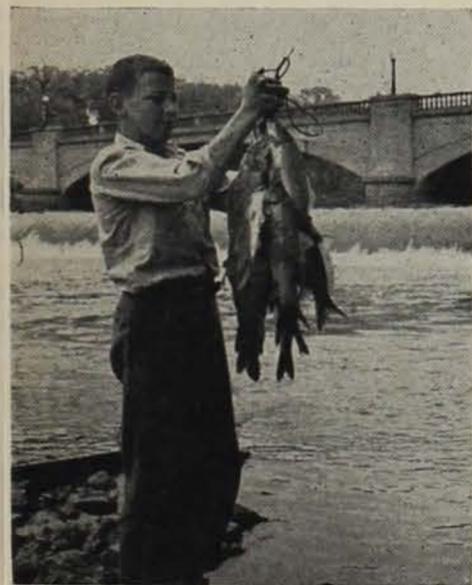
Great patience is requisite in angling for carp, on account of their incredible policy. They always choose to lie in the deepest places; they seldom bite in cold weather; and in hot, a man cannot be too early or too late for them. When they do bite, there is no fear of the hold. The tackle must be very strong, and it will be proper to bait the place beforehand where it is to be fished for, with a coarse paste. It may be also proper to bring the carp to the place intended for angling, by throwing in cow-dung and blood, or bran and blood mixed together, or some chicken guts cut small. The baits are the red-worm, in March; the cadew, in June; and the grasshopper, in July, August, and September. Proper pastes may also be prepared for them; as honey and sugar, wrought together with flour, and thrown in pieces into the water some hours before you begin to angle. Honey and white crumbs of bread mixed together, also make a good paste. The best season for catching such as are intended for sale is autumn.

Chub Fishing

His bait is any kind of worm or fly, particularly the large yellow moth; also grains, cheese, the pith in the bone of an ox's back, etc. He affects a large bait, and variety of them at the same hook. Early in the morning angle for him with snails; but, in the heat of the day, choose some other bait, and in the afternoon fish for him at ground or fly.

Eel Fishing

The silver eel may be caught with divers baits, particularly



"Great patience is requisite in angling for carp on account of their incredible policy. When they do bite, there is no fear of the hold."—Jim Sherman photo.

powdered beef, garden-worms or lobs, minnows, hens guts, fish, garbage, etc. But as they hide themselves in winter in the mud, without stirring out for six months, and in the summer, they take no delight to be abroad in the day, the most proper time to take them is in the night, by fastening a line to the bank-side with a hook in the water; or a line may be thrown at large, with a good store of hooks baited, and plumbed, with a float to discover where the line lies in the morning. A small roach does well here for a bait, the hook being laid in his mouth. No leads or rods for eels are to be laid in the Thames and Medway but from April 21 to October 30; but they may be hooked for all the year.

Perch Fishing

The proper baits are the bradling, minnow and small frog; as also the lob-worm, bob oak-worm, gentle, wasp, and cad-bait. The minnow yields the best sport, which is to be alive, and stuck on the hook through the upper lip, or back-fin, and kept swimming about mid-winter. If the frog be used, he is to be fastened to the hook by the skin of his leg. When the fish bites, as he is none of the leather-mouthed kind, he must have time to paunch his bait. The best place to fish for him is in the turning of the water-eddy in a good gravel bottom.

No perch is to be taken in the Thames or Medway under six inches from the eye to the end of the tail, and only between August 24th and March 21st.

Pike Fishing

There are two ways of fishing for the pike; by the ledger-bait and the walking bait. 1. The ledger bait is that fixed in one certain place, and which the angler may leave behind him. Of this kind the best is some living bait, as a dace, roach, gudgeon, or a living frog. 2. The walking-bait is that which the fisher casts in, and conducts with a rod, etc. This is perforated by a troll, with a winch for winding it up, so as to give the fish length enough to run off with the bait. Then striking him with a smart jerk. The rod must not be too slender at the top, and the line should be of silk two yards and a quarter near the hook, and strongly armed with a wire about seven inches.

No pike or jack is to be taken in the Thames or Medway under twelve inches from the eye to the end of the tail, and only between August 24th and March 21st.

Trout Fishing

The trout is a delicious freshwater fish, speckled with red and yellow, coming in and going out of season with the buck, and spawning in the cold months of October and November, whereas all the other species spawn in hot summer weather. There are divers kinds of this fish, all valuable; but the best



We assume that fishing technic has improved during the past century. We wonder, however, if even the expert angler of today gives the study to his sport that its devotees gave one hundred and fifty years ago.—Jim Sherman photo.

are the red and yellow trouts; and of these the female, distinguished by a less head and deeper body is preferred. They are known to be in season by the bright color of their spots, and by their large and thick back; which last may serve also for a rule for other fish. Through the whole winter they are sick, lean, and unwholesome, and frequently lousy. As the spring comes on, deserting the still, deep waters, they repair to the gravelly ground, against which they continue to rub, till they get rid of their lice, which are a kind of worms with large heads. From that time they delight to be in the sharp streams, and such as are swift, where they lie in wait for minnows and May-flies. At the latter end of May they are in their prime.

The usual baits whereby the trout is caught are the worm, minnow and fly, either natural or artificial. The proper worms are the brandling, lob-worm, squirrel-tail worm, which has a streak round the back, a red head, and a broad tail, earth-worm, dung-worm, and maggot or gentle, especially the three first. To take the trout with a ground-bait the angler should have a light taper rod with a tender hazel top; and may angle with a single hair of three links, the one tied to the other, for the bottom of the line, and a line of three-haired links for the upper part; with this sort of tackle, if the sportsman has room enough, he will take the largest trout in any river. The angler must always keep out of sight and the point of the rod must be down the stream. The season for fishing for the trout with the ground-bait begins in March and the mornings and evenings are the best time of the day; but in cloudy weather the sport may be followed all day long. There must be plummet at ten inches from the hook, which the angler must feel always touching the ground; and this must be heavier as the stream is swifter. When the minnow is used choose

the whitest, and that of middling size; slip the hook through his mouth, and the point and beard out at the tail, so as it may lie almost straight on the hook. Then try against the stream, whether it will turn.

The most agreeable manner of fishing for trout is with the fly: the rod in this case must be light and pliable, and the line long and fine; if one hair be strong enough, as it may be made by proper skill in the angler, there will be more fish caught than when a thicker line is used; and the fly-fisher should have the wind in his back, and the fun before him.

No trout is to be taken in the Thames or Medway between November 11th and August 24th, or to be of less weight than one pound.

Fly Fishing

The fly is a bait used in angling for divers kinds of fish; and is either natural or artificial.

Natural flies are innumerable; the more usual on this occasion are the dun-fly, the stone or May-fly, the red-fly, the moor-fly, the tawny-fly, the vine-fly, the shell-fly, the cloudy and blackish-fly, the flag-fly; also caterpillars, canker-flies, bear-flies, etc., all which appear sooner or later, according to the forwardness or backwardness of the spring.

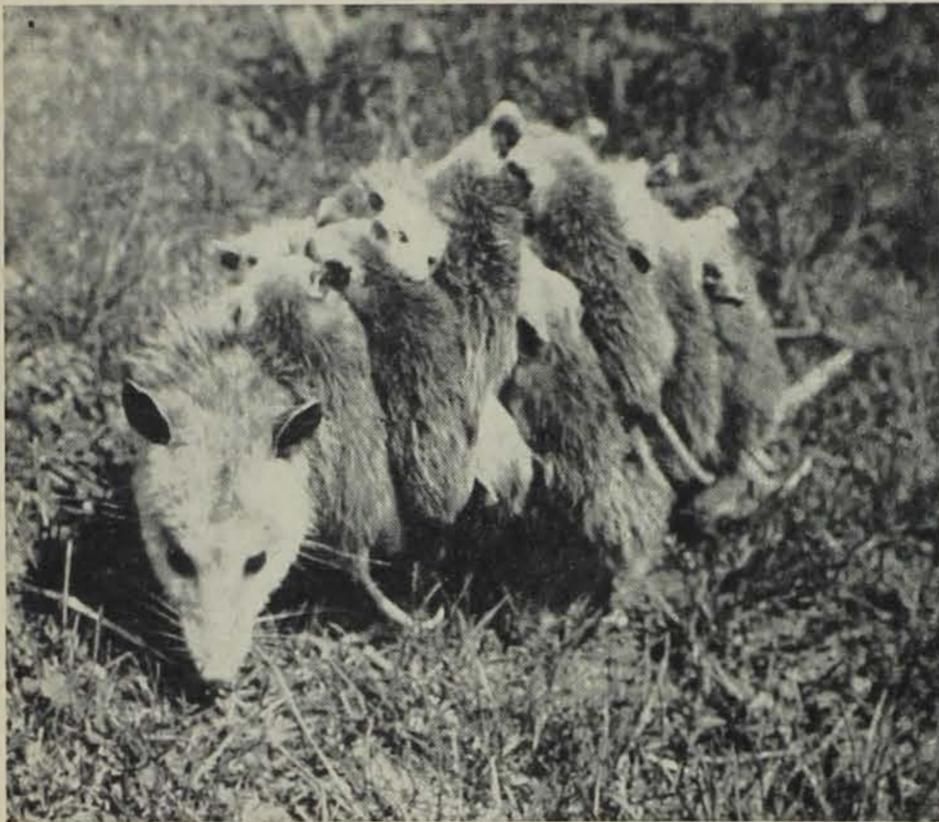
Rules for Artificial Fly-Fishing

1. To fish in a river somewhat disturbed by rain, or on a cloudy day, when the waters are moved by a gentle breeze; the south-wind is best; and if the wind blow high, yet not so but that you may conveniently guide your tackle, the fish will rise in plain deeps; but if the wind be small, the best angling is in swift streams.

2. Keep as far from the water-side as may be; fish down the stream, with the sun on your face, and touch not the water with your line.

3. Angle always in clear rivers with a small fly and slender

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At five weeks baby opossum begin to hitch-hike on their mother's back instead of inside the marsupium. This family was rooted out of a brush pile and required to pose for this picture.

Wildlife Nurseries

(Continued from page 33)

attached. As many as 22 young may be born, but since the mother has only 11 to 13 teats, the last born young starve. Once a young one becomes attached inside the pouch, it does not release its hold until about a month old. The usual number inside a pouch is 6 or 7. During the fifth week the young begin to spend some time outside the pouch, and are soon riding on the mother's back or nosing among dead leaves and rotten wood for any grubs or insects that may be found. It takes about two months for the young to become grown. During this time it is the mother alone that cares for them. The father shows no indication of being a family man.

The home life of the red fox is much different from that of the opossum. Although the male fox does not enter the den at the time the young are born and for several days thereafter, nevertheless, he remains in the immediate vicinity of the den to stand guard and bring food to the female. At birth the young are blind and have a coating of fur. They do not acquire sight for about a week. In a month's time they begin to spend some time outside the den either



Daylight caught these baby raccoons high tailing for home, a den far up an old elm tree.

resting, playing or eating some victim that the parents have captured for them. At this time the male shares with the female the problems of feeding and caring for the young. While the pups are outside the den, one of the parents remains on guard to warn them of any approaching danger. A sharp yap sends them scurrying back into the den. Of the various kinds of prey brought to the pups, most are dead but a few are brought in alive. Possibly this serves as a kind of schooling for the pups in pouncing upon and killing their food. It is common for the fox family to change dens once or several times before the pups are fully grown. This helps to eliminate tell-tale evidence in the form of feathers and bones that accumulate around the den entrance over a period of several weeks. The family remains together as a group for about three months or a little longer. With the approach of autumn the young ones go their way.

One would think that the home life of the skunk would be very smelly indeed. They must have a lady's and gentleman's agreement, however, that their musk is to be used only on other animals that threaten them. Even in fights among themselves they refrain from spraying. Since instances of cannibalism have been noted on the part of the male, the female makes him understand that he is not welcome after the kittens arrive. At birth their eyes and ears are closed, but they open between two and three weeks. They may be naked or clothed with a fine coat of down. In either case it is easy to see their future color pattern, for the skin that will support black fur is a blue gray color and the white areas are represented by pink skin. The musk glands

are not functional until the young are slightly more than a month old. At this time the kittens begin to walk around, and if approached will stamp their feet and assume firing position as a warning signal. If excited or angered they try to musk and some are partially successful. When they are a month and a half old the mother begins to take them out on night hunting expeditions. She is a good and patient mother in spite of their childish squabbles and pranks. But if one of them taxes her too much or gets out of line, she doesn't hesitate to bring it back to the group and let it know who is boss. She defends them well until they are grown and are able to take care of themselves.

The muskrat may prepare for the arrival of its young in one of several places. The bank den is sometimes used as a nest home. Entrance to the den is below the water line. An ascending tunnel leads to the den proper which is above water level and consequently is dry and comfortable. The young may be born and raised in the lodge. This is an accumulation of water plants piled onto a mixed mud and plant foundation. Tunnels are made into the center of the lodge and a chamber is fashioned above water level. There is usually more than one passageway leading from the chamber with several plunge holes so the muskrat can make a quick escape



Many mice nests are soft and beautifully constructed rivaling in workmanship some of the best builders in the bird world. —Tom Scott photo.

if necessary. The kits are blind, naked and helpless at birth. There may be from 4 to 10 in a litter. They grow rapidly and in a short time acquire a coat of short dark gray fur. After spending about a month in the den they begin to venture outside provided a mink hasn't already found and eaten them. That is their worst enemy, especially when they are very young for their parents are rarely able to fight off an average sized mink. The home life of the muskrat is not so agreeable and pleasant as that of some other animals. If there is overcrowding in the den or in the area surrounding it, there are likely to be family and neighbor fights in which both young and adults are wounded or killed. After the kits start coming out of the den they begin to find their own food and to lead their own life, so it is not long



The Virginia deer fawn has no regular nest, but beds down among the leaves and grass where its spotted coat camouflages it expertly.

before they are independent of all family ties.

Although the cottontail uses forms, burrows and other kinds of protection from enemies and bad weather, a special type of nest is built by the female before the young are born. She digs out a hollow in the ground about 5 inches deep and 6 inches in diameter. This is lined with grasses or leaves with a final lining of fur which she plucks from her body. At birth the rabbits are blind and usually naked. On some there may be a slight fuzz, pale in color. The number in a litter varies from three to seven. In spite of the fact the cottontail is our most common game animal, its nest is difficult to find. It may be in strawberry patches or garden tracts where straw mulches are present. Fence rows, meadows, pastures, stack bottoms and hay fields are all areas in which nests are constructed. The male has nothing to do with helping to raise the family. All the work is accomplished by the female. She is very careful about going to the nest in daytime. Most of her visits are made under cover of darkness so that the nest location remains a secret. The young grow rapidly and when about two weeks old after their eyes are open they begin to leave the nest and obtain food by themselves. When this happens the mother loses all interest in her young and they have to shift for themselves.

—BUY YOUR LICENSE FIRST!—
FLY ROD CARE

A fly rod does not need revarnishing unless the old varnish is worn off, or bamboo exposed. And a fly rod is not designed to throw suckers over your head, nor is it a reefing instrument in stumps. It, too, like the automatic reel, is a fine piece of equipment and must be cared for like your watch. Don't drop your rod on the ground, some clumsy fellow might step on it. The average fly rod cannot even stand one step. A broken fly rod is a sickly sight—don't break yours!

—Leader, Bellevue, Iowa.
—BUY YOUR LICENSE FIRST!—

There's a tomcat in our neighborhood that needs tuning.
A new mink coat can sometimes be made out of an old goat.



When fish can be caught, people go fishing. Channel catfish are being taken with regularity by thousands of first year anglers.—Jim Sherman photo.

CAT FISHING IS BOOMING

ALREADY anglers have enjoyed thirty days of the hottest spring cat fishing in many years. Water levels have been good. The water is clear and fish have been biting hard and often practically all the major streams. Winter pollution loss in the Des Moines River and several other streams has proved to be less extensive than was expected, and thousands of cat fishermen are happy.

What has caused the catfish boom that has made old-time fishermen goggle-eyed as they see hundreds of new devotees lining miles of streams near the larger towns snaking out the stream-lined cats with regularity?

This fact in itself is the answer. When fish can be caught, people will go fishing. The recent popularity and widespread use of soft, prepared baits has made channel cat fishing productive even for the unskilled of amateurs. A conservative estimate by game officials doubles the number of cat fishermen in the past few years.

The question is asked, "Will the heavy pressure on catfish spoil the sport when we are just beginning to learn?" The answer according to fisheries experts is "No." Pole and line fishing cannot make serious inroads into the catfish population in any major water body, for even the hundreds of thousands that are taken each year represents only an infinitesimal part of the whole.

Catfish move long distances. One tagged, "Iowa Cat" was taken six weeks after it was tagged, more than one hundred miles from the point where the tag was attached. Although on some sections of streams there is scarcely a bow room on Sunday, there are hundreds of miles of major streams on which there is no fishing pressure.

Catfish reproduce abundantly and grow fast when conditions are right and the mighty Mississippi and Missouri Rivers are constant-

ly supplying the lower portions of our inland streams with giant flat heads as well as the racey channel cats.

According to numerous surveys, outdoor recreation of all sorts is expected to climb to record heights and conservation officials feel certain that catfish will supply the excuses for outdoor activity for more people in the state than ever before.

—BUY YOUR LICENSE FIRST!—

A Treatise . . .

(Continued from page 37)

wings, but in muddy places use larger.

4. When after rain the water becomes brownish, use an orange-fly; in a clear day, a light-colored fly; a dark fly for dark water, etc.

5. Let the line be twice as long as the rod, unless the river be incumbered with trees.

6. For every sort of fly have several of the same, differing in color, to suit with the different complexions of several waters and weather.

7. Have a nimble eye and active hand, to strike presently with the rising of the fish, or else he will be apt to throw out the hook.

8. Let the fly fall first into the water, and not the line, which will fear the fish.

9. In flow rivers or still places, cast the fly across over the river, and let it sink a little in the water and draw it gently back with the current.

Salmon flies should be made with their wings standing one behind the other, whether two or four. That fish delights in the gaudiest colors that can be; chiefly in the wings, which must be long, as well as the tail.

—BUY YOUR LICENSE FIRST!—

Mama Skunk was worried no end because she could never keep track of her two children. They were named In and Out, and whenever In was in, Out was out, and if Out was in, In was out. One day she called Out to her and told him to go out and bring in In. So Out went out and in no time at all brought In in.

"Wonderful!" sez Mama Skunk. "How in all this great forest could you find In in such a short time?" "It was Easy," sez Out. "Instinct."

METHODS OF FEATHERED ANGLERS

Feather anglers have different methods of catching fish. The osprey hovers over the water, plummets down, hits the water with a splash and catches his quarry, in its talons, sometimes almost disappearing beneath the surface in his quest for prey.

The kingfisher sits in a tree and patiently watches, catching small fish in his long, pointed bill. The loon swims under water, catching fish in a fair chase.

The bald eagle usually feeds on carrion fish, but occasionally robs the osprey of his dinner by forcing the latter to drop his fair caught quarry which the eagle, in turn, steals as it falls.

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SPRING GUN CLEANING

With the hunting season over in most states, it is time to lay away that rifle or shotgun in such shape that it will be ready to go again this coming fall. George E. Frost, Technical Advisor of Western-Winchester Companies, suggests the following rules to give guns permanent off-season protection.

1. Clean the bore thoroughly with patches of cloth and a reputable powder solvent, or soap and water.

2. With the bore perfectly clean and dry, coat it with heavy gun grease. Do not use light lubricants as they are more subject to atmospheric rusting. Cover all exposed metal parts with the same type of heavy grease, rubbing it on with a cloth.

3. After greasing, release the spring of the firing mechanism by snapping, or letting down the hammers.

4. Store in a dry place of ordinary room temperature. Do not keep your gun in basements, attics or any place subject to extreme temperature changes or dampness.

5. Do not plug the muzzle or breech or confine the gun in tight fitting scabbards or cases.

Remember these directions are for storage. It is dangerous to fire your gun again until the bore has been cleaned of these heavy greases.

NOTICE—SUBSCRIBERS!

The paper situation, although critical for many months, has become acute, and consequently this issue of the "Conservationist" is printed on poorer quality paper than in the past. We hope to have better paper next month, although information relayed through the State Printing Board from the mills, is not optimistic. There is even the possibility that no paper will be forthcoming for issues in the immediate future. If it is necessary to temporarily suspend publication, it will not be possible to notify our 26,000 readers; however, we will extend all subscriptions to take care of any missed issues.



Next to findin' out which leg of a union suit is inside out, about the hardest thing to do is to jedge the weight of a fish. If you pick one out at the fish market he allers weighs a goodeal more than you kalkerlated, an' if you ketch one he allers weighs a goodeal less.

When a feller begins to eat his noonday lunch on his way home at sunset, you kin jes about make up your mind he's enjoyed a good day's fishin'.

There's jes two kinds o' fishermen, the feller that carries his lunch in his coat pocket and the feller that brings a refrigerator basket.

Fishes don't grow very fast till somebuddy ketches 'em.

Andy Gillam says: "I never knowed nobuddy that calles himself Charles, or Edward, or Frederick that was any great shakes when it come to fishin'."

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KOSSUTH COUNTY FIELD DAY TO BE REVIVED

An organization meeting of the Algona chapter of the Kossuth County Conservation League will be held soon with its principal business to revive the famous field day.

The field day was considered one of the greatest outdoor sport shows in the middle west and several were held prior to the war with notables from all over the country attending and with crowds up to 25,000 in attendance.

The admission charge in the past was ten cents, enough to defray the expenses, and the whole day of sports events was held.

Dog races, fly and bait casting were part of the show, and trap, rifle, pistol and skeet ranges hummed all day long. Numerous other outdoor events including dog shows and special attractions helped to make the event outstanding.

Field days immediately preceding the war were held in a natural amphitheater, seven miles northwest of Algona, on a plain with a nearby hillside providing parking space as well as a view of all the proceedings in the bottom below.

—BUY YOUR LICENSE FIRST!—

The barn owl, whose diet consists mainly of rats and mice, will eat its own weight in food in a single night.

