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Kansas sportsmen can look forward to better hunting opportunities this fall, according to reports reaching the Forestry, Fish and Game Commission.

Reports from state game protectors, landowners and sportsmen are encouraging, particularly in respect to quail. Except for a few scattered counties where the exceptionally hot and dry summer cut down on hatching success, the quail populations are reported up fifteen to twenty percent over a year ago. The pheasant picture, although spotted, is also much more favorable as a whole than it was a year ago. Scattered rains during July and August improved the outlook in many areas of the state, especially from the cover standpoint, and many late hatches of both quail and pheasants were seen. A healthy increase in rabbits, both cottontails and jacks, was noted.

Here is a brief summary of the hunting outlook together with hunting dates and regulations:

QUAL: November 20, 21, 23, 25, 27, 28, 30, and December 2, 4, and 5, in all counties. Daily shooting hours from one-half hour before sunrise to 4 p. m. Central Standard Time. Daily bag limit, 6; possession limit after opening day, two days' bag limit.

Outlook: Populations definitely up in most sections of the state. Increase more evident in northeastern counties and in the two tiers of counties along eastern border, all the way from Brown and Atchison on the north to Labette and Cherokee counties on the southern border. All reports from those counties said populations were up from fifteen to thirty percent. A good increase also reported in many western Kansas counties. Poorest quail outlook is in the counties through the central part of the state (running north and south), where rainfall was below normal. Although an increase in quail numbers was reported in some of these central counties, the outlook is quite spotty.

In checking reports from the field, it is significant that only in the counties of Geary, Dickinson, Saline, and the south half of Cowley county, were quail prospects reported below that of last year. In all other counties, populations were definitely up or holding their own.

Cover will be heavy over much of the better quail range and hunters will find it tough going. Good hunting dogs will be a big help to hunters.

PHEASANTS: Open season November 6 to November 15, both dates inclusive, in the following counties: Barber, Barton, Cheyenne, Clark, Clay, Cloud, Comanche, Decatur, Dickinson, Edwards, Ellis, Ellsworth, Finney, Ford, Gove, Graham, Grant, Gray, Greeley, Hamilton, Haskell, Hodgeman, Jewell, Kearny, Kingman, Kiowa, Lane, Lincoln, Logan, Marion, McPherson, Meade, Mitchell, Morton, Ness, Norton, Osborne, Ottawa, Pawnee, Phillips, Pratt, Rawlins, Reno, Republic, Rice, Rooks, Rush, Russell, Saline, Scott, Seward, Sheridan, Sherman, Smith, Stafford, Stanton, Stevens, Thomas, Trego, Wallace, Washington, and Wichita. Daily bag limit, 3 cock birds; possession limit, two days' bag limit. Pheasants in possession of hunters and in lockers must retain head and feet. Daily shooting hours, from 12 o'clock noon, Central Standard Time, to sunset.

Outlook: Much more favorable as a whole than last

Page Two

year, but spotted. Best increase in pheasants reported in Cheyenne, Rawlins, Decatur, Norton, Phillips, Sheridan, Graham, Trego, Gove, Wichita, Scott, Lane, Rush, Pawnee, Ness, Hodgeman, Seward, Ellsworth, Reno, Barton, Gray, and west half of Meade county. Populations reported down in Ottawa, Lincoln, Smith, Russell, Osborne, Jewell, Republic, Cloud, Mitchell, Rooks, Saline, Ford, Haskell, Finney, Wallace and Greeley counties. Elsewhere, populations about the same.

Cover will be dense over much of the pheasant territory. There will be a vast acreage of maize crops in the best pheasant territory, which will undoubtedly be posted to hunting, unless the grain is cut before the opening day of the pheasant season.

We suggest that those hunters who usually travel to favorite haunts in western Kansas for the pheasant season, would do well to make inquiry in area you plan to hunt. Conditions this year may be such that more productive hunting could be found in some other area. Generally speaking, if hunters have good local contacts where they plan to hunt, they should not experience too much difficulty in finding some shooting. It would be well to renew those contacts before opening day, however.

PRAIRIE CHICKEN: An increase of this once popular game bird is noted in some areas, particularly in northeastern Kansas. Populations of the lesser prairie chicken in southwestern Kansas fell below last year. There was poor hatching success because of drouth and hot temperatures. Prairie chicken populations were not sufficient as a whole to justify an open season this fall.

DUCKS, GEESE AND COOT: Season, October 21 to December 19, both dates inclusive. Daily bag limit on ducks (except coots, American and red-breasted mergansers and hooded mergansers), 5; possession limit, 10. Daily bag limit on geese, 5, including in such limit not more than (a) two Canada geese or its subspecies, or (b) two white-fronted geese, or (c) one Canada goose or its subspecies and one white-fronted goose. Possession limit, five geese.

Daily bag limit on coot, 10; possession limit, 10. Daily bag limit on American and red-breasted mergansers, 25 singly or in the aggregate of both kinds. Daily bag and possession limit on hooded mergansers, one. This year, hooded mergansers and American and redbreasted mergansers are to be included in the regular bag and possession limit on other ducks. No open season on wood ducks in Kansas. Shooting hours are one-half hour before sunrise to sunset, except on opening day when shooting shall not begin before 12:00 noon.

Outlook: Word from Canada indicates a good waterfowl crop this year, although hatches were from

ten days to three weeks late in parts of the Canadian breeding grounds. Given generous rains between now and opening day of duck season, Kansans can expect some good shooting. The spring migration of ducks through the state was one of the largest in years. All we need is some rain to fill the ponds, sloughs and lakes and the state can expect heavy flights of ducks.

RAILS AND GALLINULES: Season, September 15 to November 13, both dates inclusive. Daily bag and possession limit, 15 in the aggregate. Daily shooting hours, one-half hour before sunrise to sunset.

Outlook: Kansas does not have these species of migratory birds in any great numbers.

SORA: Season same as for rails and gallinules. Daily bag and possession limit, 25. Very few sora migrate through the state and not many are killed here.

MOURNING OR TURTLE DOVE: Season, closes on October 10. Daily bag and possession limit, 10.

SQUIRREL: Open season, June 15 to November 30, inclusive. Daily bag limit, 8; possession limit, two days' bag limit. Squirrels are in plentiful supply.

RABBITS: Closed season, October 16 to December 14, inclusive, with the following exceptions—November 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 20, 21, 23, 25, 27, 28, 30, and December 2, 4 and 5. When rabbits are taken November 6 to 15 (dates of pheasant season) they may not be taken before noon, Central Standard Time, and when taken during the quail season (November 20, 21, 23, 25, 27, 28 and 30, and December 2, 4 and 5) they may not be hunted later than 4 p. m. Central Standard Time on those dates. Daily bag limit, 10; possession limit, 20. Rabbit hunters unless otherwise exempt from hunting license requirements, must have a license to hunt rabbits.

Outlook: A healthy increase in cottontails and jack rabbits is reported over the state. In some areas in western Kansas, the jack rabbit has made such a strong comeback that they are reported a menace again.

Possession PERIOD: The postseason period for possession of migratory game birds remains the same as in previous years, 90 days. The postseason period for possession of quail and pheasants, 30 days. In transportation or importation of dressed migratory game birds and pheasants, as a means of identification, are required to have the head, head plumage and feet attached.

DUCK STAMP: It shall be unlawful for any person over the age of sixteen years to hunt for or take any migratory waterfowl unless at such time he or she is in possession of an unexpired properly canceled federal migratory bird stamp (duck stamp) with name of owner written across the face of the stamp in ink.

QUAIL STAMP: All persons who hunt quail and are

SUNRISE AND SUNSET TIMES DURING KANSAS' OPEN WATERFOWL SEASON-1954

DATE	Kansas C	City, Mo.	Top	eka	Wic	hita	Great	Bend	H	ays	Garde	en City	Good	land
	Rise	Set	Rise	Set .	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
October 21	6:34	5:32	6:38	5:37	6:44	5:44	6:49	5:50	6:52	5:51	6:58	5:57	6:02	5:01
October 22	6:35	5:30	6:39	5:35	6:45	5:42	6:50	5:48	6:53	5:49	6:59	5:56	6:03	4:59
October 23	6:36	5:29	6:40	5:34	6:46	5:41	6:51	5:47	6:54	5:48			6:04	4:58
October 24	6:37	5:28	6:42	5:33	6:47	5:40	6:52	5:46	6:55	5:47	7:01	5:54	6:05	4:57
October 25	6:38	5:26	6:43	5:31	6:48	5:38	6:52	5:44	6:57	5:45			6:07	4:55
October 26	6:39	5:25	6:44	5:30	6:49	5:37	6:54	5:43	6:57	5:44			6:08	4:54
October 27	6:40	5:24	6:45	5:29	6:50	5:36	6:55	5:42	6:58	5:43			6:09	4:58
October 28	6:41	5:22	6:46	5:27	6:51	5:35	6:55	5:40	7:00	5:41	7:05	5:49	6:10	4:51
October 29		5:21	6:47	5:26	6:52	5:34	6:56	5:39	7:01	5:40			6:11	4:50
October 30		5:20	6:48	5:25	6:53	5:33	6:57	5:38	7:02	5:38			6:12	4:49
October 31	6:45	5:19	6:49	5:24	6:54	5:31	6:58	5:37	7:02	5:38			6:13	4:48
November 1	6:46	5:18	6:50	5:2 3	6:55	5:30	7:00	5:36	7:03	5:37	7:09	5:44	6:14	4:47
November 2	6:47	5:17	6:51	5:22	6:56	5:29	7:01	5:35	7:04	5:36			6:15	4:46
November 3	6:48	5:15	6:52	5:21	6:57	5:28	7:03	5:34	7:06	5:35			6:16	4:45
November 4	6:49	5:14	6:53	5:19	6:58	5:27	7:05	5:32	7:08	5:33	7:12	5:41	6:17	4:43
November 5	6:50	5:13	6:54	5:18	6:59	5:26	7:06	5:31	7:09	5:32			6:18	4:42
November 6	6:51	5:12	6:56	5:17	7:00	5:25	7:07	5:30	7:10	5:31			6:20	4:41
November 7	6:52	5:11	6:57	5:16	7:01	5:24	7:08	5:29	7:11	5:30			6:21	4:40
November 8	6:53	5:10	6:58	5:15	7:03	5:23	7:09	5:28	7:12	5:29	7:17	5:37	6:22	4:39
November 9	6:55	5:08	6:59	5:14	7:04	5:21	7:10	5:27	7:13	5:28			6:23	4:38
November 10	6:56	5:08	7:00	5:14	7:05	5:21	7:11	5:27	7:14	5:28			6:24	4:38
November 11	6:57	5:07	7:01	5:13	7:06	5:20	7:12	5:26	7:15	5:27			6:25	4:37
November 12	6:58	5:07	7:02	5:12	7:07	5:20	7:13	5:25	7:16	5:26	7:21	5:34	6:26	4:36
November 13	6:59	5:06	7:03	5:11	7:08	5:19	7:14	5:24	7:17	5:25			6:27	4:35
November 14	7:00	5:05	7:05	5:10	7:09	5:18	7:15	5:23	7:18	5:24			6:29	4:34
November 15	7:01	5:04	7:06	5:09	7:10	5:17	7:16	5:23	7:20	5:23			6:30	4:33
November 16	7:02	5:03	7:07	5:09	7:11	5:17	7:18	5:22	7:21	5:23	7:25	5:31	6:31	4:33
November 17	7:04	5:03	7:08	5:08	7:12	5:16	7:19	5:21	7:22	5:22			6:32	4:32
November 18	7:05	5:02	7:09	5:07	7:13	5:15	7:20	5:20	7:23	5:21			6:33	4:31
November 19	7:06	5:01	7:10	5:07	7:14	5:15	7:21	5:20	7:24	5:21			6:34	4:31
November 20	7:07	5:01	7:11	5:06	7:16	5:14	7:22	5:19	7:25	5:20	7:30	5:28	6:35	4:30
November 21	7:08	5:00	7:12	5:05	7:17	5:13	7:23	5:19	7:27	5:19			6:36	4:29
November 22	7:09	5:00	7:13	5:05	7:18	5:13	7:24	5:18	7:27	5:19			6:37	4:29
November 23	7:10	4:59	7:14	5:04	7:19	5:12	7:25	5:18	7:29	5:18			6:38	4:28
November 24	7:11	4:59	7:15	5:04	7:20	5:12	7:26	5:17	7:29	5:18	7:34	5:26	6:39	4:28
November 25	7:12	4:58	7:17	5:03	7:21	5:12	7:27	5:17	7:31	5:17			6:41	4:28
November 26	7:13	4:58	7:18	5:03	7:22	5:11	7:28	5:16	7:31	5:17			6:42	4:27
November 27	7:14	4:57	7:19	5:02	7:23	5:11	7:29	5:16	7:33	5:16			6:43	4:26
November 28		4:57	7:20	5:02	7:24	5:11	7:30	5:16	7:34	5:16	7:38	5:25	6:44	4:26
November 29	7:16	4:57	7:21	5:02	7:25	5:10	7:31	5:15	7:34	5:16			6:45	4:26
November 30	7:17	4:56	7:22	5:01	7:26	5:10	7:32	5:15	7:35	5:15			6:46	4:25
December 1	7:18	4:56	7:23	5:01	7:27	5:10	7:33	5:15	7:37	5:15	7:41	5:24	6:47	4:25
December 2	7:19	4:56	7:24	5:01	7:28	5:09	7:34	5:15	7:38	5:15			6:48	4:25
December 3		4:56	7:25	5:01	7:29	5:09	- 7:35	5:15	7:39	5:15			6:49	4:25
December 4		4:56	7:26	5:01	7:29	5:09	7:36	5:15	7:40	5:15	7:43	5:23	6:50	4:25
December 5		4:56	7:26	5:01	7:30	5:09	7:37	5:14	7:40	5:15			6:50	4:25
December 6	7:23	4:56	7:27	5:01	7:31	5:09	7:38	5:14	7:41	5:15			6:51	4:25
December 7		4:56	7:28	5:01	7:32	5:09	7:38	5:14	7:41	5:15	7:46	5:23	6:52	4:25
December 8		4:56	7:29	5:01	7:33	5:09	7:39	5:14	7:42	5:15	7:47	5:23	6:53	4:25
December 9	7:26	4:56	7:30	5:01	7:34	5:09	7:40	5:14	7:43	5:15			6:54	4:25
December 10		4:56	7:31	5:01	7:35	5:10	7:41	5:15	7:45	5:15	7:49	5:23	6:55	4:25
December 11		4:56	7:32	5:01	7:35	5:10	7:42	5:15	7:46	5:15	7:50	5:23	6:56	4:2
December 12		4:56	7:32	5:01	7:36	5:10	7:43	5:15	7:47	5:15	7:50	5:24	6:56	4:25
December 13		4:56	7:33	5:01	7:37	5:10	7:43	5:15	7:47	5:15	7:50	5:24	6:57	4:25
December 13		4:56	7:34	5:01	7:38	5:10	7:44	5:15	7:48	5:15	7:51	5:24	6:58	4:25
December 14	inter interior	4:57	7:35	5:02	7:38	5:11	7:45	5:16	7:49	5:16	7:52	5:25	6:59	4:20
December 16		4:57	7:35	5:02	7:39	5:11	7:45	5:16	7:49	5:16	7:53	5:25	6:59	4:26
		4:57	7:36	5:02	7:40	5:11	7:46	5:16	7:50	5:16	7:53	5:25		
December 17		4:57	7:30	5:02	7:40	$5:11 \\ 5:12$	7:40	5:17	7:51	5:17	7:54	5:25	7:00	4:26
December 18							7:47	5:17	7:51	5:17	7:54		7:01	4:27
December 19	7:33	4:58	7:37	5:03	7:41	5:12	1:41	0.11	1:01	0.17	1:55	5:25	7:01	4:27

The above listed times are U. S. Weather Bureau figures compiled by the U. S. Weather Bureau at Wichita. The sunrise and sunset time shown for Kansas City, Mo., Topeka, Wichita, Great Bend, Hays and Garden City are computed for Central Standard Times. Those for Goodland are for Mountain Standard Time. To convert this time for any given locality, add one minute for each 15 miles your location is west of the above given points and substract one minute for each 15 miles east of said points.

IMPORTANT NOTE: Hunting hours which will prevail this fall are one-half hour before the listed sunrise time to sunset times shown.

Page Four

required to have a hunting license must also procure and affix to that license a quail stamp, with the owners name written across the face of the stamp in ink.

OTHER HUNTING REGULATIONS: No game bird or game animal shall be shot at, killed or pursued from a motorboat, airplane, or automobile and no wild game bird shall be shot at or killed unless that bird is in flight.

It is unlawful to hunt and kill wild game birds and wild game animals with gun larger than ten gauge.

It is unlawful to hunt, kill, pursue or have in possession any wild song and insectivorous bird or destroy the nests or eggs of such birds.

It shall be unlawful to use directly or indirectly live waterfowl decoys for the taking of waterfowl, nor may waterfowl be taken by means, aid or use of cattle, horses or mules, or by baiting.

The use of shotguns in the taking of waterfowl and doves is permitted providing such guns are not capable of holding more than three shells in magazine and chamber combined. The use of plugs in automatic and repeating shotguns is permitted providing such plugs cannot be removed without disassembling gun.

For further information write to the Forestry, Fish and Game Commission, Pratt, Kansas.

While the outlook for this season is good, game biologists caution sportsmen that the weather at hunting time also will have an effect upon success.

Cover Picture

With the opening of the 1954 upland game bird hunting seasons drawing near, this month's front cover picture features the Bobwhite quail—one of the most numerous and coveted of Kansas' game birds. Game surveys show a good increase in Bobwhite populations this year.—*Photo courtesy U. S. Fish and Wildlife Service.*

Nature has endowed the earth with glorious wonders and vast resources that man may use for his own ends. Regardless of our tastes, or our way of living, there are none that present more variations to tax our imagination than the soil, and certainly none so important to our ancestors, to ourselves, and to our children.—*Charles E. Kellogg.*

The color of the male bird has much to do with whether or not he helps with brooding the eggs. If he is inconspicuously colored like the female, he takes his regular turn. If he is brilliantly colored, he stays away from the nest.

Tips for the Hunter

With more than 200,000 Kansans expected to take to the fields this fall in pursuit of ducks, geese, pheasants, quail and rabbits, here are a few timely suggestions for hunters as an aid in getting the maximum of pleasure from their trips afield:

1. Pay close attention to your foot gear. See that your shoes not only are comfortable, but can repel moisture if necessary. Be sure there is room in the shoes for heavy socks if the day is cold or the ground wet. If the brush is wet, or if there's been snow, rubber footwear is advised.

All clothes should be adequate to meet the weather. Hard-finished trousers are best to repel the briars, burrs and "stickers." A suit of long underwear helps particularly if it is cold.

It's wise to wear two shirts. When you begin to heat up, take one of them off. A hunting coat is also a necessity. For it will carry your game and your shells. Don't forget a pair of gloves—to ward off any cold. Light leather is best. Cloth slips on the gun stock.

2. Make sure of your gun. The gun you use should fit you—should be of a gauge you can handle comfortably and without flinching. The important thing is to acquire a familiarity with the gun you use. It should come to your shoulder mechanically—quickly and smoothly. If it doesn't, something is wrong. The stock may be too long for your arms, or if it's too short, it cannot be handled properly and your marksmanship will suffer. If your gun does not feel right, take it to the nearest sporting goods store for suggestions.

If you are using an old gun, be certain that the shells you fire are not too heavy for the gun. The old type guns can't take the strain of the new fastburning, high-powered loads.

3. Attempt to condition yourself for the opening day by frequent hikes several weeks in advance of the first hunting day.

4. Once afield, ACT YOUR AGE and know your physical limits.

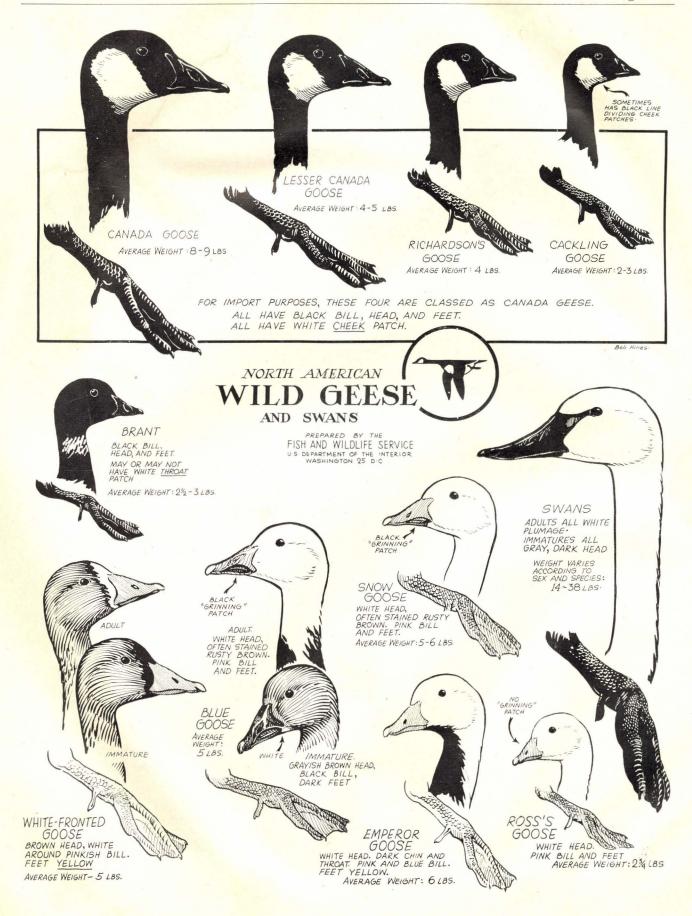
5. Avoid vigorous hill climbs and difficult drives if aware of a heart condition.

6. DO NOT HUNT to the limit of your endurance Be alert for unusual shortness of breath or pain in the chest as warning of over-exertion.

If you will but heed some of these simple tips, your hunting trip can be much more enjoyable, and SAFE!

The roots of most trees are more extensive than the branches. In fact, with most plants, except those that grow in swamps, there are more underground parts than parts above ground.

Page Five



CRANES, RAILS AND COOTS

By WALLACE HUGHES



Courtesy Oklahoma Game and Fish.

SANDHILL CRANE (*Grus canadensis*). Once said to be an abundant migrant this crane is now considered but an occasional migrant, in March or early April and again in October or early November. Flies with neck fully extended, legs stretched out behind. In migration flight cranes fly at a height of half a mile or more. May be observed in flocks of 3-60 or more. Form V's like geese. Their voice, a vibrant trumpeting or honking, can be heard for two miles or more. Adult: Uniformly gray, lighter on cheeks and throat. Bare skin on forehead and crown, red. Bill, feet and legs, black. Eye, brown.

KING RAIL (*Rallus elegans*). The King rail arrives in Kansas to nest in late April and May. The southerly migration occurs in October. Rails are marsh birds, more often heard than seen. They are probably more numerous in suitable areas than is suspected, because they are so wary as to be seldom seen. This member of the rail tribe may be found in field edges and under much drier conditions than is usual for other members of the rail family. Adult: Head and neck brownish above; upper parts light olive brown, streaked with dark brown and black; sides of head and neck cinnamon; throat, white; breast, cinnamon; shoulders, reddish. Size: about that of small domestic chicken.

VIRGINIA RAIL (*Rallus limicola*). Rare summer resident, nesting in swales and marshes. Adult: general coloration similar to that of King rail. Size: about 10".

SORA (*Porzana carolina*). Member of rail family. Rarely nests in Kansas. The birds appear here in late April, and go south by late October. They are relatively abundant during their migratory flight, but seldom are seen because of their retiring habits and the generally localized nature of their preferred living quarters. Adult: most of head black; line over eye and side of head ashy; upper parts of olive brown; chin and throat black; under parts ashy to white; flanks barred black and white; bill short and fowl-like. Size about 9".

Coor (*Fulica americana*). Common spring and fall migrant. Hunters know the coot as "Mudhen." Ducklike in habits. Found on lakes and ponds. Occurs in small or large flocks in open water or feeding in the shallows and vegetation near shore. Runs or patters across the surface of the water before taking flight. Adult: Body dark gray; head and neck blackish; frontal shield brown; bill whitish, with brown spot near tip; toes lobed along edges. Eye red. Size: to 16".

Larned Youth a Real Carp Fisherman

Lloyd Woodward, an eleven-year-old Larned fisherman, certainly did his bit this summer to reduce the carp populations in the ponds and streams in Pawnee county.

According to the *Larned Tiller and Toiler*, Woodward won a handsome fishing reel and line for the most fish caught in the annual Larned Carp Derby. Lloyd caught 129 carp between July 5 and August 5, according to the newspaper report, to claim the prize.

Fishing and Golf

Years ago we had a roommate who was a golfing addict. With a little time to kill one day, we watched him play a hole. The ball reached its destination—a small hole in the ground—in seven swats with assorted clubs. Our friend then took a small card from his pocket. He wrote "5" on it. The rest of the day he seemed to have a guilty look. In fishing you simply don't do that sort of thing. No one ever caught a seven-pound fish and called it a five-pounder!—Sport Fishing Institute Bulletin.

A jackrabbit can run as fast as a good race horse, often obtaining speeds up to forty-five miles an hour.



The Mourning or Turtle Dove is the most widespread of our game birds .- Photo by Wallace Hughes, Oklahoma Game and Fish Magazine.

MOURNING DOVES IN KANSAS

By JIM COATS, Game Biologist

The farm boy seeing doves perched in the old "snag" down on the creek bottom; the hunter taking fast aim at the wavering dove in the weed field; the housewife hearing the soft, mellow "coo" from a dove in the backyard; these are typical of the good associations of Kansans with the mourning dove. Through wise management of this resource, all interests can be maintained.

Mourning doves, as all game, are harvested or hunted with this guiding principle: that the harvest will not decrease the following year's breeding stock. Thus, the number of birds harvested is not allowed to be greater than the number that would die in normal winter losses.

Urban and rural landowners make a most valuable contribution in providing a place for the dove to live. Most of the money expended in research and management of the mourning dove is provided directly or indirectly by hunters. All of us have an interest in the dove and many contribute one way or another to its welfare. The contributions of the hunter, the bird lovers, and the landowners insure the continued existence of a plentiful number of doves.

Importance of the Mourning Dove

Mourning doves are the most widespread of our game birds—breeding in all forty-eight states. In Kansas, doves are present in all counties in significant numbers during the breeding season. The broad band of fertile farmland running north and south through the center of the state has high numbers of breeding doves. This area compares with the better dove-producing areas in the United States. Such counties as Sedgwick, Marion, Saline, and Clay are good dove "producers." Next in importance is the area east of the Flint Hills. This area has breeding doves in numbers well above the national average. The Flint Hills and western Kansas also make notable contributions to dove production. It is most important to note one thing brought out by the pattern of dove numbers in Kansas. That is doves can fit into the scheme of things even where land-use is very intensive, thriving where there is socalled "clean-farming." In this, the mourning dove is the exception to the rule. From this fact alone, the importance of the dove steadily mounts as more of this intensive farming is anticipated.

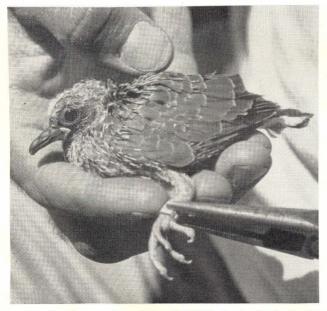
Further, the areas that are attractive to doves typically have the higher human populations, so that doves are easily available to the more metropolitan areas. The city hunter doesn't have to go far to find a sporting target and an actual kill for training his retriever.

Management

The primary responsibility for the management of the dove, since it is a migratory bird, rests with the federal government. The U. S. Fish and Wildlife Service is the organization in charge. The separate states co-operate with the Service in the management plan it develops. The management plan for mourning doves in the United States has been developed through the Co-operative Dove Study, headed by Harold Peters, Research Biologist, located in Atlanta, Georgia. The program now promoted by Peters is a four-pronged attack on the most pressing needs of managerial fact-finding and basic research. These are:

1. A count of the spring breeding population of doves to be used in setting annual seasons and bag limits.

2. A random road-count of doves to determine production success, migration habits, and wintering populations.



A nestling dove receives a Fish and Wildlife Service band. Banding is a useful tool in ascertaining the dove's migration habits.—Photo courtesy Wallace Hughes, Oklahoma Game and Fish Department.



A mourning dove's nest and eggs. The female dove lays but two eggs.—Photo courtesy Oklahoma Game and Fish Magazine.

3. Hunter bag-check to determine hunter-success and other pertinent facts.

4. Banding; to be used in many ways, but mainly to ascertain the birds' migration habits.

Kansas is co-operating in each of the matters except one. We, as are most of the other states, are finding it difficult to incorporate number 2, random road-counts, into our work plan; even though it is important information.

There are, also, many questions concerning mourning doves that must be carefully studied along research lines. The Dove Co-operative Study urges the participation of universities and state game commissions in designated problems. One of the most important problems now being undertaken are studies to determine the effects of early fall hunting.

Proper Use of the Resources

As has been pointed out, Kansas is an important mourning dove state. More of this resource could be safely harvested. In recognition of the facts of high numbers and limited utilization, the federal service relaxed regulations this year in Kansas and other midwestern states for the taking of doves. More doves should be harvested here; otherwise, they will be consumed in the normal winter losses that naturally occur and, thus, will be wasted.

Many times, a cold snap in early September will send the birds south and out of reach of our hunters. By all means, the early days of the season should be used by hunters before the birds start migrating south. Otherwise, the situation during the hunting season may change overnight from one of plenty to one of scarcity.

The earliest opening day for hunting any of the migratory birds is clearly limited by a treaty between Canada, the United States, and Mexico. This day is set at September 1. Therefore, under existing laws, it is impossible to move the opening day ahead in order to more realistically distribute the kill between the northern, central, and southern states. Changing the treaty to allow earlier opening dates is problematical and would not be encouraged unless supported by research results pointed at examining this course of action.

The mourning dove is a valuable resource in Kansas, and will increase in importance with the tendency for more intensive farming. Sound management will safeguard the interests of all and maintain this fine bird in numbers for future generations.

The male prairie chicken has a wind sac on his throat with which he makes a booming call.

Bees are more ill-tempered in foul weather than they are on fair days.

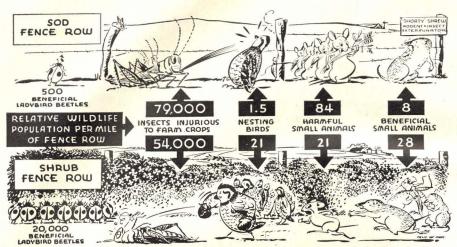
Outboard Motor Thieves Active in Oklahoma

Oklahoma law officials have asked that we list the following information in KANSAS FISH AND GAME: On August 20, 1954, 1 Scott Atwater, 5 h. p. outboard motor, serial No. 37253363; 1 Cris Craft, 10 h. p. outboard motor, serial K102599; 1 Mercury, 5 h. p. outboard motor were stolen from Hulah Lake, Hulah, Okla. Also on August 16, 1954, one Scott Atwater, 10 h. p. outboard motor was stolen from the same lake. Any information about any of these motors should be referred to sheriff's office, Osage County, Pawhuska, Okla.

The humming bird occurs only in North and South America. There are over 500 species in South America, but only one, the ruby-throat, is found in North America east of the Mississippi.



Juvenile delinquency in Kansas City, Kan., is reported at low ebb because the city sponsors a full summer's program of kid's fishing. The City Commissioners, Police Department, the Kansas Rod and Gun Club, and parents all co-operate to make the program a huge success. And, the kids catch fish. Pictured above are a group of youngsters with a one-day catch of bullheads from Big Eleven Lake. Left to right, they are Jerry Lawson, age 8; Harvey Moates, 7; Tommy Moates, 9; David Yeager, 6; Joseph Swodera, 9; Ronnie Malott, 6.—Photo courtesy Kansas Rod and Gun Club.



By PAUL VOHS, JR.

LET SHRUBS GROW IN YOUR FENCEROWS . CUT OUT TREES AND VINES . PLANT LIVING FENCES OF MULTIFLORA ROSE

LET'S PROTECT OUR WILDLIFE

The federal, state and local governments are doing their utmost to protect and propagate wildlife. They cannot accomplish their goal without help. Every citizen of the U. S. should help to give fish and game better chances of survival.

While the city dweller can contribute his small share through the purchase of hunting and fishing licenses and by obeying game laws, the heaviest burden is on the shoulders of the farmer. His co-operation is a must in any successful game management program.

Values of Wildlife

The time and energy spent on wildlife conservation may seem a waste unless careful consideration is given to the monetary and recreational values of wildlife. On 100 acres of land where no managed wildlife plan or soil conservation practice is carried on, monetary value of wild animals is nearly \$60 annually; \$14 for wild game that can be eaten, and \$46 for control of harmful insects and rodents. The value is considerably higher on land containing a stream, pond or marsh where muskrat or other furbearers are trapped. Studies of well-managed farms show there are more than 400 beneficial birds and over 1,000 beneficial small animals per 100 acres.

Besides the income from meats, furs and pest control, there is a recreational value of wildlife through hunting and fishing. In a well-managed wildlife program, bag limits as set by the state Forestry, Fish and Game Commission are a necessity in order to maintain a favorable balance of life. These limits are set only after thorough census studies by the Commission's biologists.

A landowner may improve his farm for wildlife by many inexpensive methods. One of the more important is to leave uncultivated the strip of field bordering a woodland. This area will produce little in the way of crops since it is usually shaded by trees, but will greatly aid birds and animals by increasing the food and cover. Living fences of multiflora rose between fields and along high creek banks are a new development for wildlife protection.

Proper Management Helps

Proper management of farm woodlands and windbreaks offers much to soil conservation as well as wildlife. Woodlands stabilize steep slopes and also yield a crop of timber, fur and game. Firewood, fence posts and other wood products may be sold at a profit. To best maintain it for game, timber and soil conservation, the woods should be protected from over-grazing, fire and indiscriminate cutting. Brush trimmed from logs should be piled in gullies to stop erosion and give additional protection to wildlife.

Fence rows are excellent wildlife cover and may act as filters to slow the water flow from one field to another. Multiflora rose is recommended as an outstanding shrub for use as a fence. It requires no trimming or pruning and when established will take the place of wire as a barrier to livestock. It is fast growing and has some value as an emergency wildlife food.

Wildlife population is, of course, much higher in a shrub fence than in a sod fence row and the number of beneficial insects is also greater. Studies show that ladybird beetles are four times more numerous in shrub fences than in sod fence rows while many injurious insects were one-third less. This might be due to the number of nesting birds, 12 times more than in a sod fence row; and beneficial small animals (such as shrews), 3½ times more. Harmful animal population was one-fourth less in the shrub fences.

Ponds Are Beneficial

Farm ponds may provide recreation for man in the form of swimming, boating, ice skating; and for wildlife, drinking water, some food and a home, in the case of fish. The most important problems in building a pond that will be favorable environment for fish are size and depth. Ponds with less than one-half acre of surface area are not suitable for stocking with fish. The minimum depth of a pond depends somewhat on the amount and seasonal distribution of rainfall. Ponds in Western Kansas should have a considerable area 12 to 14 feet deep while in Southeastern Kansas, ponds 10 to 12 feet deep will usually prove adequate.

Select Proper Combination

It is difficult to select the proper combination of fish species for stocking a pond. There are three characteristics the selected combination should have. (1) The fish should be able to maintain a favorable balance with their food supply and with other species. (2) Every species should be fast reproducing and rapid growing. (3) They should be of a desirable type to fishermen, both for sport and eating qualities.

Combinations of species to meet all of these characteristics are few. Fish in a properly stocked pond are more apt to develop as a balanced population. The fish crop from a pond should be harvested annually by the landowner, his friends or outsiders (with permission, of course) to help the fish maintain a favorable balance with their food supply.



FISH ARE WILDLIFE and fishing a conservation practice. Unless fish are removed each year, a pond may become overcrowded.



THIS FIVE-YEAR-OLD Multiflora rose fence replaced the old wire fence in two years and provides an excellent home for quail, song birds and many other types of wildlife.

Suggested species and numbers of fingerlings (two to three inches long) per surface acre recommended by Dr. O. W. Tiemeier of Kansas State College Zoology Department are:

100 bass-300 bluegill, for clear water.

100 bass — 100 crappie — 300 bluegill, for slightly muddy water; or

100 bass-100 channel catfish-100 crappie; or

200 channel catfish alone; or

100 bass—300 bluegill—100-200 bullhead.

Most ponds stocked by the Fish and Game Commission contain the bass-bluegill combination because bluegill utilize the natural food of the pond and the bass forage on the bluegill. Fishermen should be advised not to fish for only one species but to take a varied catch in order to help the fish keep their check and balance system functioning properly. Overpopulation results in stunted fish and poor fishing.

No Channel Catfish

Channel catfish are a favorite food of fishermen in this area, but they usually do not spawn successfully in farm ponds. From three to four years are required for catfish to spawn in Kansas waters and predators take high tolls of the young.

Little additional time and effort will be required of the modern farmer, who practices soil conservation, to benefit wildlife and provide it with a better home. Even if he isn't a hunting and fishing fan, a man will still find enjoyment in watching wild things live in their natural surroundings.





A scene along Rattlesnake Creek in Stafford county-taken in other years when the stream was near normal. Today it is almost dry.-Photo courtesy Clelland Cole, St. John.

A SMALL STREAM DIES

By CLELLAND COLE, Publisher, St. John

I visited a friend about to die today.

I spent the afternoon in sad and quiet visitation with one whose company I've enjoyed through many gayer, happier hours.

I watched the Rattlesnake, withered, shrunken and fevered, writhe feebly as, at long last the malignancy of drouth is about to claim her.

The Rattlesnake is a stream. Her course leads across Stafford county in meandering, endless loops and turns, from southwest to northeast. And she's been good to me. I hate to see her die.

Many the morning I've watched the purple haze curtains of dawn lift in splendor to let the golden beauty of the early hours spread across the lowland through which the Rattlesnake, in full vigor and refreshing life, swirled cheerily along. Many the silvery channel cat I've led from her cool waters and many the mallard I've flushed from her quieter eddies and sloughs, to make that hunting day complete.

Through all her miles across Stafford county I've known the Rattlesnake in happier, cooler, more normal seasons. Vixen that she has been, I've known her in those yielding, heavenly times when she gave forth fat strings of steel spring channels to puff my ego and to let me think I knew how to woo her, with hook and line.

And then, again, I've known her when, with all her seductive charm she led me on, in firm belief that again I should fill the stringer easily, only to find her coy and mischievous and tantalizing, denying me completely, but leading me to believe that next time perhaps.

I've known her in rollicking moods when she shoved boisterously above my boot tops to shock me, and leave me chilled and soggy and subdued. I've known her in those times of boisterousness when, fed by too much drink, she climbed unabashed and unashamed from her bed to frisk and kick about in flood tide.

About three years ago those of us who have known

her intimately and lovingly knew she was stricken. Came the fever of hot, parching days, and the threat of drouth and we saw her hurt. We saw her decline day by day—still eager and gay and hopeful, but falling away, nonetheless. We watched her survive that first year illness and beat back when summer moved away, and we hoped that winter's snows would revive her and strengthen her, as of old.

Twas not to be.

Came last year's continuing drouth and the Rattlesnake became tired, and her sinews thinned, and while she tried bravely to re-build her strength for this summer's ordeal, we knew that too few rains, declining underflow, and terrible, burning weeks on end would take their toll.

I visited her today. Like a friend you've known in prime health, then victim to fatal malady, the Rattlesnake today was tired, and listless, and in her bed she scarcely stirred.

As I walked from creek bend to creek bend, trudging, heavy of heart in baking mud where so long cool waters flowed, I felt like an intruder in the home of one who is gone. As I explored the pockets of water, and found why I lost hooks there, and saw the roots and snags which had heretofore remained hidden from me, I sensed a bit of guilt. For there was I, probing into the mysteries which, were she able to move as she would like, she'd never let me see.

I found why that certain hole beneath a willow stump was so consistently the home of big channels. I saw there today how deep currents had etched out a deeper hole; I found many of her secrets but somehow I felt small in doing so.

For there she lay, her pulse scarcely astir, stopped completely in places, without a chance for life unless the miracle transfusion of plenteous rains should come at once. And the blazing sun in a copper sky left little hope for that.

Impotent, futile, and helpless, I walked along the Rattlesnake today, saw thousands and thousands of clams dead and drying. I saw countless fish of every size, moving miserably about, groping for some source of fresh water which would not come. I watched a mink nose furtively in and out along the banks, to halt within arm's reach on a stump, sensing that something was askew, but unable to locate the cause for his alarm. I watched him weigh the danger he sensed against the invitation of a nearby wriggling carp as he stood there, forepaw lifted, ears cocked, a brown furred sentinel. I saw scores of turtles amble ponderously across shallow puddles.

There was the hush of death along the stream. Here and there, where tiny springs still trickled feebly, the gallant heartbeat of the stream still strove to keep alive. But elsewhere, where pools were separated completely by gravel and mud of creek bottom, the feel of death was there; its coming was in sight.

This once happy stream, favorite of so many, many fishermen, could rally yet with rains. Much of her life is gone of course, for many of her fish are dead. Without rains and with the continuing fever she cannot survive for long and we will have lost a favored friend. Even when more normal years send her currents rolling, she will be a different stream, for today's Rattlesnake creek, and all that she contained, will be dead and a new one will have to move into her bed. 'Twill, then, be years before the riches which made the Rattlesnake of past years so fruitful to sportsmen can again grow and multiply and re-stock the stream.

'Tis a terrible sight, this watching a small stream die.

A Record Turnout for Larned Fishing Rodeo

The seventh annual Kid's Fishing Rodeo at Larned on August 28, was the best ever, according to Mr. Vincent G. Fleming of Larned. More kids caught more fish and had more fun getting practical experience in outdoor sportsmanship, Fleming said.

There were 193 youthful anglers registered for the derby and 153 fish were caught in the two and one-half hour fishing period.

Grand champion boy fisherman was Mike Brannan of Larned, who caught a crappie weighing one pound. Grand champion girl fisherman was Cathie Foster of Radium, who landed the biggest fish of the day—a 12inch channel cat. Each received a complete fishing outfit from Better Fishing, Inc.

Steve Hall of Garfield, one of the reserve champions for the day, was also the youngest prize winner. Only three years old, Steve landed a crappie weighing one pound 6 ounces all by himself. His prize catch won him a new rod and reel.

The junior fishermen not only caught fish but they consumed 288 bottles of pop.

The annual Fishing Rodeo at Larned is sponsored by the Kiwanis Club of that city.

Texas Special

A store on Highway 21 in Texas offers a Creek Bank special—fish hook, line, cane pole, float, sinker and a 12-cent can of snuff or package of plug tobacco—all for 78 cents. Apparently there are still places where you can do a lot of living on a small investment!— Sport Fishing Bulletin.

Farmer and Wildlife Benefit with Sericea Lespedeza

By DANE COLEMAN, Game Management Supervisor

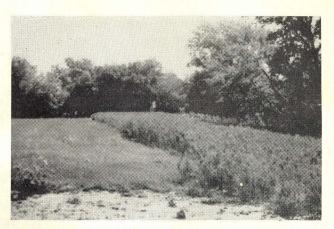
There are many species of lespedeza, and most Kansans are familiar with at least one, Korean lespedeza, which is widely used in eastern Kansas for pasture. In recent years other lespedezas have been tried by agricultural agencies and conservation departments, in our state as well as many others, to test their adaptability and value. One of the species which has shown the most promising results is sericea lespedeza. Since sericea is a valuable plant in conservation farming as well as in wildlife management, both the farmer and the sportsman should become better acquainted with its characteristics and uses.

Like Korean lespedeza, sericea is a native of Asia. But it differs in being a perennial rather than an annual plant. Also, it grows much taller than Korean, reaching a height of four or five feet where soil fertility and moisture are adequate. Sericea has a deep branching root system, and the stems of mature plants are coarse and woody. It can be grown on a variety of soil types, and fairly good stands can be established even in poor soil. Because sericea is primarily a humid-area plant, its use in Kansas probably should be restricted to the eastern third of the state.

Farmers who are trying sericea find that it has many values which make it worth-while. One of the foremost of these is its use in conserving the soil. Soil erosion is a serious problem on many Kansas farms, and sericea is a good erosion-control plant because it produces a dense stand of stemmy plants and binds the soil with its deep, finely-branched root system. The leaf mulch which accumulates under old stands also aids in preventing soil erosion. Being a legume, seri-



This stand of sericea lespedeza planted and growing on a sloping hillside prevents erosion, as well as furnishing food and cover for wildlife. The above planting is one established in Leavenworth county. The Forestry, Fish and Game Commission in its habitat improvement program provides sericea lespedeza seed to co-operating landowners for such plantings.



This field border of sericea lespedeza in Franklin county serves as a turnrow, and also benefits wildlife.

cea also has soil-improving qualities. It can be used as a field border, thus serving as a turnrow and preventing the encroachment of trees and brush into the field. It is also valuable in suppressing undesirable weed growth along fence rows, around ponds, in odd corners, on eroded areas and in other similar locations. Its value as a pasture and hay is also worth considering. Some of the stands of sericea in southeastern Kansas produced two cuttings of hay this past summer, when alfalfa and native grasses were only providing one cutting, due to the drouth.

Sericea is also valuable to wildlife. Its chief value lies in the excellent winter cover which it provides for quail, rabbits, and other wildlife; it also furnishes a reserve winter food supply. In addition, it makes good nesting and roosting cover. Because of their coarse woody nature, mature sericea plants are able to hold up under a heavy load of ice or snow and thus provide shelter and food for wildlife during severe winter storms. Sericea produces an abundant seed crop when sufficient soil moisture is available, and some of this seed usually is available to quail in the late winter when other food supplies are greatly diminished. Rabbits utilize the bark and stems of the plants.

Nearly every farm has a good location for at least a small planting of sericea. Some likely planting sites have been mentioned. The best planting time for sericea is early spring, after the danger of frost is past. If the planting site is soddy, or very weedy, it should be planted in the fall. The Forestry, Fish and Game Commission distributes sericea seed each winter, if a supply is available, to landowners having approved planting sites. Contact your Fish and Game Commission at Pratt for further details on how to obtain and utilize this valuable wildlife plant.

It is safe to hold a queen bee in your hand as the queen bees use their stings only on other queen bees.



The Ottawa County State lake, near Minneapolis, provided good fishing this summer for these two Newton anglers. They are Mr. E. H. Hahn, on the left, and son, E. F. Hahn. The elder Mr. Hahn is holding a 45-pound yellowcat which he caught, while E. F. displays two that weighed 28 and 22 pounds, respectively. The two Hahns traveled to the lake nearly every week end and got good results. All told they took 13 big yellowcats during the summer, weighing from eight to 45 pounds.

A Summary of Fisheries Surveys in Five State Lakes

By Roy Schoonover, Fisheries Biologist

Each summer, fisheries personnel of the Commission are engaged in conducting fisheries surveys on the various state lakes. When time permits, each of the state-controlled lakes is visited and several days are devoted to obtaining data on the physical, chemical, and biological characteristics, which, directly or indirectly, influence fishing success in that particular body of water.

While a portion of the survey time is used in obtaining information on general lake conditions, greatest emphasis is placed on a study of the fish population existing in the lake. The information obtained in such a survey not only gives us an idea of the population picture at the present time, but makes it possible to anticipate the trends in the future.

The fish population of a lake is sampled by the use of one-inch-mesh seines, gill nets, and shore-line seining with one-quarter-inch-mesh nets. Several kinds of gear are used in collecting fish so as to secure a more accurate sampling of the fish population in the lake. Seines may catch certain species of fish or particular length-groups more readily than other types of nets. On the other hand, gill nets will take some species, for example, channel catfish, which are often difficult to sample in drag seines. Gill nets can be set in areas where seining is impossible because of such obstacles as beds of aquatic vegetation, brush, rocks, and deep water. One-quarter-inch-mesh seines are used along the shore-line areas for the purpose of checking the hatching success of young fish of various species.

Length measurements and weights are recorded, and scale or spine samples are collected for a representative group of fish of each species taken by the various collecting methods employed. Information is also obtained as to the species of fish present, the relative abundance of each species, and the abundance of each length-group within a species.

In most instances, the seining and netting operations

in these various lakes have indicated that satisfactory populations of "keeping-size" fish are present. Needless to say, however, some anglers will disagree with these findings. They will no doubt argue that they have fished in one or more of these particular lakes. and had very poor angling success. As a means of providing an explanation for this situation, it should be pointed out that fisheries investigations have proven that a period of "poor fishing" cannot be accepted as proof that a lake does not contain a satisfactory number of catching-size fish. Actually, if weather and water conditions are favorable, and the fish are hungry, good fishing may be enjoyed for a time in a lake where there are only a small number of "keeping-size" fish of a species left. It is also just as true that a large number of desirable fish may be present in a lake, but if weather and water conditions are not right, or the fish are not hungry, few will be caught and fishing will be classed as poor.

Various factors may be responsible for fish not biting in waters where studies indicate they are available. During certain periods of the year, the water may be too warm or too cold, either of which is a condition that seems to retard the feeding activities of various kinds of fish. Over-crowding, as is found in an overpopulated lake, will cause the fish to bite less readily. Probably the most important factor having a seasonal influence on fishing success is the presence or absence of small fish, generally young-of-the-year, and their availability as food for the larger fish. This is probably the best explanation that we have for the conditions responsible for a period of good fishing in the spring and again in the fall, with a slack period in between. Few small fish are available as food in the spring, the fish are hungry and bite readily. Then a little later, after spawning season, enormous numbers of small panfish, minnows, and young game fish fry are available as food, and are easily caught. During this period, which may last all summer, the larger fish have an abundance of food and are not caught as readily on hook and line, thus bringing about a period of poor fishing. Later in the fall, when the year's hatch has been thinned in numbers and the survivors have grown to a size that only the larger fish can devour, less food will be available, and the baits and lures offered by anglers will be more enticing; the trend is for an improvement in angling success when these conditions exist.

A brief summary of information of a general nature is being presented for a group of five lakes surveyed earlier in the summer. A more detailed report will be prepared for each lake during the winter, after the series of scales have been studied, age-length computations made, and other data analyzed.

FINNEY COUNTY STATE LAKE

This lake would have a surface area of approximately 324 acres of water at spillway-level; however, the area was probably little more than half of this acreage at the time the survey was made. In general, the water-level fluctuates rather widely, and except during periods of heavy rainfall, is gradually receding.

The 1954 survey, like similar studies made in prior years, indicates that channel catfish are numerous in the lake and are growing rather slowly. The average length-range of channel catfish taken in nets was 10 to 14 inches. The growth-rate of this species should improve when the lake refills and floods the extensive areas of natural and planted vegetation which have become established on the exposed basin. Several thousand under-sized channels were removed in recent years to help alleviate this overcrowded condition.

The recent survey showed that the lake contains good populations of desirable-size crappies and drum. Most of the crappies ranged from 8 to 15 inches in length, and averaged about one-half pound each. Drum have been reproducing very successfully and were found in a variety of sizes. Although small drum appear to be getting more numerous, a satisfactory number were taken that were of desirable catching size. These ranged from 13 inches to 17½ inches in length, and weighed from one pound to more than 2½ pounds.

Two factors should benefit the fish population of the lake and aid in improving fish growth in the future. The receding water-level has concentrated the fish in a smaller area, giving the larger fish a better opportunity of reducing the number of smaller fish in the lake. In addition, the lake fertility should be improved as the lake refills because of the flooding of vegetation in the basin. To supplement natural vegetation, suitable areas of the lake-bed were disked and planted to sweet sudan grass and wild millet. Fortunately, rainfall was received at critical times, and a good stand of plants was obtained.

MEADE COUNTY STATE LAKE

This lake has a surface area of approximately 100 acres at spillway-level, and was within two feet of being full at the time the survey was conducted. Meade County State Lake affords suitable habitat for our more desirable game and pan fish, including largemouth bass, bluegills, crappies, and channel catfish. Various kinds of aquatic plants, including bulrushes, cattails, broad-leafed pondweed, coontail, and char moss, have become established in the lake, making shore-fishing difficult in many places.

Gill-netting operations indicate that this lake has a satisfactory population of "keeping-size" fish. It was impossible to sample adult largemouth bass because they are not readily caught in gill-nets, and seining was impossible, due to the aquatic vegetation. Channel catfish ranged in length from thirteen inches to twentyfour inches and weighed up to four and one-half pounds. These fish were fat and in excellent condition. Bullheads ranged from 10 inches to 12½ inches and from one-half pound to slightly more than one pound in weight. Drum, crappies, and bluegills, while not exceptionally large, were of satisfactory keeping size.

Hatching success appeared good for most species of fish. Young-of-the-year largemouth bass, crappies, bullheads, bluegills, yellow (ring) perch, and minnows were taken in one-quarter-inch-mesh seines. Extensive seining in the shallow, turbid water in the upper end of the lake failed to collect a single young carp, indicating that hatching success for this species may have been much less successful than in 1953 when numerous young-of-the-year carp were taken by similar methods.

OTTAWA COUNTY STATE LAKE

Ottawa County State Lake has a surface area of about 138 acres, and is relatively shallow. This lake receives water from a considerable area of cultivated land, and is constantly turbid, especially during periods of high wind. Because of the turbidity, bass and bluegills are not important in the creel; however, channel and flathead catfish, and crappies have provided excellent fishing during the past summer.

Seining and gill-netting studies show that crappies and drum are becoming pretty abundant in the lake. The average length of crappies was seven inches and the drum were about 12 inches. The channel catfish ranged in length from 10 inches to 20 inches. Numerous two to four pound channels were reported taken by anglers.

Netting with a small-mesh seine indicated successful hatches of crappies, channel catfish, and minnows. Although the lake contains some large carp, none of fingerling length were taken in any of the various areas of the lake which were seined.

ROOKS COUNTY STATE LAKE

This lake has a surface area of about 67 acres, is very fertile, and produces an abundance of fish-food. Based on results of seining and gill-netting operations, this



Despite the heat and drouth this summer, many fine strings of fish were caught in Kansas waters. In the above picture, on the left, are Reginald Okle of Newton, Tom Moulds of Newton, and Eldon Case of Wichita, three veteran fishermen, with ten flatheads they caught this summer on a two-day fishing trip to Kanopolis reservoir. The ten fish totaled 170 pounds. Top left is D. E. Haworth and son, of WaKeeney, with three nice channel cats they caught at Cedar Bluff reservoir; top right, shows R. F. Kind, of Herington, with a one-night's catch of fish that Kind and Fred Mau of Herington took from the Smoky river; lower left shows Bil Campbell of Cottonwood Falls with a 54-pound yellowcat he caught on a rod and reel while fishing the Cottonwood River, near Cottonwood Falls; lower right, Mike Rooney, 14-year-old fishing enthusiast of Seneca, with a 34-pound catfish he caught at the Nemaha County state lake. Rooney's fish set a new weight record for that lake.

lake has a very good population of desirable-size fish, including bass, crappies, drum, bluegills, channel catfish and bullheads.

This is a typical bass and bluegill lake, having clear water and an abundance of aquatic vegetation in the more shallow areas. Bluegills in the five to seven-inch-length group are particularly abundant, and greater fishing pressure is desired in order that a larger number of these fish be utilized by anglers. Although bluegills are believed to be the most abundant species of fish in the lake, crappies and drum also appear rather numerous. Drum of various sizes were taken, from two-inch young-of-the-year fish on up to fourteen inches in length. Fish of this larger length were taken frequently in gill nets, and averaged approximately one pound in weight. Both black and white crappies were taken; those of the seven-to-nineinch-length group were numerous. A surprisingly large number of channel catfish were taken in the gillnets. All were returned to the water, after being weighed, measured, and having a spine removed for aging. Channel catfish ranged in length from 14 inches to 17 inches. All of these fish were well-fed and in good body condition. Channel catfish of a large size are also frequently caught in this lake. Bullheads were taken in satisfactory numbers, and averaged about one pound in weight.

Seining with a small-mesh seine indicated an excellent hatch of all species of fish, with the exception of catfish. This failure to find young channel catfish and bullheads was anticipated, because, even though spawning may occur, survival of young fish is exceptionally low in our clear-water lakes having an abundance of predators, such as bass, crappies, and larger channel catfish. Young-of-the-year bass, crappies, bluegills, drum, and minnows were abundant in this lake.

WOODSON COUNTY STATE LAKE

This lake has a water area of approximately 180 acres, and a maximum depth of about 53 feet. It is one of the most recent of the state lakes to undergo fisheries improvement work, through drainage, habitat restoration, and restocking.

Woodson County State Lake was drained during the spring of 1949, and all fish eliminated. The lake refilled and was restocked with largemouth bass, channel catfish, crappies, bluegills, and bullheads in 1950. The lake was reopened to fishing on January 1, 1953.

Seine and gill-net tests conducted in June, 1954, caught numerous "keeping-size" fish of such species as bass, crappies, channel catfish, bluegills, and bullheads. The lake has an abundance of channel catfish weighing up to more than four pounds each, and bullheads weighing from three-quarters to one and one-quarter pounds. Since being drained, the lake is clear and vegetation has become quite abundant along the shoreline. As would be expected under these conditions, bass and bluegills have produced an enormous number of young. Consequently, even though many of the larger, originally-stocked fish of these species are roaming the lake, anglers are "bothered" by the smaller fish which take the bait or lure before the larger and more desirable of their kin have an opportunity to become hooked.

Fish Carries Rod and Reel Fifteen Miles Upstream

One of the better fish stories of the past summer was the following which came out of the *Linn-Palmer Record*:

According to their story, Richard Winter of the Linn community went fishing one day in May on the Blue river, north of Barnes. When a fish took a sudden desire for the bait on Winter's line, Winter not only failed to catch the fish but lost his rod and reel to boot.

One day during the latter part of July, Dick Meierhans of Washington, was fishing in the Blue river near Hollenberg, approximately fifteen miles upstream from the place where Winter had fished. Meierhans saw something shiny in shallow water and investigated. It was the same rod and reel Winter had lost.

Apparently the fish had towed the fishing equipment the distance between the two points, otherwise it would not have been that far upstream.

Baby kangaroos are only about an inch long at birth.



The hero of this picture is three-year-old Steve Hall of Garfield, with a one-pound six-ounce crappie he caught himself at the Kid's Fishing Rodeo at Larned on August 28. Steve's catch lacked one ounce of being fish enough to tie for the boy's grand champion prize at the rodeo.

Young Hunters Need Help Now

With the approach of fall, sportsmen are beginning to oil up shotguns and rifles, to harden up dogs, and to touch up decoys. Many, however, are overlooking an important point which will have much bearing upon the success or failure of trips now being planned. These are hunters with young sons who have just reached the age when they will accompany their dads on trips afield and who will be disappointed if they are not given the opportunity of taking their chances in the field.

Whether an embryonic hunter becomes a true sportsman or a game hog, a pleasant shooting companion or a menace, whether he will be a skilled marksman or a dub, depends largely upon parental guidance before as well as during the hunting season.

Too many fathers wait until the season opens before acquainting their sons with shooting safety rules, field etiquette, and the general behavior which sets the sportsman apart from the pot hunter. Some hand their sons shotguns the day before the season opens and expect them to use them safely after a few minutes of instruction in how to load and work the action. The usual excuse is that time will not permit greater attention to the essential details of training and marksmanship, but handing a boy a lethal weapon without such training is inviting disaster.

Teach your son all phases of safe gun handling now, before the hunting season opens. Teach him the rules of good sportsmanship; a few odd hours of dry firing and a pleasant week end with a handtrap or at the skeet field, and your son will be ready for the real thing.

Young hunters need help now.

The ears of the cricket are in his legs.



A baby sitting problem for Mrs. Donald Leever, 83 Viewcrest Drive, Kansas City, Kan., was solved by taking her nine-months-old son, Donald, to Big Eleven Lake in that city on kid's fishing day. Donald was the youngest fisherman at the lake. His two older brothers are really doing the active fishing but Donald shows interest.—Photo courtesy Kansas Rod and Gun Club.

Outdoor Notes

By JOE AUSTELL SMALL

Up in Smoke

The average U. S. citizen, while being warned constantly of the danger and destructiveness of forest fires, still has only a vague idea of the harm they actually do. Perhaps putting it in the following comparisons would help.

In 1953, there were approximately 200,000 forest fires in the United States. These fires consumed enough trees of saw-timber size to build 85,000 fiveroom houses. They destroyed enough pole-size trees to provide a twelve-month's supply of newsprint for every newspaper in America.

And who is the cause of ninety percent of them? You guessed it, the greatest wholesale destructive machine ever conceived—man.

Lake Treasure

When Lake Norfolk, in Arkansas, was at its lowest stage, Mr. and Mrs. S. R. Beaird struck out along the shore to "treasure hunt."

They found ten rods and reels, thirty minnow buckets, eleven anchors, more than a bushel basket of artificial baits, about 125 pounds of sinkers, pocket knives, pipes, and a wallet containing \$700!

How Do They Do It?

Some new light has been shed on how birds fly so unerringly to the same spot, even when migrating across a continent.

Until recently, many scientists believed keen vision and a good memory accounted for the remarkable feats of homing performed by birds. A Harvard scientist, for example, followed marine birds known as "gannets" in a light airplane, finding that they spent a long time circling and wandering before they found their way home.

Professor Amadon of the American Museum of Natural History says, "homing ability of birds apparently rests on an exact sense of time and an incredibly sensitive interpretation of the sun's position. Pigeons and starlings, released in strange territory, set out directly for home without preliminary search."

He added that scientists in Germany and England have shown that birds apparently detect changes in the sun's position caused by any change in the location of the bird. Amadon speculated that a structure in the eye of birds known as pecten may aid in sighting the sun. Until now no definite function has ever been assigned to the pecten.

"In the case of migratory birds we must assume that during the ages they have acquired an instinctive urge to fly in a given direction—usually north in the Spring, south in the Summer—and that they determine direction by the same sun navigation used by homing birds.

"Thus we have the first definite solution of part of the problem of bird navigation—not all of it, of course, for many birds migrate at night, and tests have shown that they do not find their way by the moon."

Things You May Not Know

The roots of most trees are more extensive than the branches. In fact, with most plants, except those that grow in swamps, there are more underground parts than parts above ground.

Mammalogists recognize 253 different species and subspecies of land mammals east of the Mississippi in the United States. There are about 30,000 in the world.

One female sloth and her family can destroy, in a single year, as much wool as it would take one dozen sheep to produce.

There are no parasites of fish which can't be rendered harmless to man by thorough cooking.

When a pocket gopher is actually digging or moving dirt, its ears can be sealed tightly with small valves, preventing any dirt from entering.

One nail on each hind foot of the beaver has long teeth on one edge, forming a fine comb. It is said that the beaver uses this nail to free its fur from mud and burrs.

A little-known use for sycamore is in butchers' chopping blocks. An unusual quality of sycamore is that meat cleavers do not stick in it.

According to experiments, bees recognize honeyyielding flowers first by color and secondly by scent.

The dog is the only animal domesticated by the eskimos.

A female fly lays its first batch of eggs in less than one week after it is hatched.

Bees are more ill-tempered in foul weather than on fair days.

A ringneck pheasant has been known to fly three miles, but the average flight is only about 200 or 300 yards.

Age and antler points in deer are not correlated, but there is a correlation between age and the thickness of the antlers at the base.

KNOW YOUR FRIEND-THE GAME PROTECTOR



John Shay

John Shay of Kingman began working with the Kansas Forestry, Fish and Game Commission as a game protector fifteen years ago. The service records of Shay and Eddie Gebhard of Meade date back to the same day, May 15, 1939.

Shay is a former sheriff of Kingman county. He was also in the bakery business before becoming a game protector.

Shay's district includes the counties of Kingman, Pratt, Stafford, Kiowa and Edwards.

Mr. and Mrs. Shay live in Kingman. Their four children are Mrs. Donald McLain of Des Moines, Mrs. Robert Miller of Pratt, John Shay, Jr., with the Santa Fe railroad in Waynoka, Okla., and Gene Shay, who has a cleaning shop at Kingman.

Shay's favorite pasttime is fishing.

Of some one hundred and fifty million pounds of fresh-water fish produced in the United States annually, nearly two-thirds come from the American waters of the Great Lakes.



Carl Suenram

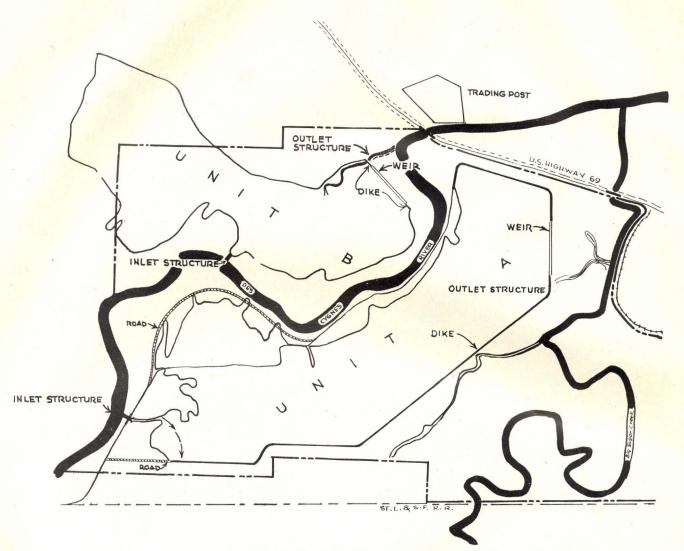
Game Protector Carl Suenram, 53, is following the vocation closest to his heart. He says he was "raised with a gun in one hand and a fishing rod in the other" and he has always liked the outdoors.

He took his present job of game protector in Reno, Rice, McPherson, Harvey and Marion counties in June, 1939, with headquarters in Moundridge. A native of Oklahoma, he has lived in Moundridge since he was seven years old. He was a farmer before joining the department.

His son, Wayne, is city engineer of Moundridge. A daughter, Mrs. Robert Durst, and two grandchildren, also live there.

Judging from the kind of nerves they have, it seems certain that fishes do not suffer pain to the extent that humans do.

The smelt is so oily that, when one of these fish is dried and has a wick inserted in its body, it can be used as a candle.



The above map shows the initial development planned for the Marais des Cygnes Waterfowl refuge. Unit A will be a reservoir of about 600 surface acres; Unit B about 400 surface acres in size. The two reservoirs will lie between Boicourt and Trading Post.

The Marais des Cygnes Waterfowl Refuge

One of the major activities of the Kansas Forestry, Fish and Game Commission during the present fiscal year will be the development of the Marais des Cygnes waterfowl project in Linn County.

The Commission has completed the acquisition of 6,254 acres of land in the river bottoms that was required for the establishment of the refuge. A total of 3,679 acres were acquired in the spring and summer of 1953, and the other 2,575 acres were purchased this summer.

Plans for a long-time development program for the area have been approved and initial work should get under way this fall.

In planning the development of the refuge, commission engineers took into consideration two conditions which tend to make the project a "natural"— (1) the peculiar condition of the Marais des Cygnes river valley through that section of the state. There the river banks are from three feet to six feet higher than the low point of the valley, which may be anywhere from 100 yards to one-half mile back from the river, and (2) floods and overflow along the river are numerous. For instance, in the years between 1928 and 1948, the river overflowed its banks thirty-four times, while in the wet year of 1951, the river was above bankful for a total of thirty-eight days.

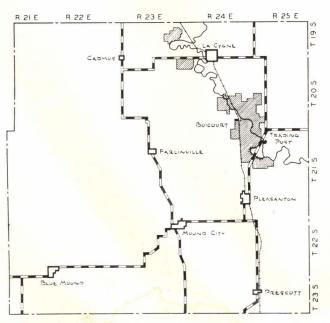
Basic idea in the development of the area is to construct such dykes and structures as will make it possible to stop and hold flood waters in the depression away from the river banks and make them useful as the habitat of migratory waterfowl.

The proposed plans for the refuge at this time

Include the building of two reservoirs ranging in size from 400 surface acres to 600 acres. The largest reservoir will lie between Boicourt and Trading Post on the west bank of the river. This unit would contain a little over 600 acres of water with a maximum depth outside of the borrow pits of about six feet. Directly across from this would be the second unit proposed which would cover a little over 400 acres at a maximum depth, not counting the borrow pits, of about five feet.

Initial development plans call for the construction of the 600-acre reservoir. This will require a dyke about two miles long and an overflow section 1,400 feet long. The material for the dyke will be obtained from borrow pits on both sides of it. The borrow pit outside the dyke will provide positive drainage for the land outside the dyke as flood waters recede and the borrow pit on the inside of the dyke will provide deeper water and add to the fishing possibilities of the area. The overflow section will be constructed of steel sheet piling with rock fill, the rock to be obtained from the hills which form a part of the state property.

The tops of the dykes are designed to be at the same level as the river bank and they will be carefully placed with the overflow section so adjusted that the presence of the dykes will not raise the water surface of flood waters outside the state-owned property. The flood heights in the valley will not be increased nor the flood situation aggravated by any of the proposed structures. There will be controlled inlets on the river bank at the north end of the reservoir which will permit water to enter the lake when the river becomes nearly bankful but does not overflow. This latter



Area map showing location of proposed refuge in Linn county. Shaded areas show lands already acquired by the Fish and Game Commission. structure will add considerably to the period when water can be obtained from the river.

Part of the Marais des Cygnes refuge area is heavily timbered and part of it is open meadow, while a small amount has been cultivated in dry years such as this year has been. It is planned to cut only such timber as is necessary for the actual construction work, with the idea of letting all trees live that can stand the water which will be up around the trees, part, if not all of the time.

The development of the Marais des Cygnes waterfowl refuge should be of tremendous interest to sportsmen of eastern Kansas. When the early French explorers first visited eastern Kansas and saw the then marshy lowlands teeming with wild fowl, they gave the river its name, Marais des Cygnes, which means "river of swans." It is hoped that the new planned development will again attract thousands of migratory waterfowl and other migrants to the area.

Harry Hans Heads New Wildlife Club at Iola

Harry Hans, Iola telephone man, was elected president of the Allen County Wildlife Association, one of the newest sportsmen's clubs to be organized in the state.

Other officers of the newly-formed organization are: Fred Shapel, Carlyle, first vice-president; Axel Peterson, La Harpe, second vice-president; Floyd Smith, Iola, secretary; John McCoy, Humboldt, treasurer; Roscoe Kimerling, C. E. Staffen, Humboldt; Buford Welsh, E. P. Errickson, Moran; John McNally, Iola, Kenneth Sharp, Elsmore; and Charles Brown, Mildred; directors.

The club promises to be one of the more active clubs of the state and already interest in club activities is high.

Little Things

Dear Father, hear and bless Thy beasts and singing birds And guard with tenderness Small things that have no words.

"What would a blind man give to see the pleasant rivers, the meadows, the flowers, the glory of the sun and the many blessings which we enjoy each day—and too often forget to praise God for them."—Izaak Walton.

News of Sportsmen's Clubs

Atchison Sportsmen Help Kids Build a New Fishing Pond

Older members of the Atchison County Fish and Game Association not only sponsor a Youth's Conservation Club as one of their major activities but they are active in seeing that the youngsters have something to do to maintain their youthful interest.

The latest activity is building a fishing pond for the boys. Older members, together with the boys, got the Atchison county engineer to donate a tube and other overflow materials for the pond. Site for the pond was donated by the art instructor in the Atchison high school. Using the county's equipment, men and boys soon had the pond completed and all parties concerned are happy with the project. Doctor Cross, of Kansas University, has been lending the boys his services in seeing that the pond will be stocked properly with fish when sufficient water has been impounded.

Roy Brink, president of the Atchison County Fish and Game Association, in telling about the project, said, "I don't know of any other club or project like it in the state. It has created tremendous interest up here and already we have had interested persons here from Missouri to see the project. Everyone has got behind these boys and we certainly feel the efforts are worth-while."

Shipe Re-elected President of Herington Sportsmen's Club

Activities in the Herington Sportsmen's Club will again be guided by Mr. J. W. Shipe. He was reelected president of the organization at the club's annual meeting held during the summer.

Other officers elected were Lyle Jones, vice-president; Walter Samples, secretary; and Woody DeBus, treasurer. Roy E. "Peck" LaRue was named by Shipe as membership committee chairman for the year.

In reporting on the club's activities for the year, Shipe stated that fishing at the Herington City lake was the best this year than for many years. More interest in fishing had been evidenced by club members. Planting of Christmas trees in clusters off shore on the east side of the lake seemed to improve fishing, Shipe said.

Total membership in the Herington club in 1953 was 125 members, and Shipe was hopeful the 1954 membership would exceed that figure.

Anderson County Sportsmen Staged a Big Sports Show

Casting demonstrations and films on wildlife drew a large crowd to the sports show staged by the Anderson County Fish and Game Association at Garnett in July.

According to Walter Buchholz, president of the Anderson County club, many fine prizes were given away to winners of the various age groups for casting demonstrations, including the ladies. Other prizes given away included a .410 automatic shotgun, glass rod and reel, casting rod, picnic freezer, minnow buckets, gasoline lanterns, flashlights, etc.

All in all, it was a fine show, according to Mr. Buchholz, and created a lot of interest in the club's activities.

Representatives from the Northeast Casting Club and Wright-McGill Tackle Company were present to help put on the show.

Something New in Foods

It is something new in putting together foods for sportsmen, and it has the entire sporting element fascinated. I used to come back from hunting and fishing trips with a stomach disorder because of cold, soggy foods. I have seen the time I would have paid \$10 for a decent, warm meal while outdoors.

Now, something new has been added! In a compact nine-pound pack, Bernard Food Industries, Inc., have packed three meals for four people. And there is nothing to add but water. Breakfast, hot lunch, and supper—seventeen items, twelve meals for seventy-five cents per meal.

To you gents who have eaten cold, soggy, greasy, half-burned, hurriedly-thrown-together meals while afield, this little package will mean plenty. When you appeal to a sportsman's stomach, you hit a weak spot. For all the dope, write Bernard Food Industries, Inc., Dept. W, 559 W. Fulton, Chicago 6, Ill., or Dept. W, Box 487, San Jose 27, Cal.

If it's fishing you want from your pond, you're pretty safe in removing your weeds. Usually a small pond is underfished rather than overfished. When weeds and protective vegetation are removed, fry have fewer places to hide. They present an easier target for larger fish. As the adults prey on the juveniles, the population is thinned, the big fish grow sassy and bigger. Besides, it's a heck of a lot more fun to toss a plug when you don't have to clean moss and weeds off the hooks before every cast.—Charles K. Rawls, Jr., in *Fisherman Magazine*.

ARRESTS-MAY, 1954

Name and address	Offens	re .	Date of offense	Fine
Velma Aeschleman; Hoisington	~	g license	5-18-54	\$10.00
Robert L. Andrews; Ottawa		g license	4-24-54	10.00
		g license		5.00
		g license	5- 8-54	5.00
		g license	5-31-54	5.00
		g license	5- 4-54	5.00
		g license		5.00
		g license	5-19-54	10.00
		g license	5-16-54 5-18-54	5.00
		g license	4-18-54	5.00 5.00
Walter Dorland; Larned	No fishing	g license	5-12-54	10.00
John H. Doty; Manhattan	No fishing	g license	5-19-54	5.00
Herbert K. Eggleston; Hutchinson	No fishing	g license	3-29-54	5.00
Wallace E. Fern; Shawnee	No fishing	g license	3-28-54	10.00
James A. Hale; Kansas City	No fishing	g license	5-19-54	5.00
Burl L. Harris; Plainville	No fishing	g license	5-21-54	10.00
Howard Hasty; Altoona	No fishing	g license	5-21-54	5.00
Wayne Hess; Benton Buck Hetzler; Coffeyville	No fishing	g license	4-28-54	5.00
Tommie Hill; Junction City.			The second factor	5.00
Charles H. Holdeman; Neosho Rapids	No fishing	license	5-18-54	5.00
John Hurd; Fort Scott	No fishing	license	4 - 18 - 54 5 - 22 - 54	10.00
Rubin Johnson; Wichita	No fishing	license	5- 1-54	5.00 5.00
W. T. Johnson; Kansas City	No fishing	g license	5-13-54	5.00
Earl Jones; Wichita	No fishing	g license	5-17-54	2.00
William V. Jones; Hutchinson	No fishing	g license	4-25-54	5.00
Robert McClaren Kerns; Hutchinson			5-16-54	5.00
Julius L. King; Poplar Bluff, Mo.			5-23-54	5.00
Bruce A. Koontz; Great Bend				10.00
L. L. Levels; Coffeyville	No fishing	g license		5.00
Geo. R. Linville; Wichita R. C. McComas; Kansas City, Mo.	No fishing	license	5-22-54	10.00
Richard Martin; Hutchinson		g license	5-22-54	5.00
John Mayo; Lincoln.			5-16-54	5.00
Maurice C. Melton; Lansing, Mich.	No fishing	license	5-14-54 5-14-54	5.00
Marcean Merchat; San Diego, Cal.	No fishing	license		$5.00 \\ 10.00$
Ray G. Miller; Great Bend	No fishing	license	5-18-54	10.00
Lenard Mitchell; Columbus	No fishing	license	5-20-54	5.00
Elmer Moberley; Kansas City	No fishing	license	5-13-54	5.00
John C. Morgan; Haven			4-10-54	5.00
C. P. Morphis; Wellington			5- 8-54	5.00
Manual Navarro; Lyons			5- 8-54	5.00
D. H. Naveling; Lincoln H. C. Palmer; Atchison			5-14-54	5.00
James Peterson; Salina			4-11-54 454	5.00
Milton J. Price; Kansas City			5-23-54	$5.00 \\ 5.00$
Gene A. Rainey; Coffeyville			5-14-54	5.00
D. L. Robinson; Mound City			5-22-54	5.00
Charles W. Samuel; Hutchinson			5- 8-54	5.00
Mrs. Loren Schmidt; Macksville			5-12-54	5.00
Gail B. Schrader; Edwardsville	No fishing	license	5-19-54	5.00
Morrison Shaw; McPherson	No fishing	license		5.00
Stanley Shephard; Leavenworth	No fishing	license.	5-24-54	5.00
Virgil J. Sheets; Chetopa Anna May Smith; Amarillo, Texas	No fishing	license	5- 4-54	5.00
C. H. Smith; Amarillo, Texas	No fishing	license	5-25-54	5.00
H. L. Smith; Colorado City, Texas	No fishing	license	5-25-54 5- 7-54	5.00
Kenneth Smith; Lyons	No fishing	license	5- 1-54	$5.00 \\ 5.00$
Wilbur Spotts; Kansas City	No fishing	license	5-19-54	5.00
Carl M. Stevens; Kansas City	No fishing	license	5-16-54	10.00
James E. Teufel; Wichita	No fishing	license	5-17-54	5.00
Jesse Thomas; Kansas City, Mo.	No fishing	license	4-20-54	10.00
James W. Thurman; Norton	No fishing	license	5-16-54	5.00
Bill Trammell; Midland, Texas. Ira K. Warner; Holton.	No fishing	license	5-18-54	10.00
G. H. Wells; Vermillion, S. Dak.	No fishing	license	5- 8-54 5-18-54	5.00
Otis M. Williams; Coffeyville	No fishing	license	5-18-54	5.00
Leon Wilson; Coffeyville	No fishing	license	5-20-54	5.00
William J. Wilson; Hutchinson Charles Winfree; Chanute	No fishing	license	5- 9-54	5.00
Max Workman; Parsons	No fishing	license	5-19-54	5.00
Jacob D. Sarver; Kansas City	No Wyand	lotte County Lake permit—using a 25-hook trotline and	5-23-54	5.00
Leonard Harris; Topeka	protan	anguage	5-20-54	19.00
Lloyd Parkinson; Topeka	No fishing	license-dynamiting fish	5- 1-54 5- 1-54	15.00
R. B. Yarbrough; Topeka	No fishing	license-dynamiting fish	5- 1-54 5- 1-54	$15.00 \\ 15.00$
Willis Cook: Topeka	Seining fis	h	5-27-54	20.00
Edward S. Turner; Leavenworth	Seming fis	n	5-25-54	10.00

Name and address	Offense
Ralph H. McGill; Chetopa	Possess illegal fish
Leonard Collins; Chetopa	Possess fish gig
Clifford Crain; Hallowell.	
Elmer Garretson; McCune	Possess fish gig
Arthur Haskell; Chetopa	Possess fish gig
Bernard Porter; Leavenworth	Operating too ma
George Widner: Tecumseh	Operating too ma
Luther Lundstrom; McPherson	Possess short bass
Herman Hager; Topeka	No hunting licens
Edgar Moore; Scott City	No hunting licens
Bob Sawyer; Scott City	No hunting licens
Kenneth Costigan; Chapman	No hunting licens
Loran Houk; Cottonwood Falls	No hunting licens
Sonny Evans; Strong City	Killing ducks in o
Jerry Swift; Strong City. (Juvenile status—placed on probation for 1 year)	Killing ducks in a
Frank Buhler; Holyrood	Joy riding on stat
George G. Brown; Oklahoma City, Okla.	Misrepresentation
George Mitchell; Westfir, Oregon	Misrepresentation

	Offense	Date of offense	Fine
	Possess illegal fishing devices (2 hoop nets)	5- 4-54	25.00
	Possess fish gig	5- 2-54	10.00
	Possess fish gig	5- 3-54	10.00
	Possess fish gig	5- 3-54	10.00
	Possess fish gig	5- 4-54	10.00
	Operating too many trotlines	5-19-54	10.00
	Operating too many trotlines	5-13-54	10.00
	Possess short bass and walleyes	5-14-54	10.00
	No hunting license	5- 7-54	5.00
	No hunting license	5-25-54	5.00
	No hunting license-shooting pheasant out of season	5-25-54	105.00
	No hunting license-killing ducks in closed season	5- 9-54	60.00
	No hunting license-killing ducks in closed season	5- 8-54	15.00
•	Killing ducks in closed season	5-10-54	None
	Killing ducks in closed season	5- 8-54	None
	Joy riding on state lake and without motor permit	5- 9-54	10.00
	Misrepresentation	5-25-54	5.00
	Misrepresentation	5-20-54	5.00

ARRESTS—JUNE, 1954

			-JOINE, 1754		
Name and address		Offense		Date of offense	Fine
James T. Aikman; Wichita			license	6-12-54	\$10.00
Harold Aliff; Junction City			license	6-28-54	5.00
Orlo Allen; Atchison		0	license	5-21-54	10.00
Raymond Baird; Elwood			license	6-19-54	5.00
			license	5-21-54	5.00
Jack Baker; Sabetha			license	6- 5-54	5.00
Henry A. Bates; Wichita			license	5-30-54	10.00
			license	6-20-54	5.00
Ralph Batten; Norcatur			license	5-30-54	5.00
Jack Benjamin; Menlo			license	6- 5-54	5.00
Bill Bronson; Logan			license	6- 6-54	10.00
Bobby Burgin; Wichita			license	6- 6-54	5.00
Harry Chaffee; Topeka			license	5-30-54	10.00
Roy A. Chrisman; Carthage, Mo.			license	5-31-54	5.00
Gerland D. Coffery; Wichita			license	6-11-54	10.00
M. D. Coffman; Clifton, Texas			license	6- 6-54	5.00
J. C. Condon; Wichita		-	license	6- 6-54	5.00
Bobby Davis; Long Beach, Cal.	No		license	5-30-54	5.00
Edward Deitzel; East St. Louis, Ill.			license	5-30-54	5.00
Murlin Deitzel; East St. Louis, Ill.			license	6-13-54	5.00
Frank Dunn; Elwood			license	6- 5-54	10.00
George Fountain; Topeka			license	6- 6-54	5.00
Franklin R. Gatliff; Winfield	No		license	6-20-54	5.00
L. H. Goode; Elwood.		-	license	6-13-54	5.00
Tommy Hamilton; Wichita			license	6-22-54	5.00
James J. Harper; Rose Hill	NO	fishing	license	6- 4-54	5.00
William Harris; Junction City	NO	nshing	Norman	6- 5-54	5.00
Warren G. Harvey; Coffeyville			license	6-15-54	5.00
Sergio Helra; Iola	NO	fishing Calinda	Verne	6-12-54	5.00
John L. Hibbs, Jr.; Parsons	NO	nshing C-Ling	license	6- 6-54	5.00
Jim Howard; Topeka	. NO	fishing	Vienne	6- 5-54	5.00
Edgar J. Hunt; Tulsa, Okla.	. NO	nshing	license	6-21-54	10.00
William Hurd; Great Bend	NO	fishing	Reense	6-28-54	5.00
Wallace Johnson; Junction City	. NO	fishing	license	6-12-54	10.00
Cleo Jones; Wichita			license	6-13-54	10.00
George Kasson; Wilsonville, Neb.	. NO		license	6- 5-54	5.00
Dave Keasler; Coffeyville	. NO	fishing	license	5-29-54	5.00
Keith Kelsey; Marion.	. No	fishing	license	6-12-54	10.00
Arnold Knob; Strong City	. No	fishing	license	5-30-54	10.00
Willis Liebau; Eureka	. NO	nshing	ncense	6- 5-54	5.00
LeRoy Lindsey; Topeka	. No	fishing	license		5.00
V. Long; Wichita	. No	fishing	license	6- 5-54	5.00
Hal McWilliams; Topeka	. No	fishing	incense		5.00
Edmund Martinez; Marysville	. No	fishing	, ncense	5-30-54	5.00
Virgil L. Mathis; Parsons	. No	fishing	f ncense	5-23-54	10.00
Raymond Nevels; Kansas City	. No	fishing	hcense	6- 6-54	10.00
Thomas E. Newman; Wichita	. No	fishing	f license	5-29-54	10.00
James E. Nix; Severy	. No	fishing	ncense	6- 5-54	5.00
A. A. Officer; Topeka	. No	fishing	ncense	5-29-54	5.00
Jack Orpin; Newton	. No	fishing	incense	6-27-54	5.00
William Pearson; Missouri	. No	fishing	g ncense	6- 6-54	5.00
Ernest Pinter; Belleville	. No	fishing	ncense	6-19-54	5.00
Leo T. Rader; Rose Hill	. No	tishing	g Incense	.6- 7-54	5.00
John B. Robinson; Kansas City	. No	fishing	ncense	6-13-54	7.50
Paul A. Rollins; Lebanon	. No	tishing	g license		5.00
Thurman Ross; Kansas City	. No	fishing	g license	0- 0-04	5.00

Name and address	Offense	Date	The s
Alfred Roth; Newton	No fishing license	of offense 6- 6-54	Fine 10.00
Wilbert Russell; Topeka. (Plus 30 days in jail)	No fishing license	6- 5-54	25.00
Robt. G. Ryder; Hoisington	No fishing license.	6- 7-54	20.00
Russell Smith; Missouri		6-27-54	5.00
Harold J. Smith; Salina	No fishing license	554	5.00
Robert Sommer; Lawrence	No fishing license	5-31-54	10.00
J. C. Sparks; St. Joseph, Mo.		6-20-54	5.00
Leslie Spooner; Kansas City	No fishing license	6- 8-54	5.00
Rupert Sullivan; Iola	No fishing license	6-15-54	5.00
William Swikhard; Wichita	No fishing license	6- 9-54	5.00
Henry Teneros; Kansas City, Mo	No fishing license	6-27-54	5.00
George Thomas; Kansas City	No fishing license	6-19-54	10.00
Archie Varner; Vinita, Okla.	No fishing license	6- 5-54	10.00
Albert Weilert; Hutchinson	No fishing license	6-20-54	5.00
Lavon Wenger; Sabetha		5 - 21 - 54	5.00
Lawrence Whitten; St. Joseph, Mo.	No fishing license	6-13-54	5.00
A. D. Wilson; St. Joseph, Mo.	No fishing license	6-13-54	5.00
Kenneth Windholz; Salina	No fishing license	6-23-54	5.00
Harvey Hill; Dorrance	No fishing license—handfishing	6-24-54 5-31-54	$15.00 \\ 10.00$
Orville Baker; Seneca Dean Braddy; Udall	Handfishing Handfishing	6-20-54	10.00
Donald G. Braddy; Udall.	Handfishing	6-20-54	10.00
Henry Enneking; Seneca	Handfishing	5-31-54	10.00
Mrs. Henry Enneking; Seneca	Handfishing	5-31-54	10.00
John Hewitt; Leavenworth	Handfishing	5-22-54	15.00
Larry Kramer; Seneca	Handfishing	5-31-54	10.00
Ronald F. Lane; Udall	Handfishing	6-20-54	10.00
Louis Jerome; Goff	Handfishing	6- 1-54	10.00
H. H. Linneweh; Atchison	Handfishing	5-31-54	10.00
Mrs. Robert Linneweh; Atchison	Handfishing	5-31-54	10.00
Robert D. McDaniel; Udall		6-20-54	10.00
Alvin Rethmann; Seneca		5-31-54	10.00
Leroy Skoch; Seneca	Handfishing	5-31-54	10.00
P. D. Troughton; Seneca	Handfishing	5-31-54	10.00
Lincoln P. Tschopp; Wichita	Handfishing	6-20-54	10.00
Wilbur West; Leavenworth Don Zelfer; Seneca	Handfishing Handfishing	5-22-54 5-31-54	$15.00 \\ 10.00$
Ed Zink; Leavenworth		5-22-54	15.00
Roy Eudaly; Winfield.	Operate trotline within 150 yards of dam	6-20-54	15.00
Hubert Wooldridge; Winfield	Operate trotline within 150 yards of dam	6-20-54	10.00
Conley Babb; Wichita	Operate bankline within 150 yards of dam	6- 1-54	15.00
Floyd Broers; DeSoto	Illegal fishing methods, to wit: gigging, snagging and using a dip		
Forest Hunley; Galena	net Illegal fishing methods, to wit: gigging, snagging and using a dip	6- 1-54	10.00
Jerry Roach; Empire	net	6- 4-54	10.00
	net	6- 4-54	10.00
Vern Huffman; Coffeyville		6-25-54	50.00
Fred Twist; Bonner Springs	Possession of illegal seine	6-12-54	12.00
Leroy Hargis; Coffeyville	Dynamiting fish	6-26-54	50.00
Roland Busch; Atchison	Operate too many poles and lines	6-26-54	10.00
Lawrence Zishka; Atchison	Operate too many poles and lines	6-26-54	10.00
Wm. H. Russell; Kansas City		6-12-54	5.00
J. R. Pinkerton; Kismet	Operate trotline in State Lake	6- 9-54	10.00
L. R. Thornberry; Kansas City		5-31-54	5.00
Harry Buster; Topeka Harold Kendall; Kirwin	Operate too many lines	6- 5-54 6- 5-54	$10.00 \\ 10.00$
Donald Ahnert; Great Bend	Operate more than one multiple hook on line and of greater size than		
Lee Pickett; Great Bend (2d offense)		6- 7-54	25.00
John Halmin Hairington	No. 12	6-7-54	35.00
John Helwig; Hoisington (2d offense)	Operate and take fish with multiple hook larger than No. 12	6-18-54	25.00
Royce D. Helwig; Hoisington (2d offense) L. A. White; Wheaton	Operate and take fish with multiple hook larger than No. 12 Possess short bass	6-18-54 6-27-54	$40.00 \\ 10.00$
J. C. Hale; Kansas City	Take and possess bull frogs in closed season	6-12-54	10.00
Nick A. Herman; Norton		6-17-54	20.00
William Urbin, Jr.; Norton		6-17-54	20.00
James S. Nellis; Topeka			15.00
	No motorboat permit—joyriding.	5-30-54	10.00
John Stetler; Hoisington		6-18-54	10.00
Donald Roberts; Lansing		6-10-54	10.00
	Misrepresentation	6-25-54	5.00
Doyle L. Gardner; Wellston, Okla	Misrepresentation	6- 6-54	10.00
Donald Nunley; Tulsa, Okla.		6- 5-54	10.00
James Nunley; Kansas City, Mo	Misrepresentation	6- 5-54	10.00
Kenneth Poage; Tulsa, Okla		5-30-54	5.00
Clarence Polfer; Independence, Mo Lewis O. Tharp; Coffeyville, Okla	Misrepresentation	6-12-54 6-24-54	$10.00 \\ 10.00$

ARRESTS-JULY, 1954

		Data	
Name and address	Offense	Date of offense	Fine
Arthur W. Baker; Parsons	No fishing license	5-16-54	\$10.00
Hubert G. Burlingame; Dewey, Okla		7-10-54	5.00
	No fishing license	7-24-54	10.00
	No fishing license	7-13-54	5.00
	No fishing license	7-25-54	5.00
	No fishing license No fishing license	7-25-54	5.00
	No fishing license	7-24-54	10.00
	No fishing license	7-24-54 7-31-54	5.00 10.00
	No fishing license	7-30-54	5.00
	No fishing license	6-28-54	5.00
	No fishing license	7-24-54	5.00
	No fishing license	7-24-54	5.00
	No fishing license	7-24-54	10.00
Bill Mullis; Hoisington	No fishing license	7-23-54	10.00
	No fishing license	7-26-54	5.00
	No fishing license	7-24-54	10.00
	No fishing license	7-10-54	10.00
	No fishing license	7- 7-54	10.00
	No fishing license	7-24-54	5.00
	No fishing license	7-25-54	5.00
	No fishing license	7- 3-54	5.00
	No fishing license No fishing license	6-13-54	5.00
	No fishing license	7-23-54	10.00
	No fishing license.	6-27-54 7-24-54	5.00 10.00
J. C. Winnett; Kirwin		7-24-54	10.00
	No fishing license	7-24-54	10.00
Don Davis; Larned		7-26-54	15.00
Jim Davis; Larned	No fishing license—illegal fishing	7-25-54	15.00
	No fishing license-handfishing	7- 3-54	15.00
Gerald M. Anderson; Harlan	No fishing license-handfishing	7- 3-54	15.00
Donald St. Clair; Harlan	No fishing license-handfishing	7- 3-54	15.00
(Second offense for above three-no previous convic-			
tion, but apprehended when juveniles)	No fishing license—handfishing	5 10 54	15.00
	No fishing license—handfishing	7-13-54 7-13-54	15.00
	No fishing license—handfishing	7-13-54	15.00
Harold D. Anderson; Harlan		7- 3-54	15.00 10.00
Verlyn St. Clair: Harlan		7- 3-54	10.00
(Second offense for above two-no previous convic-		1- 0-04	10.00
tion, but apprehended when juveniles)	77 10.1.		
C. J. Brite; Great Bend	Handfishing	7-25-54	25.00
LeRoy Brite; Great Bend	** ***	7-25-54	25.00
Homer Carson; Great Bend	Handfishing	7-25-54	25.00
R. E. Brown; Fulton	Seining fish	7-25-54	10.00
Tom Endicott; Garland	Seining fish	7-25-54 7-25-54	$10.00 \\ 10.00$
W. O. Endicott; Garland.	Seining fish	7-25-54	10.00
	Seining fish	7-25-54	10.00
I. R. Martin; Wichita		7-25-54	10.00
H. R. Metcalf; Mound City		7-25-54	10.00
	Operate trotlines within 200 yards of mouth of stream	6-27-54	10.00
C. R. McCammon; Douglass	Operate trotlines within 200 yards of mouth of stream	6-27-54	10.00
Archie Thompson; Wichita	Operate bankline within 150 yards of dam	7-24-54	10.00
Roy C. Coulter; Kansas City		7- 4-54	10.00
	Operate trotline in state lake	6-27-54	5.00
	Operate trotline in state lake—using motorboat without permit	7-18-54	15.00
	Joyriding on a state lake	7- 4-54	10.00
	Speeding in state park	7-25-54	10.00
L. A. Lamb; Lawrence Kenneth Wells; Kansas City	Speeding in state park Swimming in restricted area in state lake	7-25-54	5.00
	Disorderly conduct in state park.	7-11-54	5.00
	Disorderly conduct in state park	7-25-54 7-30-54	50.00
(Plus ten days in jail)	Dissiderly conduct in state park	1-30-34	20.00
	Disorderly conduct in state park	7- 5-54	5.00
Harold Swisher; Syracuse	Disorderly conduct in state park	7- 7-54	50.00
	Disorderly conduct in state park	7-7-54	50.00
Lindell Richards; Arkansas City	No hunting license	7-25-54	5.00
Illif R. Howland; Liberal	No hunting license-shoot from public road without permission of	7 00 74	10.00
Bay Heim: Dresden	adjoining landowner	7-28-54	10.00
Lance Duncan; Caney	Possession of pheasants	7-11-54 7-27-54	10.00
William K. Roberson; Lynchburg, Va.	Misrepresentation	7-27-54	25.00 5.00
A. L. Winrow; Kansas City, Mo.		7-17-54	5.00
M. F. Winrow; Kansas City, Mo.	Misrepresentation	7-17-54	5.00
			5100

Ten Commandments Of The Trail

1. Thou shalt not employ others to kill thy game for thee, or count game killed by others.

2. Thou shalt speak to the farm owner of land in a gentle voice and kindly entreat him to let thee hunt on his premises, lest he boot thy north end from his dominion.

3. Point not thy gun toward any living thing that thou dost not wish to kill. Lo, there are fools and idiots wandering to and fro on the earth, but he who fails to observe this rule is verily the King Imbecile.

4. Shoot not thy gun toward any cattle, swine, or farm livestock, within one-fourth mile of thee. If thou shalt disobey this, the farmer will jab thy pants with his pitchfork till thou roarest for help and thereafter must eat thy meals standing.

5. Unload thy gun before thou enterest thy automobile. Then may thy days be long and thy funeral postponed.

6. Take not thy gun by the muzzle to draw it toward thee. Verily some foolish human may love thee and why shouldst thou die?

7. Look not into the muzzle of thy gun whether it be loaded or empty. Verily an empty gun shooteth out an inquiring eye, and the undertaker groweth rich thereby.

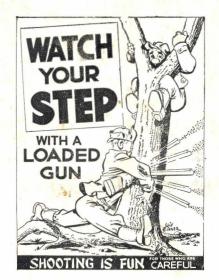
8. Thou shalt not carry thy gun cocked. Verily thou art a mighty hunter, but the hides of thy friends will not turn shot.

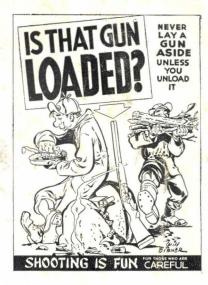
9. Climb not fences with thy gun in thy hands. Put thy gun through first with the muzzle pointing away from thee and all living things. Better it is to miss a chance at one crow than to return to thy house with guilt in thy heart and thy friend's leg in a basket.

10. Yea, verily, and if thee dost follow these commandments, thee will end up with more holes in thy target and fewer in thy head, and so on unto the third and fourth generations.

-Outdoors in Tennessee.





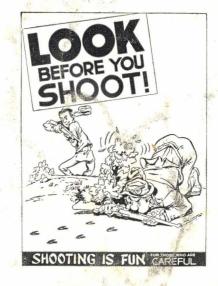


The 10 Commandments of Safety

- Treat every gun with the respect due a loaded gun. This is the cardinal rule of gun safety.
- 2. Carry only empty guns, taken down or with the action open, into your automobile, camp, and home.
 - Always be sure that the barrel and action areclear of obstructions.
- 4. Always carry your gun so that you can control the direction of the muzzle, even if you stumble.

- 5. Be sure of your target before you pull the trigger.
- 6. Never point a gun at anything you do not want to shoot.
- 7. Never leave your gun unattended unless you unload it first.
- 8. Never climb a tree or a fence with a loaded gun.
 - Never shoot at a flat, hard surface or thesurface of water.
 - Do not mix gunpowder and alcohol.





10.

