

KANSAS FISH & GAME



SPECIAL ISSUE



KANSAS FISH & GAME



Special Issue, 1971

Vol. 28, No. 1

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An Issue of Firsts

This issue marks a major milestone in the 32-year existence of the KANSAS FISH & GAME magazine.

In fact, this issue contains many firsts.

For the first time in its history, full color covers, both front and back, are featured.

It is also the first time an entire issue has been devoted to a single report of progress.

In addition, this special progress issue will be mailed to more Kansas residents than at any time since the publication first appeared in 1938. The magazine is now being sent free of charge to about 32,000 addresses, including all schools in the Sunflower State—the first time such an attempt has been made.

But this issue also typifies the last for it is the last issue which will appear on a quarterly basis. Beginning with the next issue, which is scheduled to appear in May, the magazine will be published bi-monthly, or every two months.

We feel this issue of KANSAS FISH & GAME with its many innovations exemplifies the progress made by the Commission in recent years. While we are proud of the progress made, we are also grateful to sportsmen throughout the state who have provided financial resources so necessary to support all the Commission's programs—including publication of KANSAS FISH & GAME.

To the sportsmen of Kansas, we dedicate this progress issue.

To them, all the readers of KANSAS FISH & GAME owe a big vote of thanks.

—Leroy E. Lyon

The Director Reports

On October 1, 1961, I began my service to Kansas sportsmen by assuming the awesome but challenging directorship of the Kansas Forestry, Fish and Game Commission.

In the Winter, 1962 issue of *KANSAS FISH & GAME*, I pledged to "build a sound program based on established facts and to see that it is implemented in as efficient and objective manner as possible."

In that issue, I concluded my report by stating, "We intend to establish a sound plan and keep those, the sportsmen, who pay the bills, informed of our progress."

Therefore, this special progress report has been prepared to inform sportsmen of the growth made by the Commission during the past decade. We dedicate this issue to you sportsmen who have provided the financial support, patience and understanding so essential in the establishment and implementation of our present dynamic program.

During the past decade we have made great progress — tremendous strides have been taken in the management of the fish and game resources of the State of Kansas. As promised, a well-balanced program of fact finding, development and management has been established and the technical staff has been increased from 10 to 31.

In addition, all Divisions have been expanded and streamlined to permit efficient operation and to provide better service to the people of Kansas.

Although a primary function of the Commission is to protect and enhance the state's wildlife resource, the Department is also obligated to furnish maximum recreational opportunities to all citizens. While all monies for carrying out the Commission's responsibilities are provided by hunters and fishermen through purchase of hunting and fishing licenses, no citizens are deprived of benefits which accrue from the Department's overall program.



George C. Moore, Commission Director

Since the environment of the state is continuously changing, it is necessary to establish procedure to meet these altering conditions. While the Commission's program must be alert to meet the needs of the people, it must also protect and enhance the natural resources of the state.

No individual or organization can operate in a vacuum. The Kansas Forestry, Fish and Game Commission is no exception, therefore, Commission personnel have cooperated with all state agencies, federal departments and all units of local government. Currently the Commission is a member of eight advisory councils or boards for the purpose of coordinating state activities for a better environment.

At one time Kansas was considered a dry and waterless state. Not so today. Beginning in the late 1920's, many lakes and ponds were con-

structed for fishing, waterfowl habitat and outdoor recreation in general. In the last 15 years alone, the U. S. Army Corps of Engineers and the Bureau of Reclamation have constructed 19 large reservoirs. As a result, Kansas is now known for its abundance of water.

Because of this increased lake and pond construction, considerable opportunity was created for water-based recreation but, while fishermen, boaters and waterfowl hunters were reaping noticeable benefits, a serious lack of public hunting lands for upland game species existed. Therefore, major emphasis during the past ten years has been placed in developing public hunting areas.

Unlike some western states, Kansas has, since statehood, had little public land. Therefore, the Commission has placed major attention on the acquisition of as much land as possible for



During the past decade, the Commission has developed many public hunting areas, insuring more hunting opportunities for Kansas sportsmen.

public hunting and other forms of outdoor recreation.

Public hunting lands managed by the Commission fall into two gen-

eral categories—those leased from the U. S. Army Corps of Engineers or Bureau of Reclamation and those which have been purchased in fee

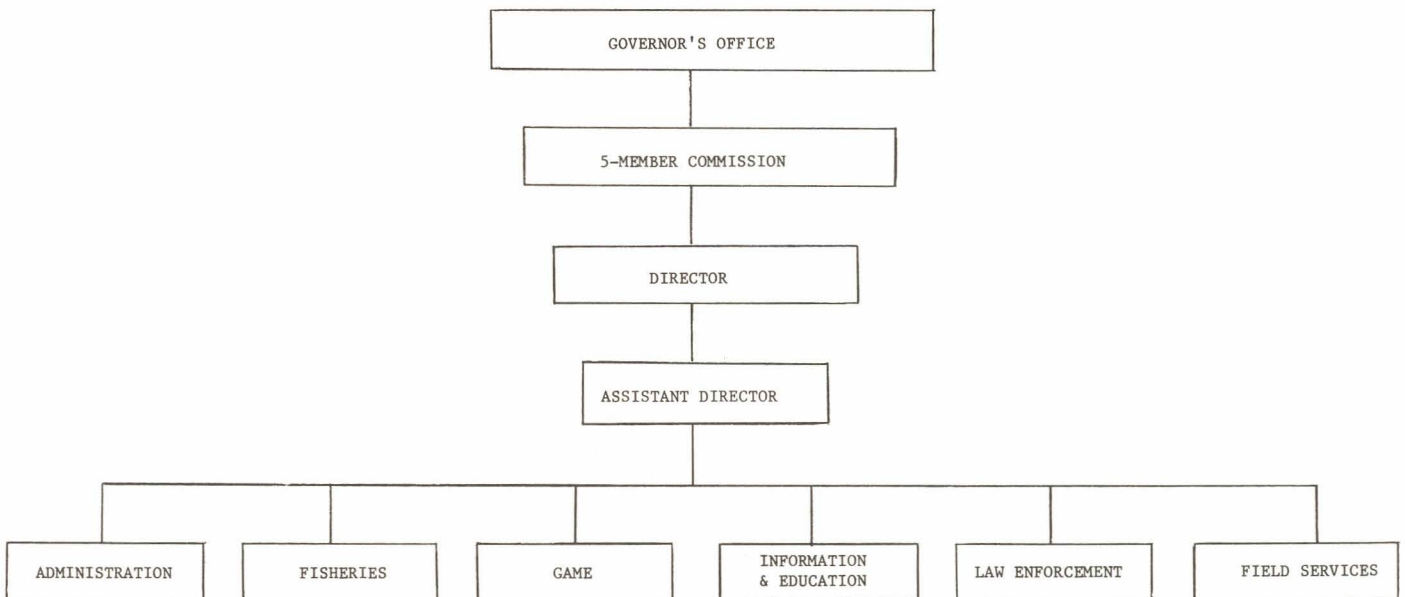
title. All together, the Commission now administers 46 public hunting areas covering 217,458 acres of land and water.

As this progress report will reveal, the Commission has expanded its program almost 100 percent. Its progress has been directed toward furnishing the greatest amount of recreation to as many Kansans as possible. At the same time, the Commission has developed and implemented a program of protecting and enhancing not only the fish and wildlife resources but our environment as well. This expansion has occurred with little increase in total numbers of hunting and fishing license holders, yet the opportunity for outdoor recreation has increased more than 150 percent.

In looking back through the past decade we are justifiably proud of our accomplishments. But we also realize that much remains to be completed.

To the sportsmen of Kansas who have provided a solid financial base, we are most grateful.

Organizational Chart



Administration

In a way the Kansas Forestry, Fish and Game Commission is similar to other state agencies—it must have financial resources to carry out a multitude of responsibilities provided by Kansas law.

But in another way, the Commission is distinctly different. Unlike many other agencies, the Kansas Forestry, Fish and Game Commission receives no general tax funds or appropriations by the state.

Rather, it is entirely self-supporting. All Commission programs and operations are financed by revenue derived from license fees and from Federal Aid reimbursements for state funds spent on federally-approved projects.

Thus the Commission is not supported by general taxpayers but by sportsmen who have joined hands to financially support a state agency whose basic responsibility is the preservation, propagation and protection of the state's fish and game resources.

Since the business of the Commission involves the receipt and expenditure of more than \$2 million annually, a small but efficient accounting force is required. This accounting force, officially known as the Fiscal Section, is a branch of the Administration Division.

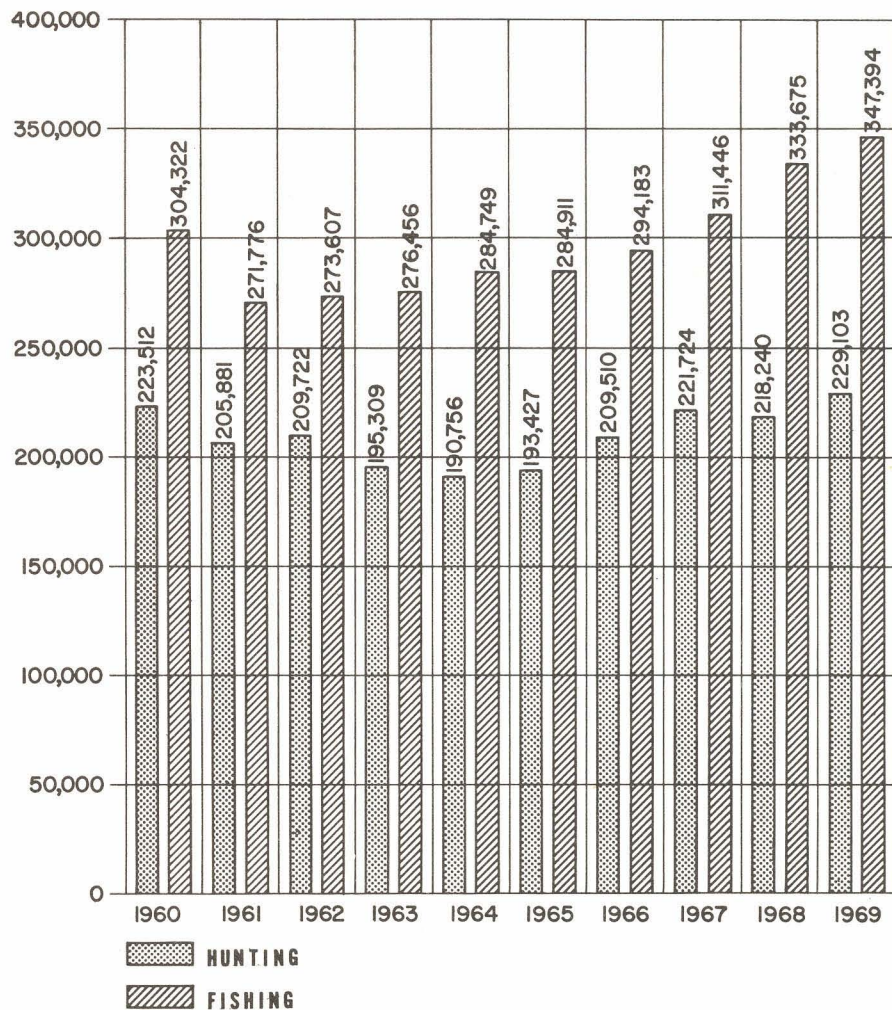
As it now operates, the Administration Division consists of two sections—Executive and Fiscal. The Executive Section is headed by the five Commissioners (see pages 20-21). The three executive officers are also included in this section—George C. Moore, Commission Director; Fred Warders, Assistant Director; and Noel Mullendore, Commission Attorney. Two secretaries, Edith Scantlin, secretary to the Director, and Carmalita Beaty, secretary to the Attorney, round out the Executive Section's staff.

Though seldom in the public eye, the Fiscal Section is most essential in the operation of the Commission since it is primarily responsible for the financial business of the Commission and maintains the overall accounting, purchasing, and personnel records of the entire Department. It is also responsible for the issuance of deer, boat, game breed-

er's and many other permits and accounts for the issuance of hunting, fishing and trapping licenses to county clerks throughout the state.

To meet its various duties, the Fiscal Section is subdivided into six subsections—(1)—Purchasing which handles payment of purchases made by all employees; (2) Expense Accounts which provides expense reimburse-

Annual Comparison of License Sales



ments for employees; (3) Inventory, Licenses and Permits which audits all county clerk reports, both quarterly and annually, and also issues various permits (includes boating section); (4) Accounting which handles all accounting for the agency and prepares overall agency budget requests; (5) Payroll and Accounts Receivable which handles all incoming cash; and (6) Maintenance which provides duplicating services and automobile maintenance and repair.

Like other divisions, the Fiscal Section has experienced several "growing pains" during the past ten years.

One of the first areas of enlargement and increased responsibility occurred following enactment of the State Boating Act by the 1959 Legislature. In 1960, first year for registration and issuance of boat permits, 15,728 motorboats with motors of ten or more horsepower were registered by the Commission, the agency charged with enforcement and administration of the act.

Today, a full decade later, more than 60,000 boats both registered and unregistered of all classes and horsepower are plying the waters of Kansas. To keep pace with this increased activity, and to update water safety laws, the 1970 Legislature enacted a new boating act which became effective January 1, 1971. Under provisions of the act, all mechanical propelled vessels and sailboats using the waters of the state will be required to register. As a result of the boating laws, a new area of responsibility has been added to the Fiscal Section.

Increased license sales, establishment of deer hunting seasons in 1965 and every year thereafter, and employment of additional personnel in all divisions have likewise increased the work load of the Fiscal Section. In 1961 there were only 128 employees in the agency—today 185 are employed by the Commission.

Thus, though seldom seen by the public, the Administration Division's Fiscal Section has played a vital role in the development and operation of the Kansas Forestry, Fish and Game Commission.

INCOME

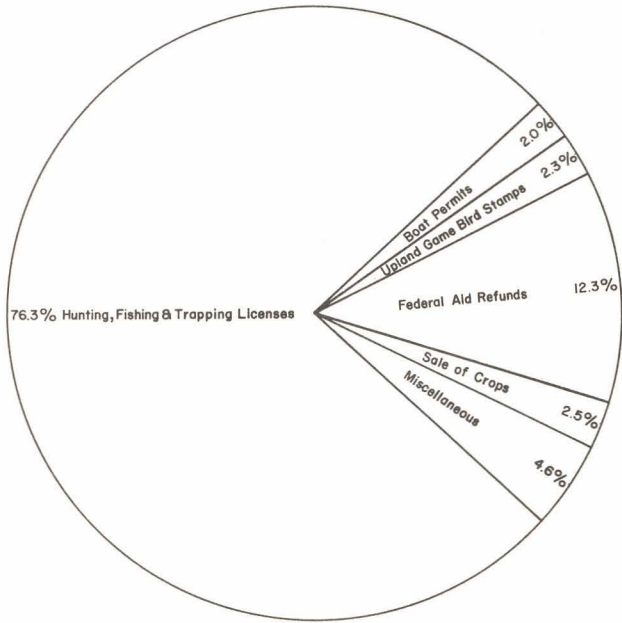
	1961	1970
Boat Permits	\$29,517	\$77,335
Upland Game Bird Stamps	35,289	197,898
Federal Aid Refunds	191,680	781,746
Hunt, Fish and Trapping Licenses	1,185,842	2,181,185
Other Permits	8,975	7,407
Crops	38,460	76,581
Livestock Sales	9,950	35,115
Oil and Gas Royalties	14,749	14,707
Conversion of Assets	29,498	36,354
Other Rents and Commodity Sales	5,757	5,695
Miscellaneous	5,307	4,474
Deer Permits		139,820
	\$1,555,024	\$3,558,317

EXPENDITURES

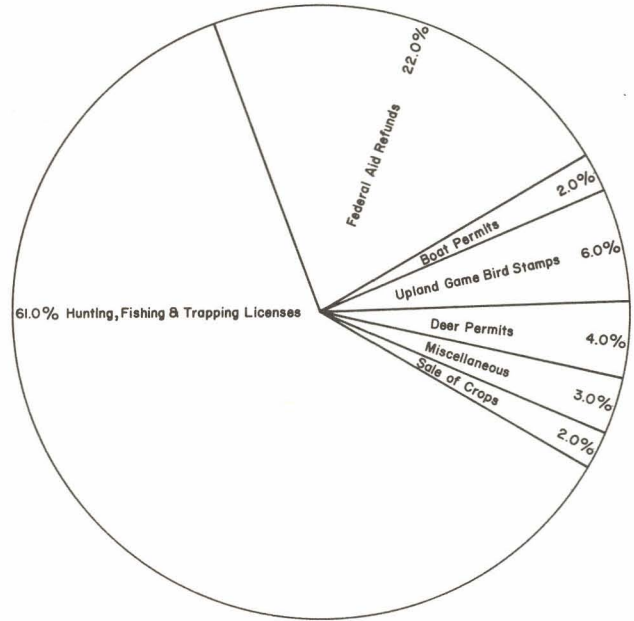
	1961	1970
Administration	\$146,376	\$259,276
Fisheries Division	76,408	260,213
Game Division	210,931	615,236
Law Enforcement Division	347,155	750,108
Information-Education Division	39,950	99,584
Capital Improvements	389,388	91,305
Field Services Division	216,098	381,088
TOTAL	\$1,426,306	\$2,456,810

Income

1961



1970

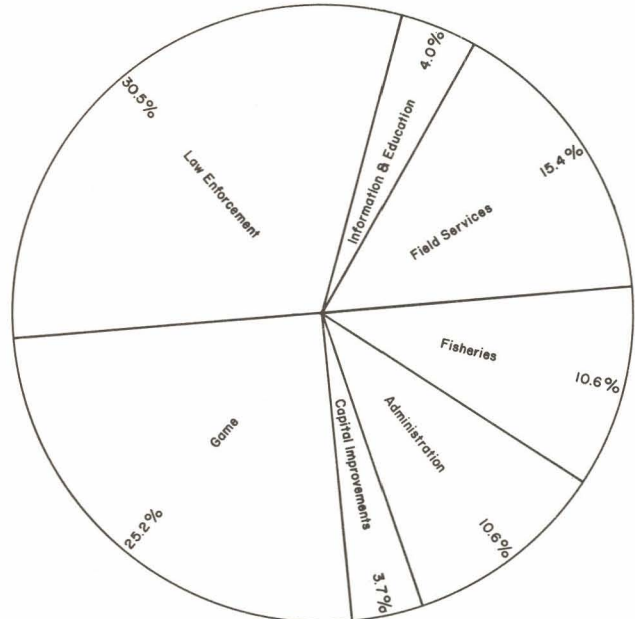


Expenditures

1961



1970





Bob Ward
Fiscal Section Chief



All work of the Kansas Forestry, Fish and Game Commission is administered from the headquarters office building which was constructed in 1965.



Noel Mullendore
Commission Attorney

ADMINISTRATION DIVISION PERSONNEL

EXECUTIVE SECTION

George C. Moore— <i>Director</i>	Pratt
Edith Scantlin— <i>Secretary II</i>	Pratt
Fred Warders— <i>Assistant Director</i>	Pratt
Noel Mullendore— <i>Attorney</i>	Howard
Carmalita Beaty— <i>Clerk Stenographer II</i>	Howard

FISCAL SECTION

(All Stationed at Pratt Headquarters)

Robert E. Ward	Division Chief, Administrative Officer II
Gaye Boley	Secretary I
Catherine Way	Account Clerk II
Diana Wegerer	Account Clerk I
Marilyn Wilt	Clerk Typist II
Karen Detwiler	Clerk Typist II
Debbie Lahidji	Clerk Typist I
Jametta Morgan	Clerk Typist I
Louise Harrison	Clerk Typist II
Hollis Lackey	Clerk Steno II
Marilyn Bigler	Clerk III
Maurine McClellan	Clerk II
Donald Miles	Duplicating Machine Operator I
Raymond Stultz	Automotive Mechanic I



The Fisheries Division is responsible for all fisheries activities in Kansas. The objective of the division is to provide maximum fishing opportunities with the highest possible rate of catch success for the people of the state.

This objective is pursued through a variety of activities including: (1) fish hatchery and rearing pond operations to provide fish for stocking of approved ponds and lakes; (2) continuing surveys, inventories, and investigations of fishery resources to collect data necessary in formulating recommended management programs or to evaluate programs which have been implemented; (3) management of state-administered waters and providing assistance in the management of all public fishing waters; (4) rehabilitation of public waters to restore satisfactory fishing; and (5) providing technical assistance in identifying and correcting various problems in all other waters of the state that may be under county, municipal, or private control.

The Fisheries Division has undergone moderate expansion during the past ten-year period to keep pace with the greater work load resulting from continually increas-

ing activities and responsibilities in the fishery field.

Currently the Fisheries Division is divided into three basic sections: (1) Fish Culture, (2) Fisheries Management, and (3) Fisheries Research and Planning.

The Fish Culture section is responsible for fish hatching and rearing facilities and production of fish for stocking purposes. Fish cultural installations include the Pratt Fish Hatchery, Meade Fish Rearing Station, and rearing ponds located on state land adjacent to state lakes in Neosho, Leavenworth, Shawnee, Sherman, and Woodson counties.

Fish hatchery operations, with respect to pond area, have not been expanded. Therefore, the number of personnel has remained unchanged. Hatching of largemouth bass, channel catfish, and bluegill is carried out at the Pratt installation by the Fish Hatchery Superintendent and five fish culturists.

New emphasis, however, has been placed on rearing pond operations to supply intermediate-size channel catfish and for culture of northern pike, walleye, and other species to produce fish of fingerling size. A portion of this need has been met through the

restoration and improvement of rearing pond units located southwest of Meade. This installation, designated the Meade Fish Rearing Station, and operated by two Fish Culturists under the supervision of the Hatchery Superintendent, represents a part of the Division's expansion.

The Fishery Management section is responsible for application of various management practices to the waters of the state as a means of improving, restoring, and maintaining satisfactory fish populations and angling.

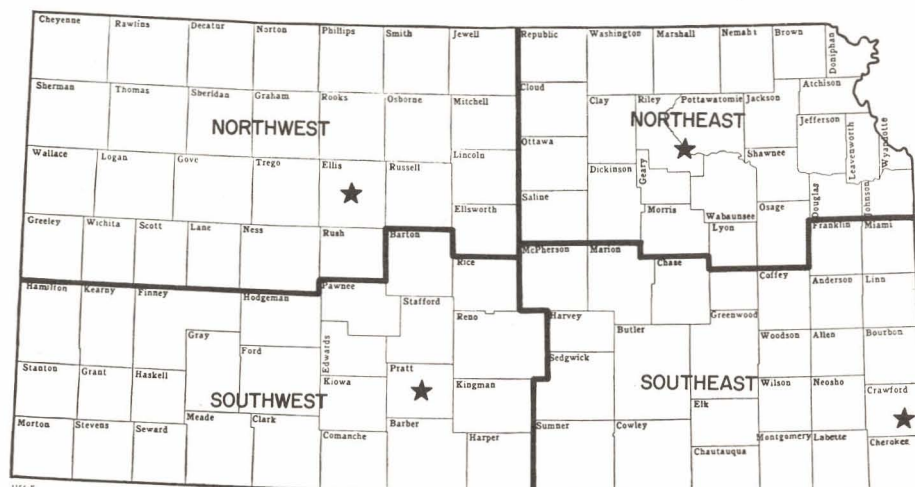
The Fishery Research and Planning section is responsible for fact-finding projects carried out by the division, including various inventories, investigations, and evaluation studies of fish populations or fishery habitat conditions in the waters of the state.

In 1960, the technical staff consisted of the Division Chief, three Fishery Biologists to carry out all fisheries investigation and management in the waters of the state. Administrative matters were handled by the chief and secretarial assistance was shared with other divisions. Since that date, fisheries activities have been organized on a regional basis with the

To provide good fishing in public waters, the Kansas Forestry, Fish and Game Commission, with headquarters and hatchery near Pratt, has designed a program to artificially hatch and raise channel catfish. The first of the pictured hatchery ponds was constructed in 1905. Today, 86 such ponds look like a series of nests along a two-mile stretch of the Ninescah River.



Fisheries Regions



★ REGIONAL OFFICES

state currently divided into four fisheries regions.

A Fishery Supervisor and a Fishery Biologist are responsible for investigations and management in each region. Other positions in the Fisheries Division include a watershed Planning Biologist and a Special Projects Biologist. The Fisheries Division Chief, Supervisor of Investigations and Management, and a Clerk-Stenographer make up the administrative staff in our current organization.

Fishery Investigations

Several fact-finding projects were initiated and carried to completion during the period 1960-1970 covered by this report.

Information relative to the physical, chemical, and biological characteristics of streams, lakes, and reservoirs in the state is obtained through surveys and investigations conducted by biologists.

Physical and chemical studies provide fisheries technicians with data on basin or channel morphometry, water area, depth, turbidity, temperature, dissolved oxygen and carbon dioxide content, alkalinity, pH, and other water quality information. The biological phases of a survey may consider all aspects of the aquatic envi-

ronment, with particular emphasis on a study of the fish population and plant and animal life associated with it. The results of these surveys and investigations are used as the basis for identifying fisheries problems, developing corrective measures, evaluating management practices, and in formulating the department's overall fisheries program.

Surveys, investigations, and inspections, such as have been described, are conducted periodically on state lakes and federal reservoirs as a routine phase of the Commission's fisheries program. When time permits and personnel are available, investigations are conducted on county, municipal, and other public-use waters as a public service.

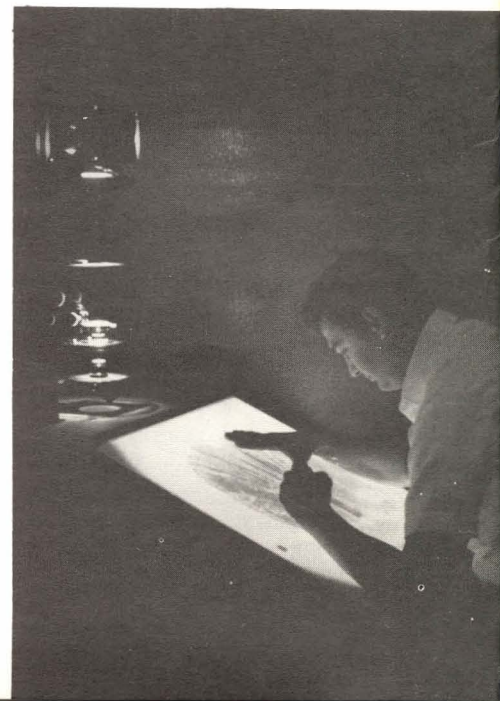
When weather conditions are suitable, Fishery Biologists are engaged in field activities. More than 450 visits are made annually to various waters for conducting surveys, inventories, investigations; and inspections. The goal of the Commission is to maintain or improve angling conditions and to provide maximum fishing opportunities for Kansas anglers.

A special type of survey, the creel census, has been conducted on seven state lakes in specific years to obtain information on fishermen use and

catch success. At periodic intervals throughout the year, a representative sample of anglers using a lake are interviewed by fishery personnel to gather information on: (1) total fisherman-use; (2) species, size, and number of fish caught; and (3) estimated total cash or harvest of fish, on an annual basis. This knowledge is necessary to plan and carry out fishery improvement projects and to determine benefits from management procedures which have been applied to state lakes. These angler utilization studies emphasize the popularity of state fishing lakes and reveal the heavy usage they receive. Data compiled for 11 years of censusing on six state lakes indicates angler usage ranging from 122 to 221 fisherman trips per surface acre of water during the year. The catch ranged from 28 to 226 pounds of fish per surface acre of water on an annual basis.

As in other fields, basic research is needed in the fisheries program. The Commission utilizes the services of the professional staff and advanced biology students of the universities and colleges of the state for conducting fishery studies involving basic research and experimentation.

Gene Coslett, fisheries biologist, studies a fish scale as seen on a microprojector. On scaled fish, year marks—annuli—may be counted and measured. Age of fish and growth rates can be determined from the number of annuli and the distance between them. Many such management practices are conducted by the Fisheries Division to improve angling success in public waters.



Cooperative fisheries research projects which are currently in progress include:

(1) A Study of the Nutrition, Selection, and Behavior of Catfishes. (Kansas State University.)

(2) A Study to Determine Production and Growth-rates of Different Pondfishes on Various Feeding Schedules. (University of Kansas.)

(3) A Study to Determine the Effects of Feedlot Run-off on Fish Food Organisms in the Cottonwood River. (Kansas State Teachers College of Emporia.)

(4) Pre- and Post-improvement Limnological Analyses and Fish Population Evaluations of Certain Stripmine Lakes in Southeast Kansas. (Kansas State College of Pittsburg.)

This program is conducted under contract through a cooperative fisheries research project with Commission financing of research studies which are carried on by the educational institution.

Fishery Management

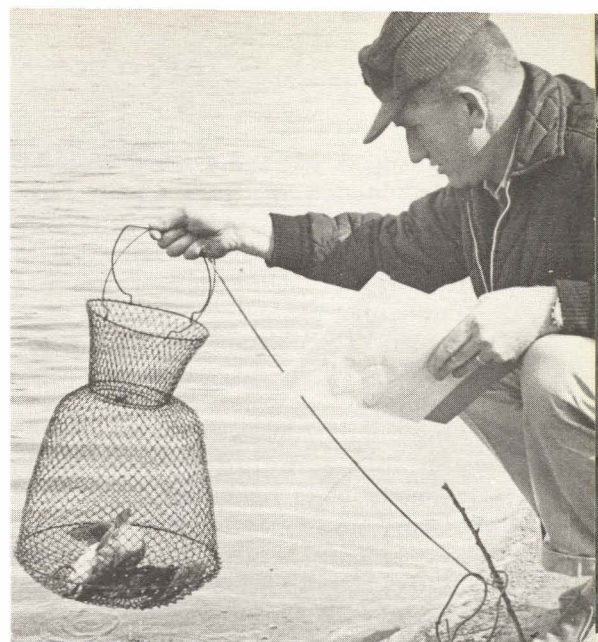
This program includes various management practices placed in use to restore and improve angling success and the quality of the fishery. These practices may be de-

signed to restore or improve the fishery habitat, increase the fish food supply, or modify the structure of the fish population.

An important fishery management practice used by the Department is corrective or maintenance stocking of certain fish species and size groups. Our program of stocking walleye, northern pike, and intermediate-size channel catfish can be considered in this category.

In the Spring of 1964, lake fertilization projects were initiated on McPherson County State Lake and Pottawatomie County State Lake (No. 1) to improve water fertility and fish food production, which in turn, increases fish production, fish growth, and angler harvest. At the present time seven state lakes have been included in the fertilization program. In addition to the two lakes previously listed, the program includes state lakes in Leavenworth, Lane, Kiowa, Sheridan, and Barber counties. In several instances the principal objective of the fertilization project is to control excessive growths of water vegetation.

Fish population reduction by various means, including lake drawdowns and sectional and shoreline applications of fish toxicant is



Verl Stevens, fish hatchery superintendent and fisheries biologist, conducts creel census at Meade County State Lake. This special type of survey has been conducted on seven state lakes in recent years to obtain information on fisherman use and catch success.

a management practice used to correct the common problem of overcrowding when crappie, bluegill, drum, and other species become too numerous. A fish population control project of this type may be followed by stocking of desirable game fish species as a corrective measure. An overcrowded condition in the fish population usually results in a build-up of panfish species, a decline in numbers of largemouth bass and channel catfish, the development of a dominant group of slow-growing, undersize fish, and poor angling.

As overcrowding and domination of the fish population by small, slow-growing panfish species becomes more pronounced, complete rehabilitation of the lake is necessary to restore a desirable game fish-panfish balance which will result in satisfactory angling.

A lake undergoes complete rehabilitation when it is drained and the fish removed, when fish toxicant is applied to eradicate all fishlife, or when a combination of these methods is used. A summary of state lakes which have been rehabilitated, the year of rehabilitation, and the year that they were reopened for fishing during the period 1960-1970 is shown on this page.

Fisheries Division personnel have

LIST OF STATE LAKES WHICH WERE REHABILITATED TO IMPROVE FISHING (1960-1970)

Lake	Date of Rehabilitation	Date Reopened for Fishing
Lyon County State Lake	October, 1962	March, 1966
Hodgeman County State Lake	October, 1960	October, 1963
Kingman County State Lake	May, 1961	November, 1963
Clark County State Lake	September, 1961	November, 1963
Neosho County State Lake	May, 1962	March, 1965
Ottawa County State Lake	July, 1962	March, 1965
Logan County State Lake	September, 1963	March, 1965
Pottawatomie County State Lake No. 1	September, 1963	March, 1966
Meade County State Lake	October, 1964	March, 1967
Hodgeman County State Lake	May, 1965	*
Kingman County State Lake	June, 1966	March, 1969
Barber County State Lake	June, 1966	March, 1970
Jewell County State Lake	September, 1966	March, 1970
Logan County State Lake	November, 1966	*
Hamilton County State Lake	September 1969	Closed
Butler County State Lake	November, 1970	

* These lakes were rehabilitated because they were going dry. They are empty or extremely low at the present time and cannot be restocked until they refill.

also supervised and assisted with the rehabilitation of Rock Creek Lake (Fort Scott City Lake), Olathe City Lake, Osawatomie City Lake, and a number of other impoundments throughout the state.

The Commission's program to construct state lakes to create new public fishing waters continued during the decade. New lakes opened for fishing included: Sheridan County State Lake, October, 1963; Geary County State Lake, November 1963; Douglas County State Lake, March 1966; Sherman County State Lake, March 1967; Nebo Watershed Lake (leased from Delaware Watershed Joint District No. 10), March 1967; Kiowa County State Lake, March 1969; Lane County State Lake, March 1970.

Fish Culture

Several species of fish as well as several length groups within each species, including channel catfish (fry, fingerling, and intermediate sizes), largemouth bass, (fry, finger-

ling, and intermediate sizes), bluegill, and black crappie, are produced at the Pratt Fish Hatchery. Largemouth bass in the intermediate size range are few in number, since they occur only occasionally in fingerling bass ponds as the result of extreme variations in growth. The Commission discontinued stocking of crappie in ponds and small lakes several years ago, but small numbers are propagated each year for establishing the species in large federal reservoirs.

Hatchery and rearing pond units are operated at capacity production each year since our needs in most categories exceed the number of fish we are able to produce. Therefore, variations in the numbers of a particular species or length group produced during a specific year are generally the result of unsatisfactory spawning conditions, low hatching success, or mortality from various causes occurring throughout the year. Distribution records for fish produced at the Pratt Hatchery for the ten-year period, 1960-1969, are

listed in the chart on this page. Distribution of fish produced in 1970 has not yet been completed.

Pond Stocking

Ponds and lakes are expected to meet certain standards and requirements if they are to be approved for stocking with fish from the Forestry, Fish and Game Commission Hatchery. These requirements include: (1) the water area must be a minimum of one-fourth surface acre in area; (2) the pond or lake must be of adequate depth, or have a reliable water supply so as to maintain fishlife during average periods of drought conditions and winter ice cover; and (3) the pond or lake must not already have been stocked or otherwise contain an established fish population. The Commission's experience in stocking fish and managing fish ponds has shown that fishing is generally not improved by adding more small hatchery fish to waters which already contain fish populations. Therefore, it is the Department's policy to require that

FISH DISTRIBUTION RECORDS FOR PERIOD, 1960-1969 (Excluding Walleye and Northern Pike)

Fish Distributed	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Channel Catfish Fingerlings	704,550	402,950	620,701	574,916	528,780	484,466	505,450	488,798	481,837	213,590
Channel Catfish (8"—10")	14,900	3,682	26,259	99,969	71,576	54,985	52,838	61,731	19,780	64,486
Channel Catfish Fry	1,129,000	1,536,000	896,000	834,000	1,406,000	2,160,000	1,104,000	1,818,000	1,736,000	2,258,250
Largemouth Bass Fingerlings	130,500	157,000	174,825	118,980	294,520	233,120	219,100	230,034	159,400	108,000
Largemouth Bass (5"—9")	1,200	9,290	4,600	2,800	200	4,605	3,340	4,200	6,750	12,230
Largemouth Bass Fry	118,000	None	51,200	None	None	None	None	None	10,000	54,050
Bluegill Fingerlings	69,800	132,355	86,175	111,030	154,800	80,450	154,900	106,400	56,300	40,050
Black Crappie Fingerlings	84,250	53,000	50,425	8,200	26,250	14,700	66,600	3,600	4,000	46,520
Total Number of Fish Distributed	2,252,200	2,294,277	1,910,185	1,749,895	2,482,126	3,032,326	2,106,228	2,712,763	2,474,067	2,797,176

Summary of Pond Stocking Activities

Year	Total number of ponds stocked	Total number of fish	Species			
			Bluegill fingerlings	Largemouth bass fingerlings	Black crappie fingerlings	Channel catfish fingerlings
1960.....	1,348	658,600	65,200	123,100	56,450	395,550
1961.....	1,191	465,850	58,075	110,100	34,175	263,500
1962.....	915	458,625	54,275	109,925	29,425	265,000
1963.....	898	472,581	63,430	94,130	1,200	313,821
1964.....	1,183	499,950	55,000	101,400	100	343,450
1965.....	984	550,150	66,850	100,950	.....	382,350
1966.....	502	382,550	51,500	56,000	.....	275,050
1967.....	1,435	679,982	94,700	189,784	.....	395,498
1968.....	667	400,700	53,700	105,200	.....	241,800
1969.....	652	300,650	32,600	94,225	.....	173,825

ponds and lakes which presently contain fish populations be rehabilitated by use of fish toxicant or drainage to eradicate all fishlife prior to approving them for restocking with fish from the state hatchery. For approved ponds, largemouth bass, channel catfish, and bluegill are available each fall for stocking. The number of ponds stocked and the total number of fish of each species allotted during each of the past ten years, 1960-1969, are shown in the chart on this page.

The number of ponds stocked each year may vary with extent of new pond construction, drought and low water level conditions, and with rainfall and refilling of ponds. Two national fish hatcheries are located in the state and have similar stocking programs. They are also the source of fish for stocking numerous ponds and lakes.

Rearing Pond Production

The Forestry, Fish and Game Commission, prior to 1960, recognized the need for channel catfish of a size larger than three-inch fingerlings for supplemental stocking in certain state lakes and other public-use waters. Quite often these lakes had clear water conditions or other characteristics which resulted in an insufficient number of channel catfish. In these lakes it was impossible to maintain

catchable numbers through natural reproduction and survival of young fish. To maintain sufficient numbers of channels in these lakes for satisfactory angling, it was necessary to rear fish of these species to a length of eight to ten inches in rearing ponds through a feeding program. This produced fish large enough so that good survival could be expected after they were transferred to the public fishing lakes.

Rearing pond facilities were needed if channel catfish were to be fed and reared to eight to ten inches (intermediate) in size. In 1960, three such ponds producing approximately 14,000 intermediate size channel catfish annually were in use. These were located on state property adjacent to state lakes in Woodson, Neosho, and Leavenworth counties. In 1962, a rearing pond was placed in operation adjacent to Shawnee County State Lake. Combined production for the year from the four ponds increased to 22,000 intermediate size channel catfish, with several thousand additional fish being reared to this larger size at the Pratt hatchery.

The Meade Fish Rearing Station, put into operation in the spring of 1963, has greatly increased the total annual production of eight- to ten-inch channel cats. Total numbers of intermediate size channel cat-

fish raised and distributed by the Forestry, Fish and Game Commission each year during the period 1960-1969 are as follows: 1960, 14,900; 1961, 13,858; 1962, 26,269; 1963, 99,969; 1964, 71,576; 1965, 54,985; 1966, 52,838; 1967, 61,731; 1968, 19,780; 1969, 64,486.

Facilities for raising channel catfish from fingerling to intermediate size were greatly expanded as a result of Commission action to reconstruct and restore the 15-pond unit located on state property adjacent to Meade County State Lake. Improvements included the drilling of an artesian well to supplement the water supply for the ponds, removal of sediment to increase the spring-flow in a water supply pond, repair of water supply and drainage ditches, canals, and control structures, and the repair of ponds and dikes. Additional improvements have been made in recent years including a fish house with concrete fish holding tanks. Concrete fish collecting boxes have been constructed in the pond drainage systems. A diminishing water supply for the rearing ponds in 1968 as a result of irrigation of crops in the locality made it necessary to drill a new well, install an electric motor and pump, and construct additional waterlines in order to continue usage of one group of the Meade ponds.



In the spring of 1963, walleye eggs were taken from brood fish at Webster Reservoir then hatched for transplanting purposes. The artificial spawning operation, called "fish milking" by biologists, is conducted at the lake edge. Fish are handled as gently as possible to prevent injury.

The substantial reduction in number of channel catfish produced in 1968 was the result of a serious water supply shortage for the ponds, but which has since been corrected by the drilling of a new well and installation of an electric pump and waterline.

The intermediate channels distributed from the rearing ponds each year were transferred to various state lakes, and other lakes under local, city, or county governmental control where public fishing access is assured, and where previously conducted fishery surveys have indicated a need for the supplemental stocking of this species.

Walleye in Kansas

The introduction of walleye into Kansas' waters occurred in 1949 with the transplanting of seven thousand fingerlings in Clark County State Lake. The first substantial stocking of walleye in a federal reservoir in Kansas was made in Fall River Reservoir in 1952 by the Farlington National Fish Hatchery. By 1960, walleye had been stocked in Fall River, Cedar Bluff, Kanopolis, Kirwin, Webster, and Lovewell Reservoirs. Stocking was conducted by both the For-

estry, Fish and Game Commission and the Bureau of Sport Fisheries and Wildlife.

During this early phase of the Kansas walleye program, most of the fry or eggs were obtained through exchange agreements with other states. The Fishery Division expended considerable effort to take walleye eggs and hatch fry for transplanting purposes but success was limited until the spring of 1963. At that time, trap nets had been constructed and netting operations to catch brood fish were carried out at Webster Reservoir. Approximately 20 million walleye eggs were collected and hatched at the Cedar Bluff National Fish Hatchery.

In the spring of 1964, an innovation in the form of a portable walleye hatching unit was moved to Webster Reservoir and set up near the stilling basin from which the water supply

was obtained. This portable hatching unit was used for hatching of walleye and northern pike eggs for the next five years. Due to crowded conditions and limitation on numbers of walleye and northern pike eggs which could be hatched in the portable unit, a new movable-type metal building was constructed near the stilling basin below Webster dam and placed in operation for hatching eggs, beginning with the spring of 1969 spawn-taking season.

Walleyes have now been stocked in all 19 federal reservoirs in Kansas. In a number of these large reservoirs, walleye are spawning successfully and are maintaining satisfactory populations through natural reproduction.

Walleye stockings in Kansas waters through combined efforts of the Forestry, Fish and Game Commission and the Bureau of Sport Fisheries and Wildlife during the period 1960-1970 are listed in the chart on the adjoining page.



Walleye fishing in Kansas has become an established fact during the past decade as Neil Fuller, Concordia, will attest.

WALLEYE STOCKING

Year Stocked	Total Number	<i>Impoundments Where Stocked</i>
1960	1,110,000	Cedar Bluff and Lovewell Reservoirs
1961	3,100,000	Cedar Bluff and Lovewell Reservoirs
1962	5,900,000	Cedar Bluff, Lovewell, Toronto, Tuttle Creek, and Webster Reservoirs
1963	9,000,000	Cedar Bluff, Fall River, Tuttle Creek, and Webster Reservoirs
1964	9,250,000	Kirwin, John Redmond, Pomona, Cedar Bluff, and Webster Reservoirs
1965	7,000,000	Cheney, Council Grove, Lovewell, Wilson and Norton Reservoirs
1966	10,800,000	Cheney, Elk City, Norton, Wilson, and Council Grove Reservoirs, and seven State Lakes
1967	7,750,000	Elk City, Milford, and Cedar Bluff Reservoirs
1968	9,860,000	Marion, Milford, Glen Elder, and Cedar Bluff Reservoirs
1969	6,900,000	Glen Elder, Perry, and Marion Reservoirs

The walleye is best adapted to larger impoundments in the state but as fry became available, they have been stocked in several state lakes, including lakes in Clark, Kingman, and Rooks counties. Walleye of fingerling size have been stocked in state lakes in Kingman and Hamilton counties.

In 1966, walleye fry were stocked in seven state lakes in Bourbon, Clark, Douglas, Geary, Leavenworth, Pottawatomie (No. 2), and Rooks counties. Follow-up of test-netting studies and angler catch records have returned few walleye from these state lakes, thereby indicating it will probably be necessary to stock larger fish of fingerling size in order to achieve good survival and build up satisfactory populations.

The production of fingerling walleye will depend on the availability of additional rearing ponds which we do not have at the present time.

Northern Pike in Kansas

The first introduction of northern pike into the reservoirs of Kansas occurred in 1962 when Tuttle Creek Reservoir, just beginning to fill with water, was stocked with fry obtained from the state of Nebraska. A follow-up stocking of northern pike was made in Tuttle

Creek in 1963 in an effort to successfully establish the species in the new reservoir.

As with walleye, the Bureau of Sport Fisheries and Wildlife assisted with the stocking of northern pike in Kansas by also obtaining eggs or fry from out-of-state sources. Cedar Bluff, Council Grove, and Norton Reservoirs were stocked with northern pike fry in 1965. In 1966, northern pike fry were stocked in Cheney, Wilson, and Elk City Reservoirs.

In 1966, the first northern pike eggs were taken and hatched by department personnel from fish netted in a Kansas reservoir. These spawn-taking operations were carried out at Norton

Reservoir, with eggs being taken from yearling northern pike stocked as fry one year earlier. As with walleye, spawn-taking operations and hatching of eggs at the Webster hatchery have been carried out annually by Fish and Game Commission personnel. Eggs have been collected each year since 1966 at Norton Reservoir, and also were taken at Marion Reservoir in the spring of 1970.

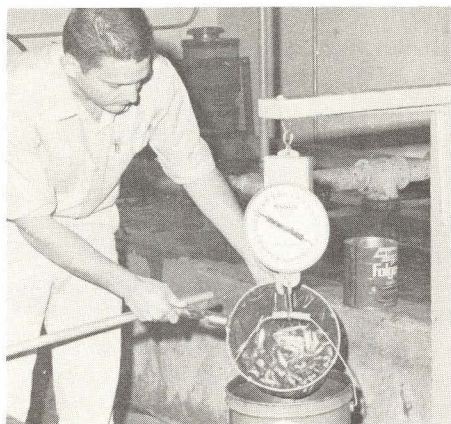
Northern pike stockings in Kansas reservoirs through the combined efforts of the Forestry, Fish and Game Commission and the Bureau of Sports Fisheries and Wildlife during the period 1962-1970 are listed on this page.

Limited rearing pond facilities have been utilized by the Fisheries Division whenever possible for rearing northern pike from fry to fingerling size. As a result, fingerlings have been stocked in state lakes in Kingman, Neosho, Crawford, Meade, Clark, Sheridan, Woodson, McPherson, Wilson and Bourbon counties. They have also been placed in strip-mine lakes in Cherokee County, and in Cheney, Webster, and Pomona Reservoirs.

Northern pike fry are immature and extremely weak for a number of days after hatching. As a result the survival rate of fry is extremely low when stocked in reservoirs or lakes which contain established fish populations. For this reason, such stocking is not worthwhile. To successfully spawn and hatch young northern pike, there must be areas of shallow water which have flooded thick, grassy vegetation.

NORTHERN PIKE STOCKING

Year Stocked	Total Number	<i>Impoundments Where Stocked</i>
1962	4,250,000	Tuttle Creek and Webster Reservoirs
1963	2,000,000	Tuttle Creek Reservoir
1964	1,250,000	Cedar Bluff Reservoir
1965	2,837,000	Council Grove, Norton, and Cedar Bluff Reservoirs
1966	3,364,000	Cheney, Wilson, and Elk City Reservoirs
1967	8,411,000	Milford, Wilson, Cedar Bluff, and Elk City Reservoirs
1968	4,617,000	Marion and Wilson Reservoirs
1969	2,765,000	Perry and Glen Elder Reservoirs
1970	2,505,000	Glen Elder, Wilson, and Pomona Reservoirs



Don Patton, assistant hatchery superintendent, weighs channel catfish fingerlings before placing them on fish distribution trucks. Such a technique provides an approximate number of fish being distributed. Nearly 10,000 ponds were stocked by the Commission from 1960 through 1969.

This specialized type of spawning habitat required for natural reproduction of northerns will seldom be provided, except where water level management can be practiced or where suitable spawning habitat can be created by other means. The Commission is developing plans for an expansion of pond production of fingerling northern pike and also for construction of spawning marshes in an effort to establish this species in additional

waters and to maintain satisfactory numbers for anglers.

Striped Bass in Kansas

Like many other states, Kansas has introduced the striped bass which, if successfully established, can provide another species which reaches large size and is popular with anglers. Stripers also can contribute to control of overcrowded panfish and other fish in reservoirs.

The initial stocking of striped bass in Kansas took place in April, 1965. To date, striped bass have been stocked in Wilson, John Redmond, Elk City, Cheney, Glen Elder, and Fall River Reservoirs. Confirmed reports of striped bass being caught in Wilson, Cheney, and Glen Elder Reservoirs have been received, with the larger fish weighing in excess of four pounds when taken by anglers in the summer and early fall of 1970.

The department has had only limited success so far in the pond rearing of striped bass fry to fingerling size. Efforts are continuing to develop successful methods of producing fingerling striped bass in ponds so that substantial numbers can be made available for transplanting to our state waters.

Roy Schoonover
Fisheries Division Chief



FISHERIES DIVISION PERSONNEL

Roy E. Schoonover—Division Chief	Pratt
Joyce Fast—Clerk Steno II	Pratt
Verl Stevens—Hatchery Superintendent	Pratt
Johnny Ray—Biologist II	Pratt
Gene Coslett—Biologist I	Pratt
Don Patton—Fish Culturist II	Pratt
Jim Manning—Fish Culturist I	Pratt
John Keiter—Fish Culturist I	Pratt
Leo Seidel—Fish Culturist I	Pratt
James Weber—Fish Culturist I	Pratt
Frank Schryer—Biologist II	Hays
Verlyn Ebert—Biologist I	Hays
Bob Hartmann—Biologist III	Pratt
Bill Cole—Biologist II	Manhattan
Lanny Jones—Biologist II	Pratt
Charlene Redman—Clerk Steno I	Manhattan
Leo Dowlin—Biologist I	Potwin
John Venard—Fish Culturist II	Meade
Steve Ediger—Fish Culturist I	Meade



After conducting fish population studies along a section of Cow Creek, Johnny Ray, fisheries biologist, examines flathead and channel catfish minnows which were seined from the creek.

Field Services

Field services may not be a fancy title but as far as the operation of the Kansas Forestry, Fish and Game Commission is concerned, the Field Services Division is indispensable.

The Field Services Division was formed in 1962 when two sections—State Lakes and Land Management—were combined. Before the merger, the two sections were responsible for maintenance and upkeep of all state lakes and management of all state-owned property including lands surrounding five federal reservoirs which had been leased to the Commission for wildlife management.

Shortly after its formation, several changes were implemented resulting in the present-day Field Services Division which is now divided into two sections—Engineering and Maintenance.

One major change occurred in 1963 when biologists and other personnel formerly with the Land

Management Section, were transferred to the Game Division which was given the new responsibility of managing public hunting areas.

An earlier change occurred in the spring of 1962 when a Civil Engineer II was hired to serve as head of the Division and to provide engineering services which had previously been contracted to consulting engineering firms. With this change, an Engineering Section was established.

To increase the efficiency of the new Engineering Section, an Engineering Technician IV was hired in 1964 to conduct surveying and drafting work. In late 1966, an additional Engineering Technician was placed in the section to assist with surveying, drafting, and field inspection of construction projects.

The Engineering Section is responsible for providing engineering services for all Commission projects. As such, this section provides engineering feasibility and reconnaissance reports, preliminary and final designs, engineering plans and specifications, and makes cost estimates for contractual projects as well as construction projects undertaken by the Commission. It also coordinates the work of consulting engineering firms retained by the Commission.

The engineering section also serves as liaison between state, federal and private agencies to insure that proposed Commission projects meet specified requirements—a most important role in providing the best facilities possible for dollars spent.

In addition, this section is responsible for maintenance of 70 installations including all recreational facilities at the installations, 115 buildings and approximately 275 miles of roads.

The responsibility of securing water rights and appropriations for new Commission projects, in addition to maintaining accurate water use records and submitting annual reports to



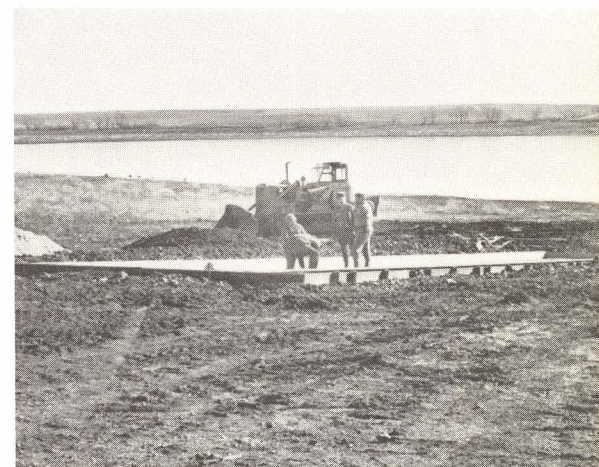
Walter Harrison
Field Services Chief

the State Board of Agriculture's Water Resources Division, is also assigned to the Engineering Section.

Another prime responsibility of the Engineering Section is the preparing of plans, specifications and cost estimates for repair of damage that occasionally occurs on the 43 dams and spillways located on Commission property.

The Maintenance Section came into existence in 1963 when the

Rock jetties and youngsters—an unbeatable combination at Atchison County State Lake. Jetties have been constructed at several state lakes by the Field Services Division to provide access to deeper waters and, in some cases, to also reduce wave action which results in muddy water.



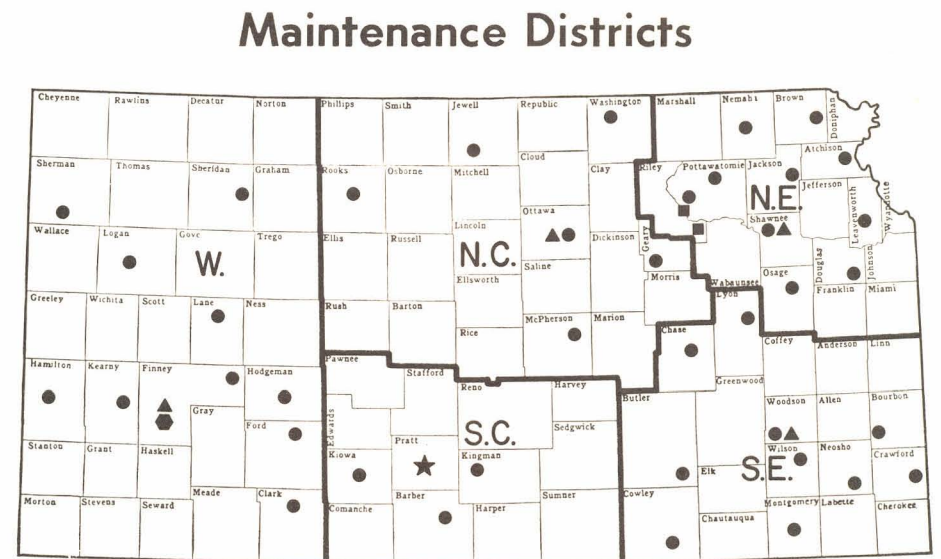
Construction and maintenance of facilities at state lakes, such as this new boat ramp at Butler County State Lake, are prime functions of the Field Services Division.

state was divided into five maintenance districts and headquarters were established in all districts. Maintenance supervisors in each district are responsible for maintenance and construction of projects within their respective districts.

In each district, Lake and Grounds Keepers form the maintenance crews and at times crews are combined to handle large repair or construction jobs. However, the 16 Lake and Grounds Keepers are primarily responsible for maintenance and upkeep of 38 state lakes and the Rocky Ford and Deep Creek fishing areas. There is an annual attendance at state lakes of about 2.5 million users.

The Rocky Ford fishing area, covering three acres, is located on the Blue river between Manhattan and Tuttle Creek Reservoir. It was acquired in 1967 from the Kansas Power and Light Company and provides good fishing for numerous species.

The Deep Creek fishing area, covering 59 acres, is located approximately six miles southeast of Manhattan. Known locally as Pillsbury Crossing, this tract of ground with about seven miles of stream (Deep Creek) was acquired in 1967 as a gift



- LEGEND**
- ★ Forestry Fish & Game Commission Headquarters
 - ▲ Regional Maintenance Headquarters
 - State Lakes
 - Fishing Areas
 - Garden City Buffalo Herd
 - Maintenance Districts

from Dr. Fricke, school of veterinary medicine, Kansas State University.

During the decade, several new state lakes were constructed and three older ones, where the recreation de-

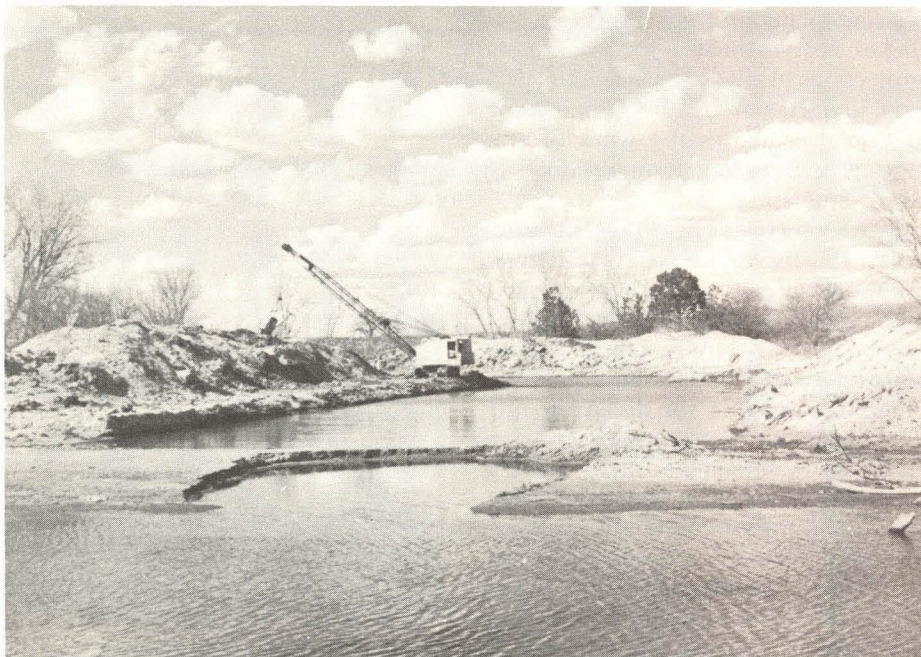
mand was non-fishing, were turned over to the Kansas Park Authority to be utilized as state parks. Crawford County State Lake No. 2 near Farlington, Meade County State Lake and Scott County State Lake were the ones transferred to the Park Authority.

In addition, Decatur County State Lake was turned over to the city of Oberlin to be utilized as a site for a home for wayward boys.

Another state lake, located in Miami County, was designated a waterfowl management area since it was extremely shallow and did not provide good fishing.

During the '60's, new lakes were constructed in Douglas, Geary, Kiowa, Lane and Sherman counties. Also, two fishing lakes were constructed on the Big Hill game management area in Labette County.

Among the lakes of Kansas, Lane and Kiowa County State Lakes, covering 31 and 21 surface acres respectively, are unusual. They were the first to be constructed by the Commission using underground water and irrigation-type pumps to provide a permanent water supply. Both lakes



In 1968, the first backwater channel in Pratt County was dug adjacent to the Ninnescah River near Fish and Game Commission headquarters.



Jim Lane, engineering technician, works on contour map of a proposed lake site—just one of the many duties assigned to the Field Service Division's Engineering Section.

were constructed in sections of the state where there were few public fishing waters and where few suitable sites were available for lake construction. However, at both locations, there were small, natural lagoons and abundant supplies of underground water — essential requirements not widely found. Preliminary studies indicated that a well at each location could maintain small lakes ranging from 20 to 30 surface acres in size.

All surface drainage is excluded from these new state lakes which insures there will be no siltation of the lake basins and also prevents the introduction of rough fish populations unless undesirable species are stocked by anglers—a possibility which is hoped will not happen. Both lakes are now open to fishing and providing good angling success in areas where previously there were few angling opportunities.

An older lake, Barber County State Lake, received an extensive face-lifting three years ago and has since been filled with water, restocked with fish, and opened to public fishing in the spring of 1970.

Constructed in 1954, the lake had slowly gone dry due to construction of numerous ponds in the watershed above the lake and a general deficiency of rainfall.

In 1967, a dike was constructed

across the shallow, upper end of the lake to reduce the impoundment's size from 77 to 51 surface acres. Two high capacity irrigation-type wells were then drilled to provide a permanent source of water. Located just north of the Medicine Lodge city limits, the lake is once again providing a convenient recreational area for south-central Kansas anglers.

During the past three years, new fishing areas, better known as backwater channels, were constructed adjacent to the south fork of the Ninnescah River in Pratt and Kingman counties. In Pratt County, three channels were dug on Commission property near the headquarters office and another was excavated on property owned by the city of Pratt. Five channels were provided on Commission property near the Kingman County State Lake.

It was possible to dig backwater channels in this south-central area since the stream bed of the Ninnescah River is below the water table. This

insures that the water level in the channels will never be lower than the level of the water table. Dug a minimum of eight feet below the water level, the channels provide deep fishing waters—a welcome improvement for local fishermen since the Ninnescah River provides little deep water. Much of the river was filled with sand and silt during the 1957 floods.

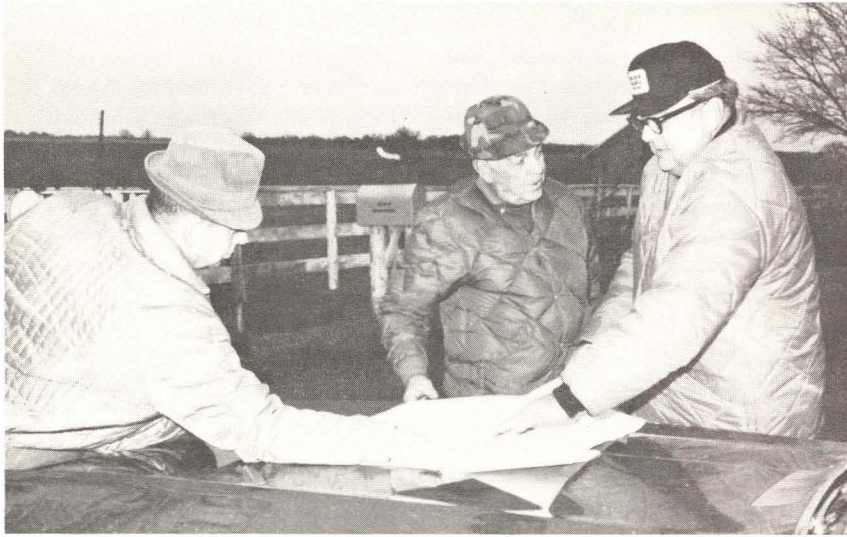
Deeper than the river, the backwater channels soon became attractive to all species of fish common to the stream. Access roads to the channels and parking areas were also constructed, to accommodate local anglers.

Thus, in eight short years, the Field Services Division with its engineering and maintenance crews has provided numerous benefits for the Kansas sportsman. While much of its work goes unnoticed by the casual observer, the Division has played and is continuing to play an important role in providing much needed services to the Commission and sportsmen who pay the bill.

FIELD SERVICES DIVISION PERSONNEL

Walter C. Harrison—Civil Engineer II (Division Chief)	Pratt
Genevieve Benway—Clerk Steno II	Pratt
Aaron J. Lane—Engineering Technician IV	Pratt
Fred Badders—Engineering Technician III	Pratt
Joe Youngers—Maintenance Repairman II	Pratt
Dean Tregellas—Maintenance Repairman I	Pratt
Ken Garrigues—Maintenance Repairman I	Pratt
Richard McGinnis—Heavy Equipment Operator	Pratt
Bill Wolf—Heavy Equipment Operator	Pratt
Raymond Kokenge—Maintenance Repairman II	N. E. Maintenance District
Deane Bell—Lake and Grounds Keeper	Atchison and Nebo
Richard Fangman—Lake and Grounds Keeper	Shawnee and Osage
Ed Grove—Lake and Grounds Keeper	Brown and Nemaha
Harvey Harris—Lake and Grounds Keeper	Leavenworth and Douglas
Larry Mull—Lake and Grounds Keeper	Pottawatomie I and II, Deep Creek and Rocky Ford
August Vaughn—Maintenance Repairman II	S. E. Maintenance District
Robert D. Currie—Lake and Grounds Keeper	Chase and Lyon
Bill Gregory—Lake and Ground Keeper	Crawford
Larry McCracken—Lake and Grounds Keeper	Montgomery
Fred Lovelady—Lake and Grounds Keeper	Wilson and Woodson
T. E. Wester—Lake and Grounds Keeper	Neosho and Bourbon
Bob Otting—Maintenance Repairman II	N. C. Maintenance District
Floyd Liby—Lake and Grounds Keeper	Rooks, Jewell and Washington
Eugene Shepherd—Lake and Grounds Keeper	Ottawa and Geary
Larry Kerr—Maintenance Repairman II	Western Maintenance District
Emery Kelch—Lake and Grounds Keeper	Kearny, Hamilton and Sheridan
Jim Young—Lake and Grounds Keeper	Clark, Hodgeman and Hain

COMMISSIONERS . . .



Attending Commission meetings is not a Commissioner's sole responsibility. He also spends considerable time away from his profession to attend to Commission business. One such instance occurred recently when Commissioners spent three days inspecting real estate in eastern Kansas—some of which may be purchased in the future to provide more public hunting lands. Above, Fred Sears, center, and Bill Fowler, right, discuss prospects with Dick Hager, Regional Game Manager for southeast Kansas. In the photo to the right, Commission Chairman, Bill Fowler (left), and George Moore, Commission Director, discuss pros and cons while Lee Queal, Federal Aid Coordinator, looks on.



Take a banker, then add a lawyer. For good measure include a mortician and toss in a contractor and a rancher-farmer. Blend all their talents, abilities, concerns and interests and you have the current Kansas Forestry, Fish and Game Commission's board of Commissioners.

Serving without pay except for certain traveling expenses incurred in the performance of their official duties, these five men from varied occupations and professions have one common bond—each is a sportsman with a love for the outdoors and the state's wildlife resource.

Currently, the commissioners are: Bill Fowler, chairman, banker from Weir (Fourth District); Jack Haley, mortician from Minneapolis (At-Large); Charles Hulme, Great Bend, contractor (Third District); Robert S. Lemon, Shawnee Mission attorney (First District); and Fred Sears, rancher-farmer from Colby (Second District).

For Bill Fowler and Charles Hulme, the job is old hat: Fowler, who now serves as chairman of the Commission, served on the previous six-man board from 1958 until reorganization in 1961. Hulme first served on the Commission from 1961 until October 1963.



The term, "Kansas Forestry, Fish and Game Commission," may be confusing to some people since it is used most frequently to denote a state agency. However, by law, the Commission consists of five Kansas residents who are to be members of and act as the Forestry, Fish and Game Commission. Meeting with Noel Mullendore, Commission Attorney, and George C. Moore, Director, the five Commissioners to the right of Moore are: Bill Fowler, Chairman, Fourth District; Fred Sears, Second District; Jack Haley, At-Large; Robert S. Lemon, First District; and Charles Hulme, Third District.

Men Behind the Scenes

One of the biggest changes of the decade occurred in 1961 when the Commission was reorganized by the Legislature. Since 1939, Kansas sportsmen had been served by a six-man bi-partisan Commission. However, by action of the 1961 Legislature, the six-man board was replaced by the current five-man Commission.

Following reorganization, the following men were selected to serve as commissioners: G. G. Boling, Leavenworth (First District); Harlan Boxberger, Russell (Second District); Charles Hulme, Great Bend (Third District); W. Lloyd Brown, Columbus (Fourth District); and Frank L. Lombard, Enterprise (at large).

By law, Commissioners are appointed to four-year terms by the governor, subject to confirmation by the Legislature. Four commissioners are selected to represent four districts—one from each district. The remaining member serves from the state at large. Terms are staggered to insure proper balance between new and experienced members.

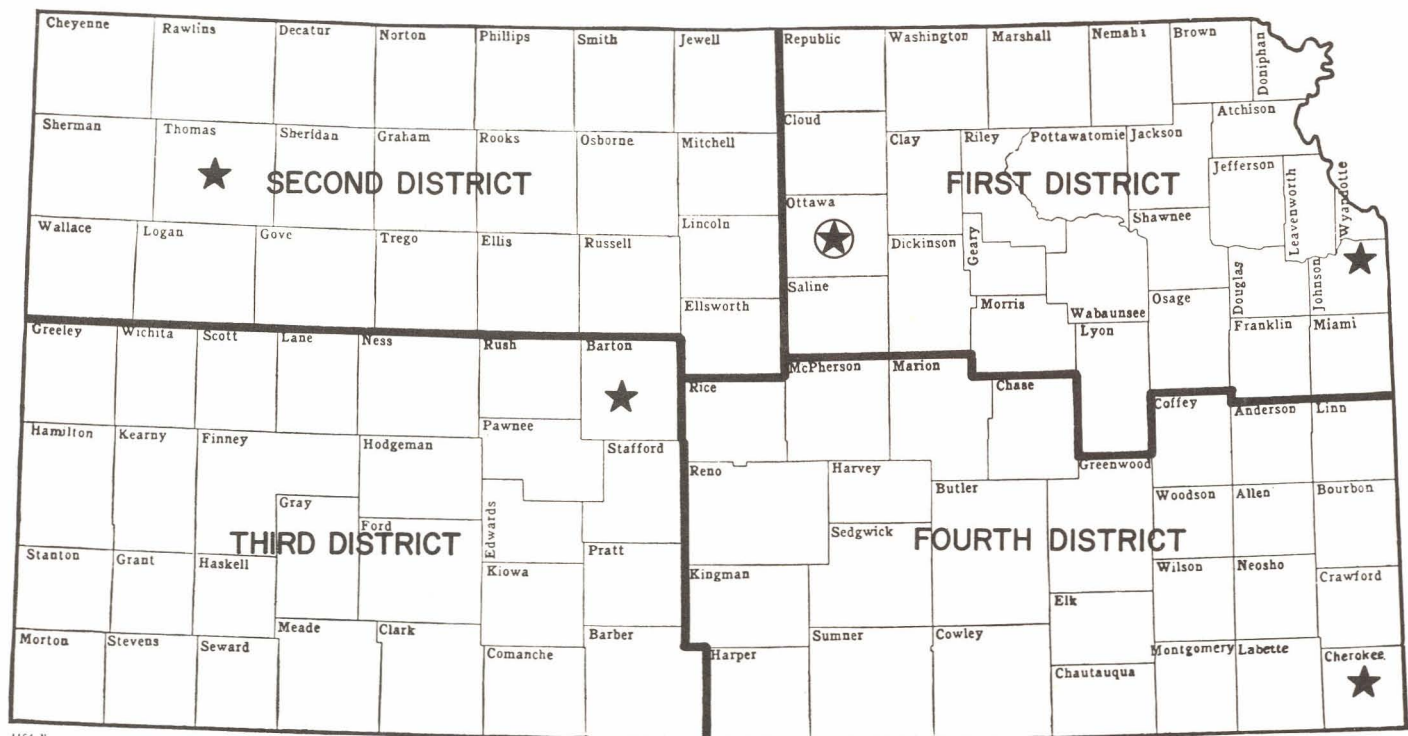
In reality, these men perform extremely important tasks—many of which go unnoticed by the average citizen and some which draw the wrath of irate sportsmen.

Statutes define clearly the Commission's sphere of responsibilities of setting policies, then hiring a director and staff to carry them out; establish-

ing hunting, trapping, boating and angling regulations; and after legislative approval, assumes the responsibility of budget control. The Commission meets at approximately monthly intervals during the year to transact regular business—most meetings being open to the public.

The task of being Commissioner is not a popular one for it is nearly impossible to please everyone. Even so, sportsmen owe a big thanks to the five men who are constantly working behind the scenes attempting to keep pace with the increasingly complex problems of fish and game management and to make the operation of the entire Department more efficient.

Commissioner Districts



- ★ DISTRICT COMMISSIONERS
- ★ AT-LARGE COMMISSIONER

Law Enforcement

During the past decade of progress, much public attention has been focused on some of the Commission's more glamorous programs.

However, the Division of Law Enforcement has been steadily improving and upgrading to a point where its men may now take a position with other professionals, knowing that services provided by law enforcement are extremely essential.

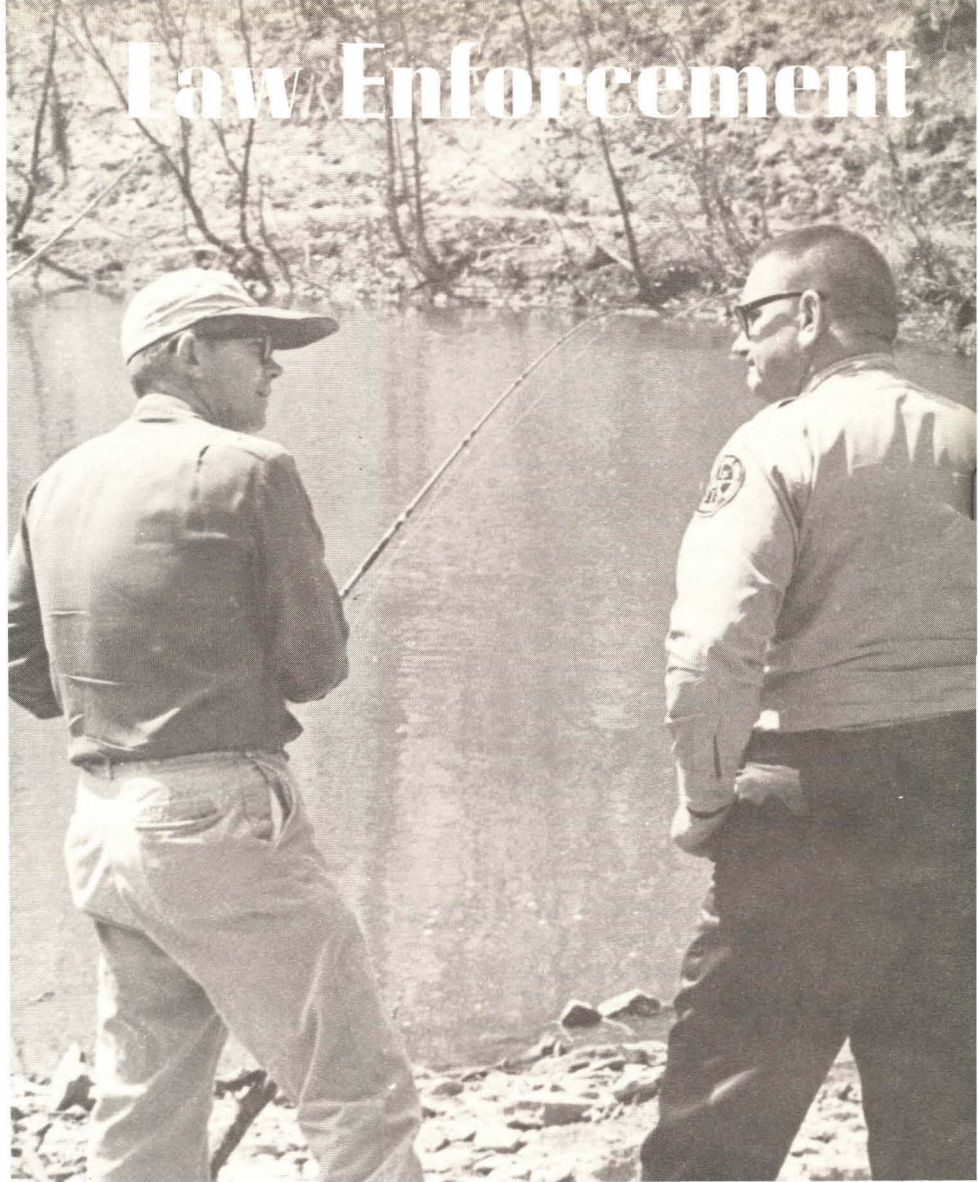
Often overlooked, law enforcement personnel can be compared to professional football's "front four." These are men constantly engaged in the hard work of opening holes for running backs, fighting off linebackers and protecting the quarterback.

Little individual recognition is awarded these men, but without them, the flashy, more spectacular backfield would be unable to function.

And so it is with game protectors—the Commission's backbone. Like the "front four," they have proven themselves an indispensable part of the Kansas Forestry, Fish and Game Commission team.

Throughout these past ten years of progress, the division has been constantly improving its training, equipment and salary standards aimed at providing sportsmen of Kansas with the best possible enforcement of the state's fish and game laws.

Some of the most noticeable improvements have occurred in the



amount and quality of training which today's game protector receives. In 1960, when a man was employed, he was simply put out in the field with a supervisor. Even though supervised field training is essential, it was felt that trainees should receive more in the way of formal training.

So, today's game protector undergoes an extensive training program divided into three periods, each approximately 30 days in length.

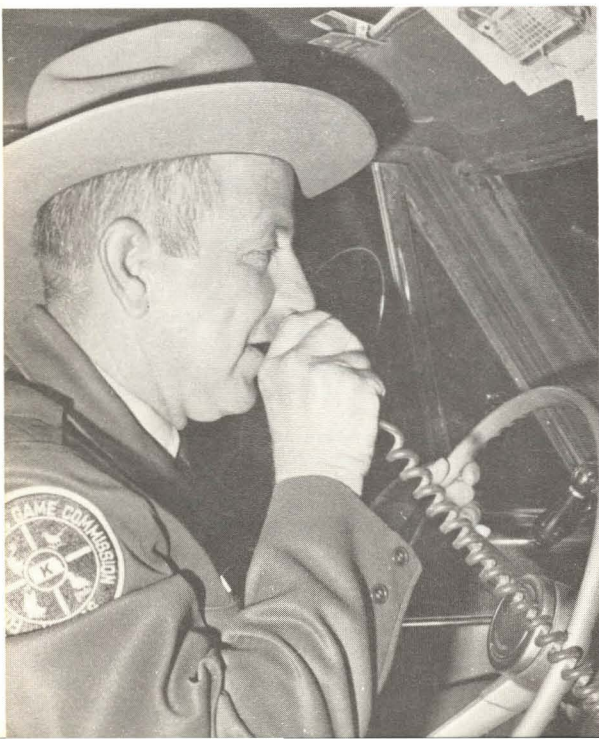
The first involves successful completion of the basic police training

Game protectors may be contacted by telephoning the local sheriff's office. The sheriff will then contact the game protector by two-way radio. Installation of two-way radios was a major accomplishment during the decade and has been most instrumental in improving the overall performance of the Law Enforcement Division.

school held at the law enforcement training center in Hutchinson. Under the auspices of the University of Kansas, the school receives some of its funds from the federal government.

Here, the trainee is taught law enforcement fundamentals including, crowd and riot control, functions of state agencies, roles of the prosecutor and courts, criminal statutes, police patrol procedures, laws of arrest, search and seizure, crime reporting system, complete first aid, police community relations and many others.

The second area of training involves a 30-day period at the Pratt headquarters where the man is oriented with respect to specific fish and game laws. Constant public contact makes it imperative that the trainee receive some instruction on Commission history and policy.



Also, since law enforcement personnel are involved in almost every phase of the Commission's total plan, it is important that game protectors receive orientation at headquarters. To this end, the new man spends time with members of other departments who familiarize him with the role their department plays in the Commission's overall program. This provides the game protector with some idea of how various departments interact in getting the job done—the job of providing Kansas sportsmen with their money's worth in terms of outdoor recreation.

Thirdly, the trainee spends approximately 30 days with his supervisor and veteran game protectors in learning to apply newly-acquired skills under field conditions.

This improved training procedure results in a competent individual capable of meeting the public proudly and representing the Commission in a professional manner.

This is important since game protectors are many people's only contact with the Commission and to them game protectors are the Commission.

Effectiveness in enforcing fish and game laws has also increased during the past ten years.

Game protectors averaged 36 ar-

rests for the year in 1969 compared with 30 arrests per man in 1960. Enforcement of laws and regulations is only a small part of a game protector's duties. He also cooperates with other divisions assisting them in numerous ways. Assisting the Game Division with numerous small game surveys—as Bill Kline, Garden City, is doing by conducting pheasant crowing counts—is a major responsibility of Law Enforcement Division personnel.



Fred Warders
Law Enforcement Chief—Assistant Director

rests for the year in 1969 compared with 30 arrests per man in 1960.

Conviction rates too, have risen. During 1960, average conviction rates per game protector were 30. By 1969, this figure had risen to more than 35.

Amount of fines assessed against violators has risen also. In 1960, \$15,323.50 was levied while the figure for 1969 jumped to \$25,688.04. This represents a healthy contribution to the state school fund—recipient of all fine money collected by the Fish and Game Commission.

Equipment too, has improved. Modern vehicles were equipped with two-way radios in 1960. Licensed by the Federal Communications Commission, this radio system links game protectors with other law enforcement agencies throughout the state.

Uniforms, adding a degree of conformity, were issued early in the '60's. These not only make the game protector easy to identify, but also add to his image of a professional law enforcement man.

Following the boating law of 1960, when the Kansas Forestry, Fish and Game Commission was charged with responsibility of enforcing and administering the new law, law enforce-

ment personnel were equipped with power craft for patrolling the large federal reservoirs.

Game protectors and boats are now available each weekend and holiday of the boating season as well as other necessary times.

Internal changes have also improved the division's ability to function effectively. The number of supervisory districts has been increased from four to six. Coupled with this increase, supervisor duties and responsibilities have been clearly defined resulting in a smoother organization.

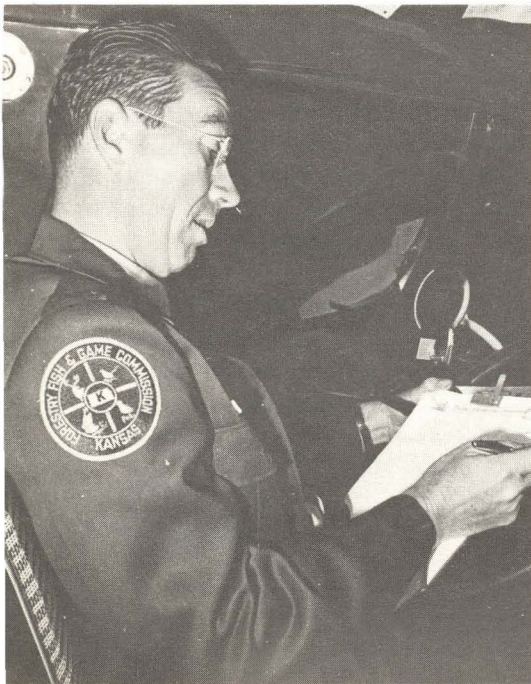
Personnel additions have also strengthened the division. From a group of 34 game protectors in 1960, the division has increased its staff to include 54 game protectors serving 105 Kansas counties, excluding the six supervisors.

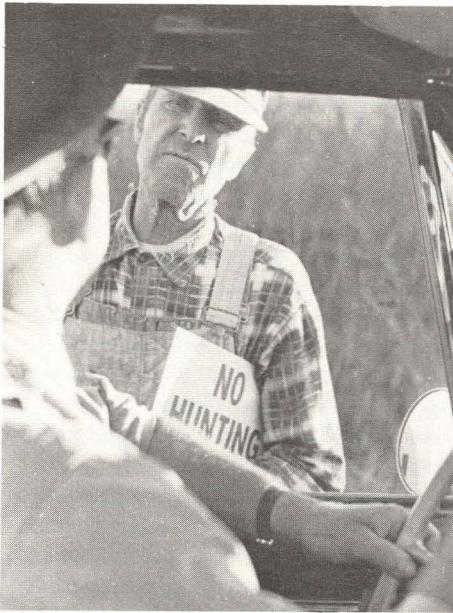
Salary adjustments, aimed at attracting high quality applicants, have also been instituted.

The 1970 starting salary has increased 51 per cent over the starting salary of 1960. Average salaries have increased 50 percent during the same period.

Even though many improvements and advancements have been made during the past ten years, the need for insuring compliance with fish and

While responsibility for water pollution control has been vested in the State Department of Health, the Kansas Forestry, Fish and Game Commission cooperates with the Health Department in reporting and investigating fish kills and by taking water quality samples when requested. Above, Frank Hendricks, Ellsworth game protector, takes such a sample from Kanopolis Reservoir. The sample will then be sent to the Health Department for examination.



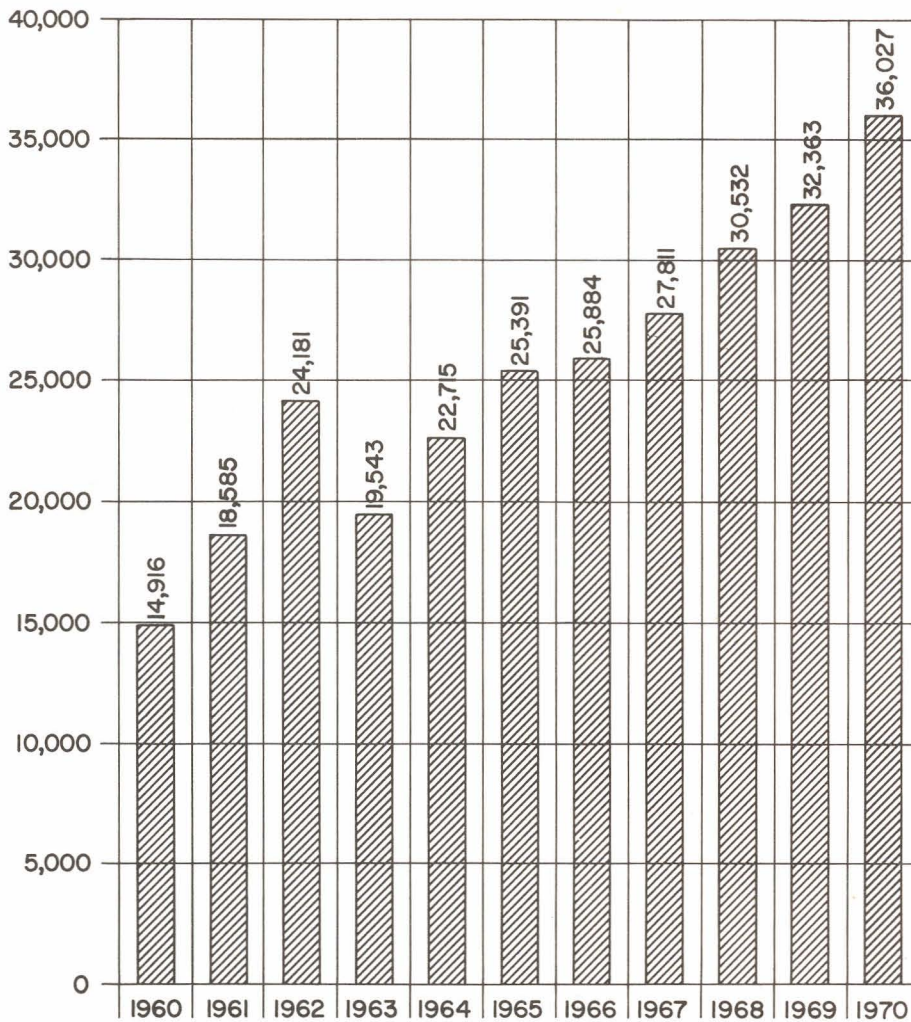


Since most of the state's game resource is found on private lands, maintaining contact between landowners and the Commission is an important function of the Law Enforcement Division. At left, Clyde Ukele, Norton, visits with a Norton County farmer who is in the process of posting his land. At right, a Decatur County farmer assists Ukele in loading a mule deer buck which was illegally shot on his farm. Through the past decade, local farmers and ranchers have played an important role in providing illegal hunting information to game protectors who in turn can carry out thorough investigations and make arrests thereby protecting the state's wildlife resource.



game laws and regulations is basically unchanged. Enforcement of laws and regulations is essential to assure sportsmen an equitable opportunity of sharing the harvest with others.

Annual Comparison of Registered Boats



Enforcement of such laws and regulations is an assurance that only the annual surplus is harvested and prevents commercialization of natural resources for private profit.

One of the division's basic functions is enforcement of laws which require the purchase of hunting and fishing licenses and permits. These licenses and permits accomplish two goals. They support fish and game programs in Kansas since no general tax money is used and they assure that those who participate in the harvest of fish and game crops pay the bill. Without enforcement, fish and game research and management efforts would be ineffective since such programs depend on proper funding and a controlled harvest.

And so, during the Commission's past decade of progress, law enforcement personnel have remained in the background, providing sportsmen of Kansas with steady, vigorous enforcement of fish and game laws.

Through increased training, improved equipment and internal improvements, the Commission's "front four" is in a better position than ever to stand with other department professionals in working as a conservation team.



Game Division

Photo by Jack L. Jacobs

In 1960, the Game Division was a mere infant, with a limited number of personnel and no well organized plan of action. All this has changed in the past ten years with growth and accomplishments to which we can point with pride.

The progress of the past decade was made possible by two significant events in 1961—legislative reorganization of the Forestry, Fish and Game Commission and the hiring of a professional wildlifer as Commission Director.

Prior to these events, the Game Division was a small entity composed of a division chief and personnel operating several waterfowl management areas. There was no program of research and investigations on any game species, no acquisition and development of public hunting lands as we have today, no efforts directed toward re-establishment of game species once resident but no longer present in the state, and no concerted effort had been made to inform the Commission and hunting public of the feasibility of more liberal hunting seasons.

We had not yet become overly concerned for the plight of rare and endangered species or the impact of modern technology on environmental quality.

To be sure, the division had engaged in a farm game habitat program during the late 1940's and the

1950's, but this had fallen by the way-side. A 1957 report, proposing management goals for Kansas' growing deer population, recommended a hunting season within five years. Again, nothing was done to achieve those goals. However two important mail surveys had been established. One on waterfowl harvests was started in 1953 and then expanded in 1957 to include all upland game species. In addition, a summer survey was being utilized to determine relative populations of various resident game species, but the whole array of year-around surveys utilized today was not yet in existence.

A small effort was made in the mid-1950's to obtain some European gray partridge for an experimental stocking program. This project failed when brood stock was lost and suitable additional birds could not be obtained. An abortive prairie chicken research project failed through lack of interest.

Lands and waters purchased for public hunting and fishing were located primarily on state lakes and four waterfowl management areas. Through interagency negotiations between personnel in the Commission's Field Services Division and the Bureau of Reclamation and Corps of Engineers, the Department had taken an active role in acquiring license to fish and wildlife lands on Lovewell, Webster and Cedar Bluff reservoirs.

However, no policy had been established or program undertaken to purchase additional lands and waters for public hunting benefits.

As we can see, advances had been made and certain failures did occur during the previous ten years. The inability to progress at a greater rate and these failures can be attributed primarily to: (1) Lack of personnel, and (2) inadequate funding. Research, investigations, and development programs cannot be conducted on a shoestring. As with any business venture, a significant capital investment is usually required before benefits are realized.

Lands and Development

In 1962, several changes were made in the Commission's lands and development program. First, the Commission approved a policy of land acquisition for public hunting. Second, all lands under Commission ownership were reviewed and, as a result of this review, approximately 10,000 acres of land and water were posted for public hunting, primarily at state lakes. Third, the responsibility for interagency negotiations with the Bureau of Reclamation and Corps of Engineers for licensing of public hunting lands was transferred to the Game Division.

Since 1962, 96,000 acres of land and water have been licensed to the Department on federal reservoirs. We

now have 138,200 acres under license as a result of this program.

Commission purchase of hunting lands has not been as significant, but 14,000 acres at 12 locations have been added through this effort. The Commission has operated on a policy of negotiated purchase through these years and has not used condemnation to acquire lands. In all, the Department now owns or controls a total of 217,458 acres of land and water. Of this total, 180,818 acres are managed for public hunting benefits.

A complete listing of hunting lands currently owned or controlled by the Commission is itemized on this page.

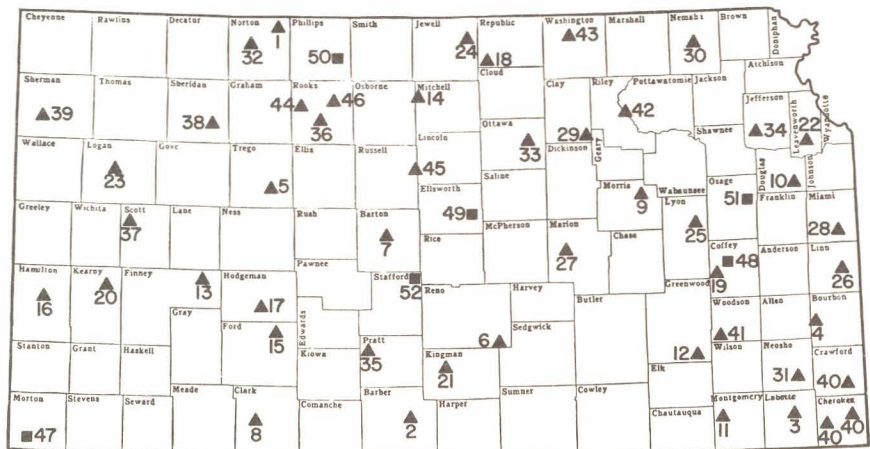
One principal obligation of the Game Division is to insure that Commission owned public hunting lands are properly managed for optimum game production and harvest. As a generalization it can be stated that lands in eastern Kansas are managed for bobwhite quail and those in western Kansas for ringneck pheasants. Where streams, marshes and lakes are present, waterfowl hunting may be an important management goal. Secondary benefits often accrue to rabbits, deer, squirrels and doves as a by-product of quail or pheasant management.

Game Division personnel do little farming. Most croplands are farmed through sharecrop leases with farmers living adjacent to the public lands. The state's share of crops is left in fields as wildlife food and cover. Distribution of crops, specific crops grown, and harvest procedures are altered from that normally used in farming to obtain greater wildlife benefits.

Division personnel plant trees and shrubs where woody cover is inadequate or lacking. Grasses and legumes are seeded for field border strips, to provide an interspersion of cover types, subdivide large fields and provide nesting and brood cover.

Where feasible, waterfowl marshes, stock-water ponds or small fishing lakes have been constructed. On most reservoirs, a portion of lands and waters have been designated as refuges to provide undisturbed resting

PUBLIC HUNTING AREAS



State Owned and Leased Areas ▲

Federal Administered Areas ■

- Almena Diversion Game Management Area, 11 acres. 2½ miles southwest of Almena.
- Barber County Game Management Area, 80 acres. ¼ mile north of Medicine Lodge.
- Big Hill Game Management Area, 1,280 acres. 8 miles west, 4 miles south of Parsons.
- Bourbon County Game Management Area, 380 acres. 4½ miles east of Elsmore.
- Cedar Bluff Game Management Area, 11,834 acres. 16 miles south of WaKeeney.
- Cheney Game Management Area, 7,958 acres. 7 miles east of Pretty Prairie.
- Cheyenne Bottoms Waterfowl Management Area, 12,090 acres. 5 miles north, 5 miles east of Great Bend.
- Clark County Game Management Area, 1,040 acres. 9 miles south, 1 mile west of Kingsdown. No migratory waterfowl hunting permitted.
- Council Grove Game Management Area, 2,638 acres. 5 miles northwest of Council Grove.
- Douglas County Game Management Area, 713 acres. 1½ miles north, 1 mile east of Baldwin.
- Elk City Game Management Area, 10,760 acres. 3 miles west of Independence.
- Fall River Game Management Area, 10,092 acres. 14 miles northeast of Severy.
- Finney County Game Management Area, 863 acres. 8 miles north, 3 miles west of Kalvesta.
- Glen Elder Game Management Area, 25,100 acres. Tracts immediately surrounding Cawker City.
- Hain Lake, 52 acres. 5 miles west of Spearville. Waterfowl hunting only.
- Hamilton County Game Management Area, 432 acres. 3 miles west, 2 miles north of Syracuse.
- Hodgeman County Game Management Area, 254 acres. 4 miles east, 2 miles south of Jetmore.
- Jamestown Waterfowl Management Area, 1,626 acres. 3½ miles north, 2 miles west of Jamestown.
- John Redmond Game Management Area (Otter Creek Arm), 1,472 acres. 4 miles west, 1 mile north of Burlington.
- Kearny County Game Management Area (Lake McKinney), 3,000 acres. 3 miles north, 3 miles east of Lakin. Primarily waterfowl hunting.
- Kingman County Game Management Area, 4,043 acres. 7 miles west of Kingman.
- Leavenworth County Game Management Area, 376 acres. 3 miles west, 1 mile north of Tonganoxie.
- Logan County Game Management Area, 271 acres. 9 miles south of Winona.
- Lovewell Game Management Area, 3,153 acres. 12 miles northeast of Mankato.
- Lyon County Game Management Area, 562 acres. 5 miles west, 1 mile north of Reading.
- Marais des Cygnes Waterfowl Management Area, 4,374 acres. ¼ mile west of Trading Post.
- Marion Game Management Area, 3,062 acres. 2 miles south, 2 miles east of Durham.
- Miami County Game Management Area, 267 acres. 8 miles east, 5 miles south of Osawatimie.
- Milford Game Management Area, 10,030 acres. Tracts immediately north and south of Wakefield.
- Nemaha County Game Management Area, 200 acres. 4 miles south, 1 mile east of Seneca.
- Neosho Waterfowl Management Area, 2,016 acres. 1 mile east of St. Paul.
- Norton Game Management Area, 5,056 acres. 5 miles west, 2 miles south of Norton.
- Ottawa County Game Management Area, 611 acres. 5 miles north, 1 mile east of Bennington.
- Perry Game Management Area, 10,984 acres. ½ mile west, 1 mile north of Valley Falls.
- Pratt Sandhills Game Management Area, 4,757 acres. 3 miles south of Hopewell.
- Rooks County Game Management Area, 243 acres. 1½ miles south, 2 miles west of Stockton.
- Scott County Game Management Area, 160 acres. 12 miles north of Scott City.
- Sheridan County Game Management Area, 458 acres. 4 miles east of Hoxie.
- Sherman County Game Management Area, 1,295 acres. 10 miles south, 2 miles west of Goodland. No migratory waterfowl hunting permitted.
- Strip Pits Wildlife Management Area, 5,979 acres. Local inquiry advised to determine location of scattered tracts in Crawford and Cherokee counties.
- Toronto Game Management Area, 4,366 acres. 1 mile south of Toronto.
- Tuttle Creek Game Management Area, 10,469 acres. ½ mile east, ½ mile north of Randolph.
- Washington County Game Management Area, 373 acres. 7 miles north, 3 miles west of Washington.
- Webster Game Management Area, 7,539 acres. 8 miles west of Stockton.
- Wilson Game Management Area, 7,108 acres. 7 miles northeast of Bunker Hill.
- Woodston Diversion Game Management Area, 210 acres. 8 miles west of Stockton.

Man-Days of Recreation



and feeding areas for waterfowl. This insures sufficient protection to hold ducks and geese for the duration of the waterfowl seasons and provides better hunting.

Waterfowl

Up to 1962, most of Kansas' Pittman-Robertson federal aid funds had been expended on development of waterfowl projects, particularly the four waterfowl management areas—Cheyenne Bottoms, Marais des Cygnes, Neosho and Jamestown.

These projects comprise 32,190 acres of land and water, of which 20,106 acres are open to free public hunting. Of the four, the "Bottoms" is the largest with a total of 19,840 acres.

Management of these waterfowl projects includes seasonal draining and flooding of pools to control undesirable vegetation, promote production of desirable food and cover plants, permit seeding of Japanese millet and farm crops, and permit maintenance of dikes, dams, blinds,

canals and water control structures. Lands outside the pools are maintained in grasses for waterfowl and upland game nesting cover, planted to agricultural grains, or left in trees, shrubs and other native vegetation.

In addition to waterfowl hunting, portions of these areas are also open for other game species and fishing is permitted during most of the year.

During the past ten years the Jamestown area has been doubled in size through purchase of lands in 1961, 1966 and 1967. In 1965, 221 acres were added to the Marais des Cygnes area and additional diking was completed on this tract in 1968. In addition, acreage available for waterfowl hunting was more than doubled when a former refuge area was opened in 1968.

On the Neosho project, a fourth water area was developed for public hunting in 1965.

At Cheyenne Bottoms, a portion of one refuge pool was declared open as a goose hunting zone in 1962 and additional low-level dikes were constructed in two hunting pools in 1963 and 1965. A high capacity, low lift pumping station was constructed in 1964. This station provides greater flexibility in management of the area through transfer of waters between the reservoir and peripheral pools.

Big Game

From the turn of the century to 1950, Kansas was considered to be anything but a big game state.

Deer, elk, antelope and turkeys were common residents in the nineteenth century but disappeared with settlement. By 1959, deer were once again seen occasionally in eastern Kansas and became locally abundant over the state by the mid-'60's. In the late 1950's, a few Rio Grande wild turkeys were observed in south-central Kansas and occasional antelope ranged in extreme west-central counties.

Deer

Deer management in Kansas was unheard of at the beginning of the 1960's. Prior to this, some records on deer damage complaints and deer-car

accidents were kept and estimates of the deer population were made. But it was not until 1962 when a big game project leader was added to the Commission staff that some degree of management began to take form.

Principal duties of this new position involved collecting biological data on the deer herd, determining attitudes of landowners and sportsmen toward deer and deer hunting, and development of a harvest management program.

Preparatory work progressed rapidly and, coupled with expanding whitetail and mule deer herds, the first deer season in modern times became a reality in 1965.

Firearms deer hunting in Kansas, by necessity, has been on a limited permit basis. Twelve deer management units, based primarily on watersheds within certain ecological regions, were involved in the first season and included approximately 40 per cent of the state. Archery deer hunting was permitted in 87 counties the first year. Since that time archery hunting has been allowed statewide. The entire state was opened to firearms hunting for the first time in 1968.

Deer hunting in Kansas has been well accepted by both sportsmen and landowners. During the first five seasons, 30,145 firearms permits were issued and 8,336 deer were harvested. Mandatory check stations permitted an accurate tally of the harvest.

During the same five years, 13,154 archery deer permits were issued. Archers were successful in taking about 2,150 deer.

While total harvest figures are important, perhaps more important in gauging the success of these seasons is the amount of recreation generated. Archery deer seasons, ranging from 46 days in length up to 70, have resulted in approximately 165,000 man-days of hunting. The five-day firearms seasons have produced about 95,000 individual days afield in pursuit of deer. Significantly, there has never been a hunting accident involving deer hunters during this period.

Kansas does not rank with some

neighboring states as a paradise for deer hunters, nor can we expect it to, in view of limited deer habitat. Nonetheless, deer have provided much to Kansas sportsmen in the way of recreation and excellent table fare.

Turkeys

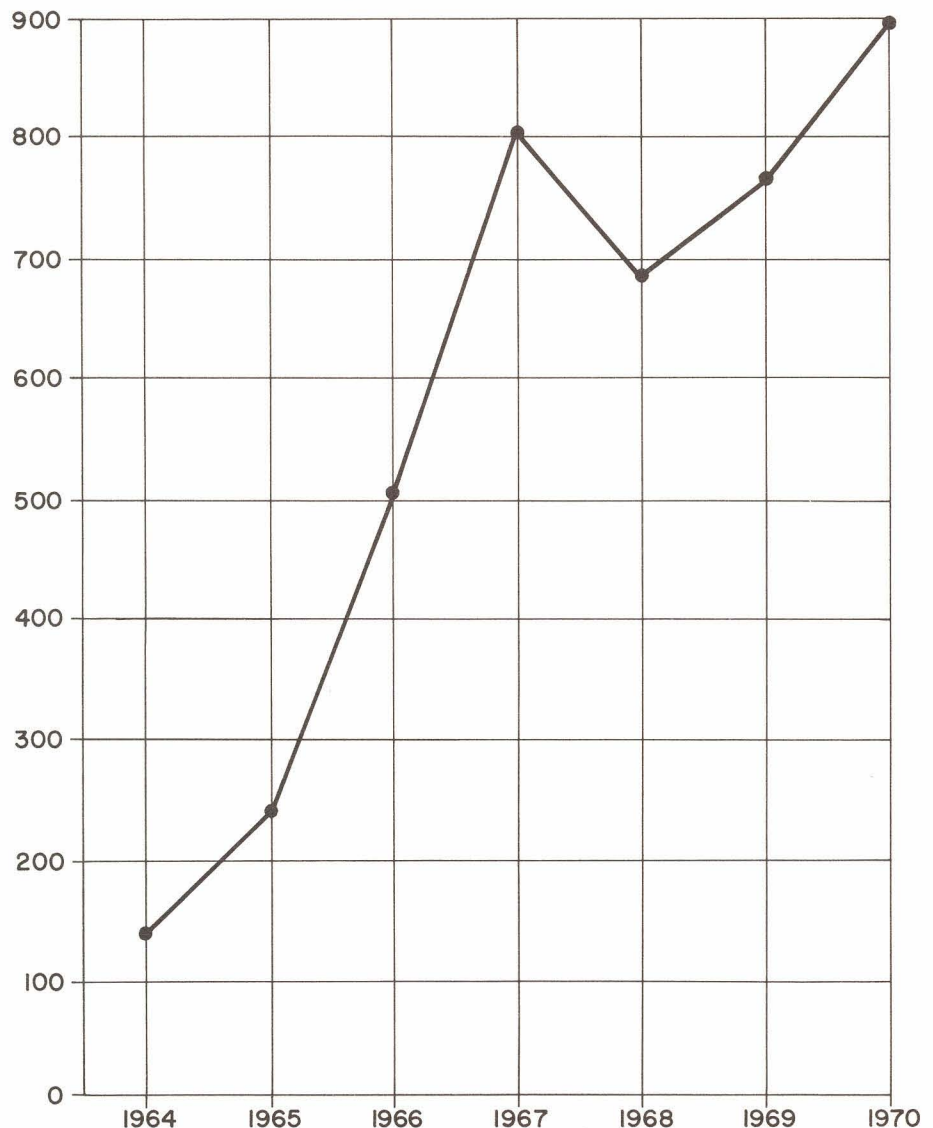
During the winter of 1959-60, 26 Rio Grande wild turkeys were trapped in south-central Kansas and moved to sites near Meldrum and Possum in Chautauqua County, and Trading Post in Linn County. None of these stockings proved successful.

In 1962, a biologist was assigned the task of conducting research on

turkeys. His first efforts were directed toward a statewide survey wherein he determined habitat requirements and potential range for wild turkeys in Kansas.

In January 1966, the Department received 125 Rio Grande wild turkeys that had been trapped on the famous King Ranch in Texas. In March of the following year, 36 turkeys were received from a trapping effort made by the Oklahoma Department of Wildlife Conservation near Seiling, Oklahoma. These two shipments made possible the stocking of 14 sites, primarily in the central portion of the state. Most

Wild Turkey Winter Populations



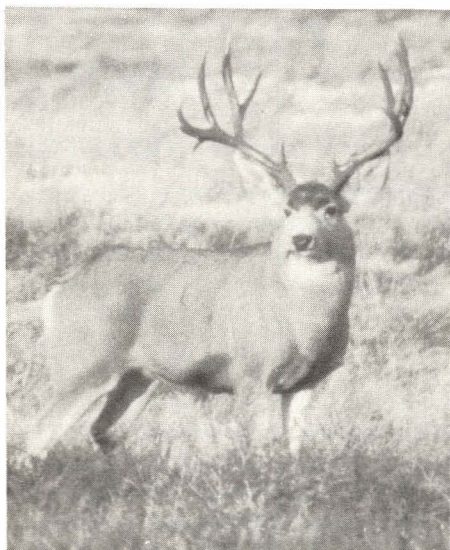
of these stockings proved successful and 82 birds have since been trapped from these newly established flocks for additional transplants.

Winter flock counts have increased from less than 150 birds in 1964 to a high of 900 in 1969. It can now be said that wild turkeys have been successfully reestablished in Kansas and we can look forward to some form of limited turkey hunting in the near future.

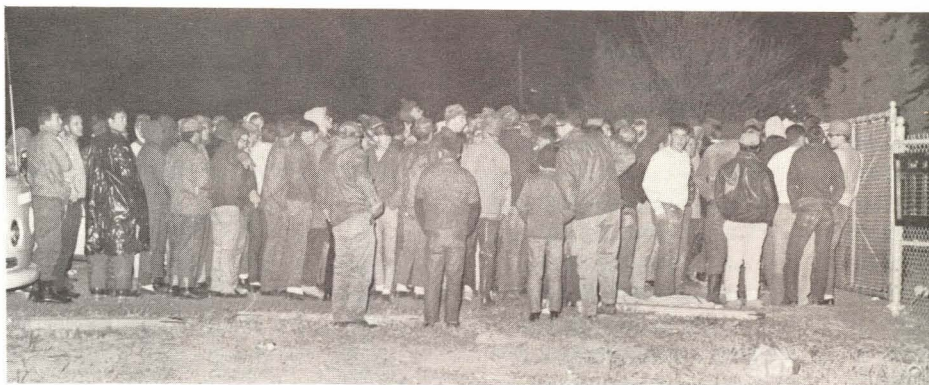
Antelope

In 1962, another biologist was assigned the task of determining feasibility of re-establishing antelope on range lands in central and western Kansas. After preliminary investigations on adequacy and extent of existing antelope range were completed, negotiations were concluded for acquisition of stock from Montana, Colorado and Nebraska. The first transplants consisted of 75 animals trapped near Gardner, Montana, and released in Wallace and Sherman counties in November of 1964.

In 1965, 61 animals were trapped near Colorado Springs, Colorado and released in the Gyp Hills of Barber County. A third shipment of 85 antelope were trapped on the Sioux Army Depot near Sidney, Nebraska and released at sites in Ellsworth and Edwards counties in 1967. With the exception of the Nebraska animals, all



Deer management was initiated in 1962.



By 4:00 a. m., a long line of duck hunters has formed outside the gates at Cheyenne Bottoms. Such is the hunting pressure on most game management and waterfowl management areas on opening weekend of any given year.

of these releases have been successful and Kansas now hosts about 350 antelope in the wild.

No specific plans or estimates have been made as to the feasibility of having a limited hunting season on our pronghorns, but this is the ultimate goal of our restocking program.

Research

In the area of research, most efforts have been directed toward small game. Investigations on big game have been management oriented resulting in, (1) passage of legislation declaring deer, antelope and turkey to be game species, (2) first hunting seasons on deer (in modern times), reintroduction of antelope and turkeys, and (4) evidence that deer are not important as reservoirs for domestic livestock diseases.

With the exception of several surveys, research originated with the expansion of Federal Aid supported projects and hiring of several biologists in 1962.

Two long-term efforts, one to study relative benefits of stocking quail and the second to study life history, behavior characteristics and habitat needs of greater prairie chickens, have been completed except for preparation of manuscripts and publication of results.

Biologists hired in 1962 first directed their attention toward determination of distribution and relative abundance of primary game species. Part of this effort was accomplished through establishment of seasonal

surveys, most of which are still in use today. Because of the volume of data needed to accomplish a statistically accurate survey, many persons other than Game Division personnel are called on to assist with these surveys. State game protectors and rural mail carriers are the unsung heroes behind this data gathering. Without their continuing assistance, we could accomplish little.

Survey data are used in many ways, not the least of which are to provide sportsmen with information on year-to-year game populations and provide a base on which the Game Division formulates hunting season recommendations.

In the broad view, there is a valid principle which states that gun harvest is not a limiting factor on populations of upland game species. Normal losses that result in an annual population turnover of 80-85 per cent in quail and 70-75 per cent in pheasants, occur whether these species are harvested or not. The gun harvest is a substitute for mortality factors that would otherwise remove birds from the population. The real population regulators are weather and habitat, particularly winter habitat. By using survey data we have clearly established the above principle is true in Kansas and that liberalization of hunting seasons in recent years is valid, provides more hunting opportunity, and does not endanger any game species.

These liberal seasons, augmented by acquisition and development of public hunting lands, the 40-hour



A comprehensive statewide management plan for all Commission bison herds was initiated in 1969.

work week, an excellent transportation system, and an expanding economy have resulted in a dramatic increase in recreational activities of Kansas sportsmen.

In the past 20 years there has been little change in total numbers of hunting licenses sold in Kansas, yet sportsmen have nearly doubled their hunting activity since 1960, as shown by the chart on this page. Hunting license sales have averaged 205,800 per year since 1950. During that time the low was 171,914 in 1956 and the high 230,112 in 1959. Since 1960, the average has been 209,400. All this recounting of license sales and hunting activity is a means of showing that research does produce benefits and that research is a necessary part of any progressive program.

Environmental Pollution

Being a service agency to which many people turn for guidance and information has its rewards as well as frustrations. In recent years we have received an increasing volume of reports and inquiries about pesticides and other forms of environmental pollution. The Commission, unfortunately, has no regulatory authority over these matters, but assists in investigation of fish kills and wildlife losses.

In 1969, one game biologist was assigned the task of becoming Department spokesman on pesticides. In 1969, limited investigations were conducted on the analysis of pesticide residues in several species of birds in an area subjected to heavy application of toxaphene. In 1969-70, a limited investigation of mercury residues was undertaken particularly in relation to pheasants. This research has now been expanded to determine the extent of mercury residues in pheasant tissues from birds taken throughout the state this past November.

The Game Division has requested a new position of Pesticides Biologist in its fiscal year 1972 budget as well as funds for a contractual research project in this area. If these proposals meet with approval, we can then make a substantial start on factors that concern not only game species but our entire environment.

Technical Services

In 1961, a biologist was assigned to the Division Chief's office to conduct many technical service duties formerly handled personally by the Chief, freeing that office for more important administrative and planning obligations. Activities under this position included: licensing and liaison work with private and commercial shooting

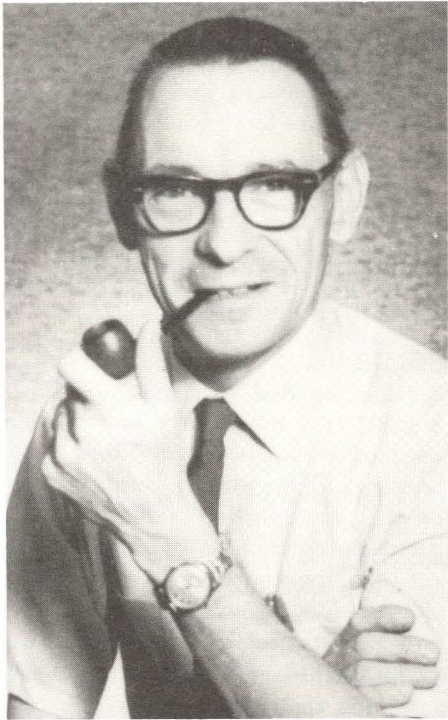
preserves; maintaining central records and control of Departmental migratory bird banding efforts; providing a game management consultation service to private landowners; service as study leader on the annual mail questionnaire survey of small game hunter activity; plus providing technical game management services to other Department or Division personnel as the need arose.

In 1966, this position was expanded to a Technical Services Section, headed by a qualified biologist with supervisory as well as administrative responsibilities. In addition to the duties already discussed, the section undertook a greater obligation in divisional project planning and was given responsibility for licensing commercial wild-rabbit trappers and shippers.

Two state game farms were placed under the section in 1967 as well as management of all Department-owned bison herds. Although game farm activity has been reduced considerably in the past decade, bison management responsibility has increased. Past management of the Department's bison herds was merely a process of annual disposal of surplus with little apparent thought to management direction and objectives of herd maintenance.



Each year, usually in late August, game biologists meet with law enforcement supervisors to discuss results of small game surveys taken throughout the year and to discuss fall hunting prospects. Following this meeting, the Game Division makes season recommendations to the Commission and the Commissioners then set the seasons.



Oliver Gasswint
Game Division Chief

In 1969, work began on a comprehensive statewide management plan for all Department bison herds. That plan, completed and put into effect in early 1970, has the ultimate goal of maintaining our representative herds of Plains Bison under as natural conditions as possible to insure the people of Kansas that an important part of our state's faunal heritage will not disappear from this portion of the Great Plains.

The past decade has proven to be one of measurable progress for the Game Division and in turn for the Kansas hunter.

Now, with much of the ground work laid, the "70's" should lead to more informed management of our wildlife resources and to better utilization, both consumptive and non-consumptive, of these resources.

We can only hope that a more enlightened attitude of the entire public, hunter and nonhunter alike, toward the quality of the total environment will provide greater meaning in the management of these resources.

GAME DIVISION PERSONNEL

Oliver J. Gasswint—Division Chief	Pratt
Helen Parr—Clerk Steno II	Pratt
Lee Queal—Federal Aid Coordinator	Pratt
Rose Ellen Smart—Clerk III	Pratt
Pat Theis—Clerk Typist I	Pratt
Robert Wood—Biologist II	Pratt
Dick Hager—Biologist II	Burlington
Bob McWhorter—Biologist II	Manhattan
Donald Dick—Biologist III	Pratt
Darrell Montei—Biologist II	Hutchinson
Bill Hanzlick—Biologist II	Hays
Susan R. Johnson—Clerk Typist II	Hays
Bill Hlavachick—Biologist I	Hays
Jim Norman—Biologist II	Hays
Bill Peabody—Biologist II	Emporia
Marvin Schwilling—Biologist II	Great Bend
Jane Fishburn—Clerk Typist II	Great Bend
Floyd Palmer—Refuge Manager	Great Bend
Eugene Bahr—Farmer I	Great Bend
Edward Lane—Farmer I	Great Bend
Dean Steiner—Farmer I	Great Bend
Steve Capel—Biologist I	McPherson
Gerald Horak—Biologist I	Cottonwood Falls
Keith Sexson—Biologist I	Burlington
Ron Little—Biologist I	McPherson
C. W. Comer—Biologist I	Emporia
Billy King—Refuge Manager	Pleasanton
Leroy Bortzfield—Farmer I	Pleasanton
James Gump, Jr.—Farmer I	Pleasanton
Dean W. Smith—Refuge Manager	St. Paul
Herb Moore—Farmer I	St. Paul
Charles H. Troxel—Refuge Manager	Pittsburg
Wayne Mossom—Game Keeper	Girard
Eugene Kelley—Game Keeper	Mulberry
Glen Davis—Refuge Manager	Canton
Lawrence DeWeese—Refuge Manager	Cheney
Earl Richardson—Refuge Manager	Stockton
Raymond Parish—Refuge Manager	Marion
Eddie Springer—Refuge Manager	Elk City
Mike Baugh—Refuge Manager	Climax
Kenneth Tompkins—Refuge Manager	Cawker City
Byron Walker—Refuge Manager	Penalosa
Willis Hall—Lake and Grounds Keeper	Kingman
Harry E. Adkisson—Lake and Grounds Keeper	Penalosa
Don Davis—Refuge Manager	Norton
Gene Wright—Refuge Manager	Columbus
Lawrence Billington—Heavy Equipment Operator I	McCune
Charles B. Howe—Refuge Manager	Junction City
Gary Bernasek—Refuge Manager	Valley Falls

Information and Education

Although the smallest of all divisions, the Information-Education (I-E) Division plays an important role in the organizational structure of the Kansas Forestry, Fish and Game Commission and in serving Kansas sportsmen.

The I-E Division is a necessity for public opinion is often a limiting factor in the success of any operation.

Many times the general reaction to implementation of modern fish and game management techniques is, "If you don't understand it, oppose it!" Hunters, fishermen and other sportsmen are inclined to suspect and occasionally oppose wildlife practices that are not thoroughly understood—even though such techniques are designed to furnish maximum recreational use and enjoyment of the wildlife resource.

Thus the Information-Education Division has been charged with the responsibility of informing and educating the public of policies, plans, and activities of the Commission, thereby obtaining public understanding and support for the Commission's operation and functions.

The first action taken by the Department to form such a division occurred in 1931 when a Department of Visual Information was created. At that time, J. P. Cammack, Fish and Game Warden, reported: "Shortly after taking up the management of the Department, I soon realized that some means of diffusing knowledge of the Department's great work amongst the people of the state would be an essential factor in its continued success."

And so it is today.

Since its birth nearly 40 years ago, the division has remained small in staff and has shared in only a small slice of the annual budgets.

Although stymied by lack of funds and a shortage of manpower, the I-E Division has been able to grow in activities and accomplishments and today remains as committed as ever to its basic purpose of "diffusing knowledge."

The present-day Information-Education Division was first formed in 1961 after legislative reorganization of the Commission.

Stated simply, the basic goal of the Division is to inform and educate all the citizens of the state although sportsmen are of primary interest. Since sportsmen pay for the Commission's operation through payment of hunting and fishing license fees, the I-E Division makes an all out attempt to inform them as to how their in-

vested dollars are being spent and what they are getting in return for this investment.

Stated more broadly, the I-E Division's primary function is three-fold: (1) To advance the broad concepts of wildlife conservation through accurate and timely information to sportsmen and other citizens of the state; (2) to educate youth toward a better ecological understanding and appreciation of wildlife and its intricate interrelationships with other elements of its environment; (3) to encourage public understanding and support for the objectives and programs of the Commission.

The I-E Division is also a staff service and as such, assists all other

A most significant development in the Information-Education Division was the inclusion of a full-time photographer, Ken Stiebhen, who began work in June, 1970. At the same time, another writer was added to the staff—together these two positions were the only additions to the I-E Division's staff during the past decade.



Kansas Forestry, Fish and Game Commission

MASTER ANGLER AWARD

THIS IS TO CERTIFY THAT:

DID LEGALLY CATCH THE FOLLOWING DESCRIBED FISH IN
KANSAS WATERS TO QUALIFY AS A KANSAS MASTER ANGLER.

Species of Fish		Director
Where Caught		
Weight of Fish		
Bait or Lure		
Date of Catch		

33 4020

A most popular program, the awarding of Master Angler Award certificates, was initiated by the Commission's Information-Education Division in 1969. Minimum weights have been set for 10 different species. Anglers who catch fish weighing more than minimum weight requirements are eligible for an award if their fish are weighed on scales legal for trade and the proper application blank is submitted. Applications are available at most marinas, bait dealers, sporting goods stores and Commission headquarters at Pratt. The I-E Division also maintains official state records for all species of fish and issues special certificates to the lucky anglers.

Department divisions and sections in activities related to the I-E function including photography, writing, radio and television programing, public relations, and exhibit work.

After reorganization in 1961, the I-E staff consisted of a Division Chief, two Informational Counsels and a Clerk-Stenographer to perform general secretarial duties.

While other divisions experienced some solid growth shortly after reorganization, new positions were not added to the Information-Education staff until after July 1, 1969, when a photographer and an additional writer were added. As a result, most I-E growth has occurred during the last year.

Even with its small staff of five full-time and one half-time employees and despite limited funds, the Information-Education Division has assumed a wide variety of activities to meet its objectives and responsibilities. Since the reorganization in 1961, the division has continued many of its former

programs and also expended considerable effort in improving and upgrading the quality of its work. Now that this has been accomplished, the I-E Division is hoping to expand into new



Providing weekly radio broadcasts has been an important function of the Information-Education Division during the past decade. George Valyer is moderator for the series—Outdoor Sports for Kansas.

areas to provide services previously not available.

During the past decade interest in outdoor recreation has grown tremendously. Today's citizen has more free time and more money to spend. He also possesses a strong desire to occasionally get away from the hustle and bustle of every day routine.

Other people, although not outdoor enthusiasts as such, have recently become concerned with the deterioration of the environment and as a result have joined sportsmen in the crusade to improve the quality of life.

It is only natural that with these new-found interests has come more demands from the public for additional information and news regarding the wildlife resource, the outdoors, and outdoor recreation in general.

The Information-Education Division has recognized this growing trend and has attempted to keep pace by supplying a wide variety of news items to all forms of news media—newspapers, radio stations, magazines and television stations. Every possible outlet is used as staff, time and money permits to tell our story to the public and to keep Kansans informed.

News media have also become aware of the increasing interest in outdoor recreation and have been

most cooperative. As a result more space in newspapers and more time in broadcasts and telecasts have been provided.

Providing factual, up-to-date information for news media has become a normal activity of the Division. About 750 news releases are mailed first-class on Thursday of each week to all news media in the state. While the release is not available to individuals, it is also provided to all Commission employees, county clerks, and governmental agencies. As such it has been of inestimable value to employees in their day-by-day contact with the public. County clerks, official hunting and fishing license vendors in each county of the state, also have considerable contact with sportsmen and rely on the release to keep them currently informed. During the past three years, the release has been expanded in format to include more news items and to provide additional variety.

In addition to the regular weekly news release, special releases are mailed when required and the wire services, Associated Press (AP) and United Press International (UPI), are used extensively in providing urgent news items to the press and in the filing of weekly fishing reports during spring and summer months.

Started in 1955, the Information-Education continues to provide a regular series of radio broadcasts on a weekly basis. These 15-minute programs, entitled, "Outdoor Sports for Kansas," are recorded at Commission headquarters or various points in the state and carry information of interest to sportsmen and outdoor enthusiasts.

Currently, 28 radio stations throughout the state use the weekly programs. The broadcasts may be heard on the following stations: KXXX, Colby; KGNO, Dodge City; KLOE, Goodland; KFRM, Salina; KJRG, Newton; KKAN, Phillipsburg; KIUL, Garden City; KNEX, McPherson; KVOE, Emporia; KBFA, Mission; KALN, Iola; KOFO, Ottawa; KABI, Abilene; KWBB, Wichita; KRFS, Superior, Neb.; KNBI, Norton; KEDD, Dodge City; KSCB, Liberal; KIND, Independence; KSAC, Manhattan; KANS,

Larned; KLSI, Salina; KRSL, Russell; KNDY, Marysville; KFLA, Scott City; and WREN, Topeka.

The publication of Kansas Fish & Game, the Commission's official quarterly magazine, was also continued during the past decade.

The forerunner of Kansas Fish & Game was first published in March, 1938. Called "Outdoors with the Forestry, Fish and Game Commission of Kansas," the mimeographed bulletin started with a mailing list of 250 and by December, 1938, had increased in circulation to 1,000 copies.

In 1939, the eight-page monthly publication's title was changed to Kansas Fish & Game.

About 3,000 copies of the magazine continued to be mailed monthly to sportsmen until 1944 when, at the request of the War Department, the magazine was discontinued because of a continued shortage and scarcity of paper, lead and other needed materials. In July, 1949, the Commission resumed publication of the magazine on a quarterly basis.

Through the ensuing years, the magazine's circulation remained small—as late as February, 1965, only 8,044 copies were mailed each quarter.

Since 1966, the I-E Division has expended considerable effort to improve the magazine's content and increase its circulation. To date, the circulation has been increased to 31,500 and more names are being added as requests are received. As in previous years, the magazine remains available free of charge to any adult Kansas resident upon written request, preferably license holders since they are paying for it indirectly through payment of hunting or fishing license fees.

Because the magazine is published free of charge, a considerable portion of the Division's budget is used in providing Kansas Fish & Game to Kansans. The magazine continues to be one of the best educational tools currently being published by the Division. All schools in the state are now included on the mailing list.

Beginning with this issue, Kansas Fish & Game will be issued bimonthly

Archery and firearms hunters who take trophy deer in Kansas are eligible for special award certificates from the Commission's Information-Education Division if their trophies meet certain minimum measurement requirements. Antlers must be measured by official scorers of either Boone and Crocket or Pope and Young Clubs. A listing of official measurers and an application blank may be obtained by contracting the I-E Division, Box 1028, Pratt, Kansas 67124. Awarding of Trophy Deer Awards was initiated in March of 1970 and includes recognition of trophy racks taken since the first modern-day deer season in 1965. Special record certificates are also issued to the top-rated trophy deer in each of eight classes.

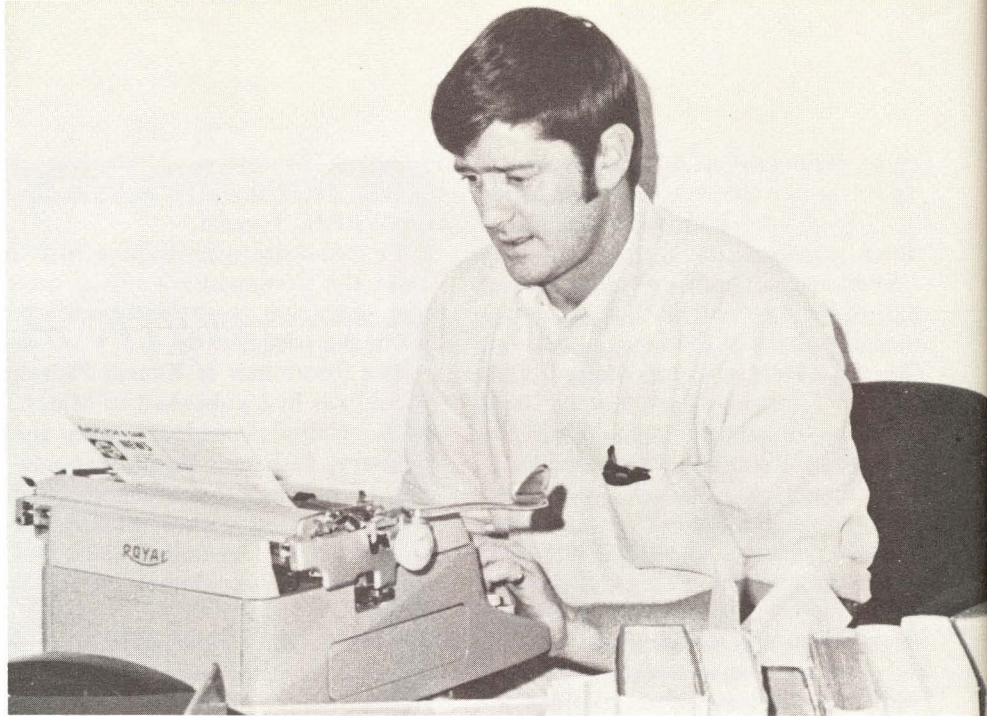
(six times per year) instead of on a quarterly basis.

In addition to providing news releases and the magazine, the division continues to publish and distribute an assortment of printed materials to people throughout the state in the belief that such materials are most important and effective in teaching the aims and principles of wildlife conservation and management and in securing support of the Commission's overall program. Such publications are produced as needed and as time and funds will allow while regularly produced publications include hunting, fishing, and boating regulations.

During the decade, several million pieces of informational and educational literature were dispensed free of charge to interested sportsmen, students, and others.

In addition, thousands of written inquiries, many from out of state, were answered with information on Kansas hunting, fishing, boating, and other phases of outdoor recreation in the Sunflower State.

Another service performed by the



Writing is a most important I-E Division function—and a basic responsibility of Vic McLeran, news release editor and managing editor of Kansas Fish & Game magazine.

Information-Education Division which is highly popular with schools, civic clubs and other organizations is the maintenance of a 16mm movie film library. While such a library has been available to organizations for some time, considerable effort has been made during the past five years to

upgrade the quality and quantity of films in the library. As a result, 27 different film topics, all in color and with sound, are now available.

Even with the enlargement of the library, demand usually exceeds supply—particularly during school months. On an average, films are shown to about 100 audiences per month from September through May.

Films are not available to individuals but any organization may obtain films for public presentations provided it makes request at least three weeks in advance of the date desired. It is recommended that at least two choices be given since the preferred one may already be scheduled for another showing.

In addition to providing films free of charge, the I-E Division pays transportation charges to the point of showing. However, return transportation must be paid by the borrower. Prompt returns of films must be made immediately after showing so it can be made available as soon as possible to some other organization.

A complete listing of films is available from the Commission's Information-Education Division, Box 1028, Pratt, Kansas 67124.

In 1962, the Information-Education Division began the promotion of hunter safety instruction through



Leroy E. Lyon, chief of the Information-Education Division, hands out a copy of the Kansas Fish and Game magazine at a recent 3-I Show in Dodge City while game protector Mike Shanley looks on. Through the use of portable displays, Commission personnel are able to meet the public and dispense various types of informational and educational materials. Since the I-E Division staff is small, other Commission personnel, particularly game protectors, assist by providing manpower. Photo by Art Morenus.

the utilization of the National Rifle Association's hunter safety course.

Started primarily to provide instruction in safe gun handling at Boy Scout summer camps, the program was expanded to include 4-H clubs, junior rifle clubs, schools, and scout troops.

Since the I-E Division's staff has remained extremely small, the bulk of instructional activities has been carried out by game protectors as their schedules permitted. Additional assistance in conducting classes was received from volunteer personnel not employed by the Commission.

Since the program's inception, the I-E Division's role in hunter safety has largely been that of coordinating the program, providing supplies—tests, instructor manuals, student handbooks, registration forms, etc.—and maintaining hunter casualty reports.

Although the effort has been severely handicapped by lack of personnel, about 7,500 students have been graduated from the course during the eight years it has been in operation.

The continuing need for expansion of hunter safety instruction is evident

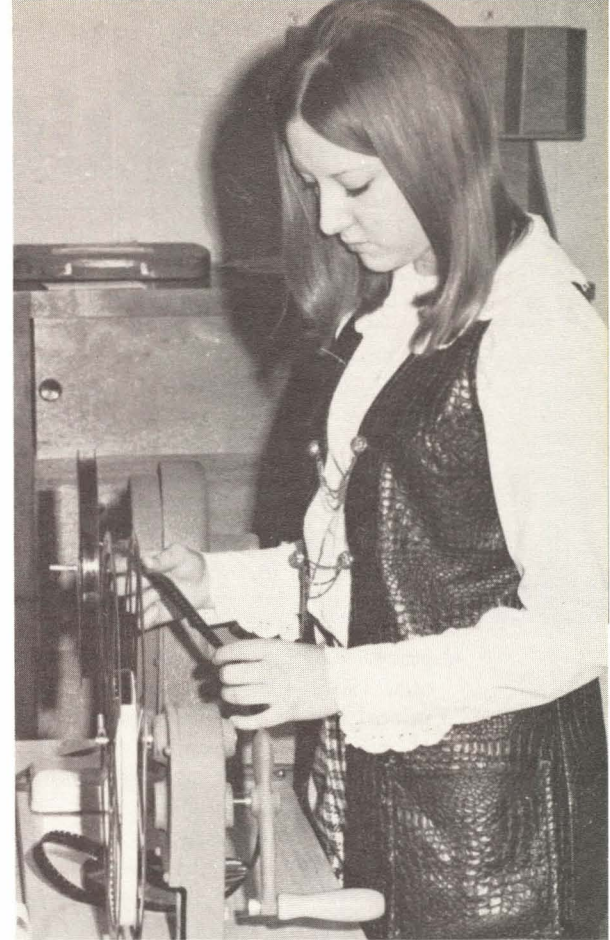
in Kansas. Each year, approximately one-half of all hunting accidents resulting in fatalities or injuries involve hunters under 21 years of age. Only one hunter safety graduate is known to have been involved in a minor hunting accident—a real tribute to the success of the program.

It is our belief that the groundwork has been laid for a successful and expanding hunter safety program in Kansas. All that remains is allocation of adequate time and funds. When these are provided, an expanded program will be initiated.

Making personal contacts with the citizens of Kansas has also been an important function of the Information-Education Division during the past decade. Hundreds of public appearances have been made by not only I-E personnel but also by other Commission employees whenever requested by a large variety of groups and as time permitted.

Additionally, portable displays have been used quite effectively at the Kansas City Boat, Sports and Travel Show; the Wichita Sport, Boat and Travel Show; western Kansas' annual 3-I Show; and the Mid America Fair

Beverly Aldrich is a busy woman. While serving as secretary of the Information-Education Division, she not only handles hundreds of telephone calls and answers thousands of general information requests each year, but also assists with other division functions such as assembling the weekly news release.



Marilyn Stevens, part-time Information-Education Division employee, edits movie film which has been returned to the division's lending library. On an average, more than 100 films are mailed from the library each month during the school year. Films are provided free of charge to any organization in Kansas which requests them.

in Topeka. Likewise, the Commission's permanent display of live fish and animals at the State Fair in Hutchinson has provided an excellent opportunity to meet people, answer questions, and dispense all types of printed information.

Most accomplishments of the I-E Division do not take a form that can be held up and admired, but the public appearances, countless articles and news releases, lectures, the magazines, movies, photographs—even the telephone conversations have all contributed to a better understanding of the Department's management efforts.

This understanding has in turn led to acceptance of modern management techniques and has enabled the Commission to move ahead with new ideas and programs knowing it has the trust and support of Kansas' hunters and fishermen.

Wildlife Welfare

The term Federal Aid has become a common household word throughout the nation in recent years. Federal subsidies for agriculture, transportation, education, health and a myriad of other aspects of everyday American life are commonplace. However, some may be surprised to learn that there is a Federal Aid program for the benefit of the nation's game and fish resources.

Federal Aid in the area of wildlife resources conservation is not new; it has been with us for a third of a century.

In 1937, Congress passed the Federal Aid in Wildlife Restoration Act, commonly known as the Pittman-Robertson Act or even more frequently as simply P-R.

The intent of Congress was to provide additional funds to various state wildlife conservation agencies to finance programs designed to restore game populations depleted by widespread habitat destruction during previous periods of rural settlement.

Such funds were made available through imposition of an 11 per cent excise tax on sporting arms and ammunition. For convenience, the tax was imposed at the manufacturers' level, but of course it was in turn passed along to the consumer in higher prices. One unusual aspect of this tax is that for the most part only the user, the hunter of the game animals being restored, paid the tax. No general fund taxes are diverted into the P-R treasury.

P-R tax monies are collected and placed in a special fund administered by the United States Bureau of Sport Fisheries and Wildlife. The monies are redistributed to states on the basis of geographical size and the total number of persons who purchase hunting licenses. The Bureau annually retains 8 per cent of the total tax to cover administrative costs of the program.

There are specific guidelines for use of P-R funds in wildlife restoration projects. Principal areas where restoration funds can be spent are: land acquisition for public hunting areas;

development of wildlife habitat on private and public lands; development of public use areas for hunting; research and investigations pertaining to wildlife population dynamics, disease, predation, population movements, hunter and landowner attitudes toward wildlife resources and related subjects; transplants of extirpated species; and experimental releases of exotic game animals.

There are specific types of conservation work which are not approvable under P-R. An agency's programs for information and education, law enforcement, and artificial propagation of game birds cannot be financed in this manner.

The Bureau carefully reviews each project proposal to determine if it complies with Federal Aid regulations and to assure the taxpaying hunter that his money is being spent on projects which will eventually reap dividends to the sportsman. Periodic inspections of project areas are conducted to see if they are being maintained properly.

States are reimbursed for approved projects on a cost-share basis. For every dollar spent on a specific project, P-R funds will cover up to 75 percent of the cost.

What has P-R meant to Kansas and Kansas sportsmen? From 1939, when P-R monies were first made available, through June 1970, a total of \$7,761,259 has been made available to the Kansas Forestry, Fish and Game Commission for wildlife restoration projects. In the past ten years alone, \$4,106,055 has accrued. Particular benefits derived from P-R have been described in other portions of this magazine.

However, Kansas hunters have not been the only ones to benefit. Fisheries resources and anglers as well have also gained from a share of Federal Aid.

In 1950, Congress passed a law similar to the Pittman-Robertson Act which was entitled the Federal Aid in Fish Restoration Act. It is also known as the D-J or Dingell-Johnson Act.

A 10 per cent excise tax on sport fishing equipment is allocated back to the states, at the same 75 percent rate, on the basis of geographical area and number of persons who purchase fishing licenses. Again it is solely the user of the resource—the fisherman—that pays the bill. General tax funds are not involved.

D-J funds are administered by the Bureau much in the same way as P-R monies. Funds can be used for lake construction, land acquisition, leasing of access rights, research and investigations pertaining to status of fish populations and water quality, development and maintenance of public use areas used by fishermen, or experimental stocking of new species of fish.

As in the P-R program, D-J funds may not be approved for information and education programs or for law enforcement. Normal fish hatchery operations of the Commission are also not covered by Federal Aid funds.

While D-J has been in effect for only 20 years, Kansas fishermen have benefited handsomely.

The first D-J funds were available to Kansas in 1952, and since that time, \$1,903,012 has been appropriated to the state. In the past 10 years alone, \$1,248,870 has accrued to the Kansas fishermen.

So, while the term "Federal Aid" is often looked upon as a blank welfare check, it has been a boon to the management of the fish and wildlife resources of the state. The principal group to benefit has been the individuals responsible for footing the bill—Kansas sportsmen.

Fortunately, the non-consumptive user of the resources maintained or provided through P-R and D-J—sightseers, birdwatchers, picnickers, swimmers, hikers and photographers, to name a few—have also benefited. The cost to them, if they are neither hunter nor fisherman, has been absolutely nothing. They owe a vote of thanks to the Kansas sportsmen. And Kansas sportsmen owe a vote of thanks to far-sighted legislators who made this "Wildlife Welfare" possible.



Kenny Harms, Garden City, took this four-point mule deer buck during the 1965 firearms deer season—the first to be held in Kansas in modern times. Pittman-Robertson funds have been used in recent years for management and to conduct investigations and research of Kansas' deer herd.



Federal aid funds have been instrumental in providing the return of the wild turkey.

Fisheries investigations



Game research



Federal Aid Benefits

The Commission now administers 46 public hunting areas.



Kansas now hosts about 350 pronghorn antelope in the wild.

A crowd at Cheney Reservoir proves the point—hunters aren't the only ones to benefit from game management areas, particularly in spring and summer months when fishing becomes "hot."



