

A PLAN FOR
Kansas Wildlife
Written and edited by Ross Harrison

Comprehensive Wildlife Planning

A December 1976 report by the Special Legislative Interim Study Committee on the Fish and Game Commission encouraged this agency to implement a more business-like management system. The Legislative committee recommended a concept called Comprehensive Wildlife Planning—a concept endorsed by the state's Executive Branch and the Commission.

This type of planning results in two basic products. The following pages are a condensed and popularized version of the first product—something planners refer to as a “strategic plan.” The other basic product, the “operational plan,” is being worked on and will be completed in about a year. The strategic phase is intended to help the agency determine and let the public know, **WHERE WE WANT TO GO** in the management of the state's wildlife resources. Operational planning follows this up with **HOW WE GET THERE**. Again, the following pages are the strategic portion of A Plan for Kansas Wildlife.

Included are discussions of the existing status of the resources, five-year objectives, and a listing of general problems and their solutions. It represents the efforts of nearly all Commission employees, plus a tremendous amount of input from many wildlife-related interests outside of the agency. More than 1,100 persons attended seven public meetings in August that covered this part of the planning process.

Two things should be kept in mind when you study this plan. First, the nature of planning is such that it is subject to continual updating and revision. This will keep the plan from becoming an old book on the shelf with little practical value.

Second, the version you are about to read is only the tip of the iceberg. There are countless reports and a mountain of data that have led to the formation of the

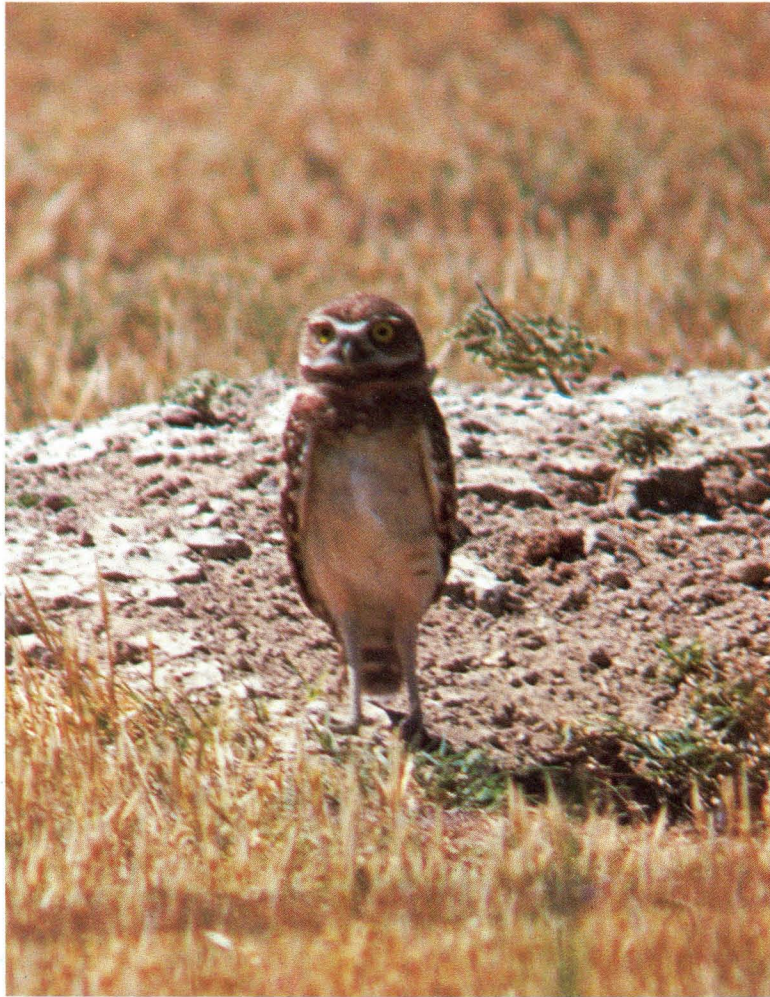
objectives and listing of the general problems and their solutions. Available upon request from the Commission's Pratt headquarters are the more detailed version of the strategic phase of A Plan for Kansas Wildlife and any of the studies or reports that were used to develop it.

The planning system serves many purposes.

- It allows evaluation of what the agency is doing in terms of progress toward stated objectives.
- It puts the agency on an objective-oriented basis, promoting action rather than reaction.
- It provides decision makers a well ordered set of alternatives.
- It alerts other resource users to the requirements of wildlife.
- It strengthens agency position in negotiations with other resource users.
- It reveals and clarifies future opportunities and threats.
- It provides a common framework for decision making throughout the agency.
- It minimizes piecemeal decisions.
- It is the basis for other management functions (staffing, control, etc.)
- It mobilizes and allocates agency resources (manpower and money) to best meet needs of fish and wildlife resources and the public.
- It allows involvement of all commission personnel and the public.

Because this type of planning is new to the Commission, and probably to most of you, a glossary is provided to help you better understand some of the unavoidable terminology that is used on the following pages.

Covers: Greater prairie chicken and swift fox with kits by Ken Stiebbsen.



Ken Stiebben

Glossary

Conserve—to use wisely; considers management such as protection, research, control, harvest, habitat manipulation, and other factors to form a basis for perpetuating wildlife.

Consumptive use—Hunting, fishing or trapping.

Demand—present and projected numbers of user days.

Nonconsumptive use—wildlife-oriented recreation exclusive of hunting, fishing and trapping.

Supply—the amount of recreational opportunity available. Includes consideration of recreational quality.

User Day—one person's participation in wildlife-oriented recreation during all or part of one calendar day (fishing day, hunting day, etc.)

Wildlife—all nondomesticated forms of animal life, including but not limited to mammals, birds, fishes, amphibians, reptiles, crustacea, mollusks, and the habitats on which they depend.

Aquatic Wildlife

The fishery resource of Kansas has undergone dramatic change since the 1930s. Prior to that, streams supported nearly all the angling in a state considered by most as "fishing poor."

Since then, however, federal, state, and local government dollars have *increased by five times* the amount of surface waters through construction of ponds, lakes, and large federal reservoirs. Those who know these waters can now only refer to the Sunflower State as "fishing rich."

Kansas anglers are opportunists. In the mid-1970s, more than 400,000 individuals wetted their lines each year. They rang up about 11 million days of fishing annually. But Kansas fishing is more than just fun and games when you consider the economic side. Averaging \$6.50 for expenses related to each day of fishing, more than \$70 million a year has been pumped into the state's economy from one of Man's oldest and most honorable leisure pursuits.

Still, Kansas fishing can be made much better for the novice and the expert. Some general goals of the Fish and Game Commission point in that direction for the four basic types of waters:

STREAMS—Increase recreational use of Kansas streams.

PONDS—Achieve optimum wildlife benefits in keeping with the primary purposes of ponds.

LAKES—Improve sport fish populations and provide optimum recreational use.

Major Problems and Solutions

Fishing success for most anglers could be dramatically improved if they knew more about proper fishing techniques.

Determine the most successful technique for the major public waters under Commission authority and make this information available to anglers. Also, educate anglers on more general fishing methods for all other waters and for individual species of fish.

Many waters in Kansas could produce better sport-fishing than they do now.

Intensify sport fisheries management efforts on waters that are producing below their capabilities.

In many waters of the state, existing fishery is far underused.

RESERVOIRS—Increase fishing success for more anglers.

Each of these general goals has an obviously different meaning specific to its water type. The goals are based on potentials of the resource and the capabilities of the Commission as well as demand by the angling public.

Together, these goals share a common drift—more and better fishing in Kansas.

There are some similarities among the various waters, too. Whether flowing or standing, small or large, water and the fish in it pretty much reflect what man is doing with the land around the water. Also, from east to west, Kansas goes from wet to dry. And, as the water goes, so goes the fishing.

Generally, production of good fishing in any of the four types of water requires intensive management to make a good sport fish population available to the angler. This seldom happens by accident. Even if it did, it would not last. After the opportunity for good fishing is made, it takes an informed and educated angler to make the most of it.

Before plans for each of the four water types can be discussed, there are some general problems and solutions that must be addressed. Then following each water type there may be more specific problems and solutions discussed.

Inform anglers of fishing opportunities available. Encourage anglers who are not satisfied with fishing in crowded areas to use other waters (perhaps farther away) which are under-used.

Public access to many waters is limited and expensive to develop.

Provide more fishing access through acquisition by the Commission or in cooperation with other public agencies. Secure access development funds, not only from fishermen but from all persons who benefit by them. Clarify and if necessary alter, existing stream ownership laws for better public understanding and appreciation of stream resources.

Secure "wild and scenic river" status

where appropriate. Develop private pond access incentives and help to improve pond owner-user relationships. Inform pond owners of benefits gained from the right amount of fish harvest.

There is a lack of sufficient information on public demand for various types of fishing waters and species of fish.

Determine the demand for and value of fishing in various water types and for various species, then use this information to improve fishing benefits.

More physical, chemical, and biological information needs to be collected and analyzed to develop more effective means of fisheries management and to improve fishing.

Conduct aquatic research to improve sport fish management and public understanding

of the most effective methods to use the resource.

Existing capabilities of state and federal fish hatcheries are short of what is needed to produce fish for stocking purposes.

Study future needs for fish stocking, develop appropriate hatching and rearing facilities, and negotiate for out-of-state fish stocking supplies.

Point and nonpoint pollution degrades water quality and fish habitat.

Promote land and water uses beneficial to high quality water. Support existing and new laws to improve water quality. Assist in detection and measurement of fish kills, as well as apprehension and prosecution of guilty parties.



Ken Stiebben

RESERVOIRS

Status

The 20 completed federal reservoirs in Kansas provide more than 130,000 acres of public fishing. Within 15 years another 45,000 acres of reservoirs will be added, and it's likely more are in store beyond that.

These reservoirs are a hybrid between lake and stream. As with most other man-made waters the primary reason for their existence is not wildlife, or even water-oriented recreation. These are "tack-on" benefits to the more economically justified benefits of flood control, municipal/industrial water supply and irrigation. Tack-on as they may be, fishing and other water-oriented recreation benefits carry more public interest in reservoirs than flood control or irrigation when the rare extremes of nature are not in effect.

Reservoir anglers have enjoyed an average catch of almost 1¾ pounds of fish per day—four times that of the more crowded State Fishing Lakes.

If fishermen would not let the "big water" deter their efforts, reservoirs offer more pounds and bigger fish than any of the other water types. There is much sport fishery potential to develop in our reservoirs.

1982 Objective

PROVIDE 3.25 MILLION FISHING DAYS AT TWO POUNDS OF FISH CAUGHT PER ANGLER PER DAY.

This objective calls for a 30 per cent increase in the amount of days spent fishing on reservoirs while increasing average success to two pounds of fish caught per angler per day.

Problems and Strategies

The reservoir fishery resource is not being effectively used.

Inform the public of when, where and how to fish reservoirs. Modify fishing regulations to allow optimum use of fisheries resources in reservoirs, including development of a marketable fish program that would not only make better use of nonsport fishes but also improve the sport fishery. Improve access to reservoirs for boat and shoreline fishermen. With timely information distributed to the public, encourage fishing on reservoirs where there is an abundance of under-used, high quality sport fishes.

In the planning, designing, construction, and operation of reservoirs there is insufficient consideration given to maximizing sport fish and other wildlife benefits.

Expand cooperative efforts with all reservoir construction and regulatory agencies, to provide best possible conditions for sport fishes and fishing. Secure wildlife enhancement and mitigation features as part of the reservoir projects. Inform the public of pre- and post-construction activities and their impact on wildlife. Strengthen state laws and regulations to assure more consideration of wildlife benefits in reservoirs.

Conflicts exist between various recreational users on reservoirs.

Develop regulations to reduce conflicts between recreational users. Inform and education recreational interests of user ethics. Improve law enforcement efforts.

Reservoir fisheries management is poorly understood by the public.

Provide the public with information on needed management and the expected benefits from that management.

LAKES

Status

There are approximately 6,070 lakes with a total of 60,800 acres of water in Kansas. Including those local community lakes with State Fishing Lakes operated by the Commission, about one-quarter of the total lake acreage in Kansas is fully open to public fishing. The remaining lakes are under private or semi-private authority.

Kansas does not have the "natural" lakes common to the more northern glaciated states. Kansas lakes have been built by man and machine. Because of recently accelerating construction costs, few new lakes have been or likely will be built in the near future.

The catch success for anglers on State Fishing Lakes has historically averaged about one-half pound of fish caught by each fisherman per day. These lakes support an average of about 140 fishing days per acre (that's a total of more than half a million fishing days a year on State Fishing Lakes). Less is known about other public lakes, even less about the private lakes, but it is estimated that these other public and private lakes support less angling per acre and provide smaller daily catches than those operated by the state.

1982 Objective

PROVIDE 3.25 MILLION LAKE FISHING DAYS WITH AN AVERAGE OF ONE POUND AND TWO

FISH CAUGHT PER FISHERMAN DAY.

This objective represents about a 15 per cent increase over the existing amount of lake fishing days. The objective's average daily catch rate—one pound and two fish—is about double the present catch success. The main emphasis is to produce more fish on the stringers of lake fishermen, rather than encourage more fishing pressure on these lakes.

Problems and Solutions

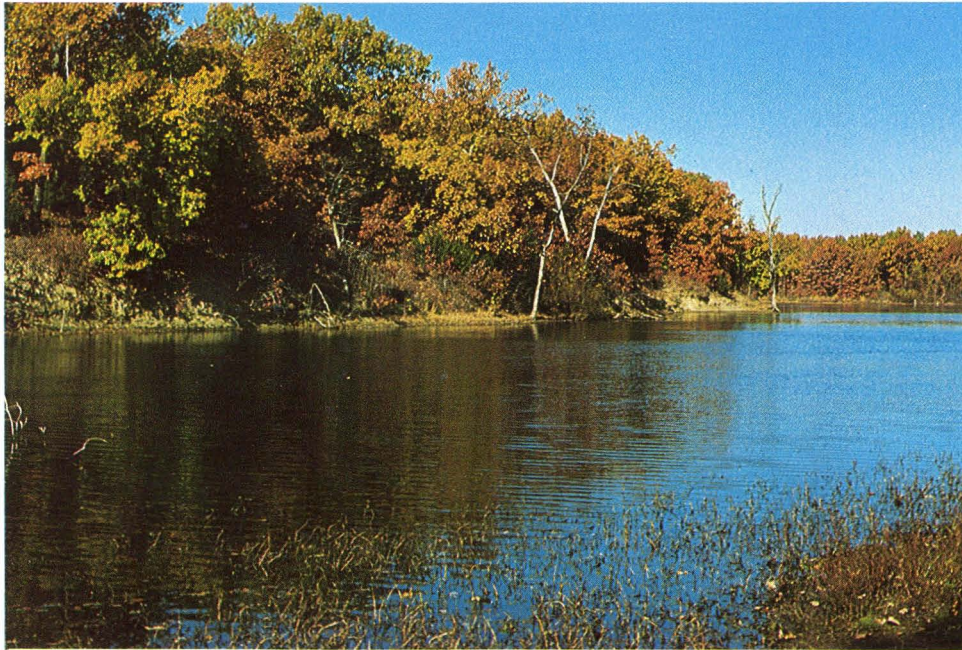
Existing lakes near high populations centers are inadequate to meet demand.

Maximize sport fishing opportunity on existing lakes through better fishery management. Increase lake acreage where demand is greatest. Also, re-distribute fishing pressure, by informing anglers, from high-use lakes to lakes which are under-used.

Non-fishermen are placing increased demands on Commission operated lakes and grounds, requiring license buyers alone to support growing maintenance costs.

Implement a system to more fairly collect revenue from those who use and benefit by Commission facilities.

PONDS



Ken Stiebben

Status

It is estimated that about half of the state's 100,000 farm and ranch ponds under private ownership are capable of supporting sport fishing. Those 50,000 fishable ponds average about 1½ acres each for a total of 75,000 acres. About 90 percent of these ponds lie in the eastern half of Kansas.

Most ponds were built as water supplies or to control erosion, with wildlife-associated recreation just an extra benefit. Since many of the best pond sites have already been taken and construction costs continue to rise, only a gradual increase in pond acreage is expected in coming years.

Ponds are the easiest of the four water types to manage because of their small size. Unlike reservoirs and lakes, ponds are not usually located on permanent watercourses that often infest sport fish populations with undesirable species.

Although access to ponds must be granted by the landowner, Kansas anglers have spent about one-quarter of all their fishing days on ponds. Improving pond fishing depends almost entirely on the willingness of landowners to take advantage of pond management tools the Fish and Game Commission offers and then allow anglers to reap the benefits.

1982 Objective

IMPROVE THE QUALITY OF POND FISHING AND OFFER TOOLS TO HELP SUPPORT THREE MILLION DAYS OF POND FISHING.

This amounts to an increase of about 12 percent more pond fishing than would occur without new emphasis on this program.

Problems and Solutions

Most ponds possess poor to fair sport fish populations. There is a lack of public understanding of proper pond construction and management which produce optimum fishing conditions. Because ponds are numerous and scattered, it is impossible for individual management attention by a limited professional fisheries staff.

Prepare and distribute information to help the layman maximize his pond wildlife resource. Work with pond-assistance agencies, such as the Soil Conservation Service, Agricultural Stabilization and Conservation Service, and Extension Service, encouraging them to consider the pond fishery in all pond management programs.

Pond stocking efforts by the Fish and Game Commission are inefficient.

Modify the stocking application procedures and minimum requirements for landowners and ponds which would receive fish for stocking. Update stocking policies to incorporate current knowledge.

STREAMS



Chris Madson

Status

Today's 10,000 miles of fishable Kansas streams cover about 65,000 acres. Three major watercourses of the state, the Kansas, Arkansas, and Missouri rivers, are classed by the state as "navigable" which, among other things, means their stream bed up to the normal high water mark is under state jurisdiction and is available for public uses. On all other streams, except where they flow through public lands, adjoining private landowners have legal control over access.

There are many more miles of streams that are not considered fishable because their flows can't support catchable sized fish. These feeder streams, however, are important to their larger counterparts through contributions of forage and other life-sustaining elements.

Man's crusade for an expanding economy has had a large impact on the state's stream network. The desire to control water, both in time of flood and drought, has seen the tradeoff of a free flowing system for one that is blocked by dams and large reservoirs. Sometimes good, sometimes bad for stream fishing, the large federal reservoirs have created abundant new public fishing where little or none existed before. Reservoirs not only affect stream flow patterns, but also influence the fishery for considerable distances upstream and down.

Construction of more large federal reservoirs, chan-

nelization (bad for stream fishing in every case), and water withdrawal for irrigation will reduce the future acreage of streams. However, through action by the Commission and others, an objective has been set to at least maintain the current amount of stream fishing.

1982 Objective

PROVIDE THREE MILLION DAYS OF STREAM FISHING

Problems and Solutions

More needs to be known about the impacts stream alteration has on wildlife and recreation.

Participate in cooperative stream resource studies with those whose projects or actions may affect stream wildlife and recreation.

Too little action has taken place to reduce the adverse and to maximize the beneficial impacts caused by stream alteration projects that are implemented for other economic reasons.

Represent stream wildlife and recreation interests by taking action to lessen adverse and maximize beneficial affects of major stream alteration projects or actions.



Ken Stiebber

Terrestrial Wildlife

Kansas wildlife populations and the recreation they provide rank high among the other states. Except for this state's No. 1 position for prairie chicken numbers and annual sport harvest, other states may have the edge on individual game species. But, considering *all* wildlife, the diversity and abundance in Kansas is hard to beat.

The 2.7 million days of hunting each year, and probably more days than that spent just observing and appreciating Kansas wildlife, shows the amount of interest. Additionally, estimates indicate hunters spend about \$9.35 on each day of hunting, which comes to a minimum annual economic impact of more than \$25 million in Kansas.

The situation is not all roses, however. In the last few years, the ever-increasing intensity of agriculture

has been making its subtle effects felt on game populations. Since the Soil Bank days of the 1960s have gone, pheasant, quail and other game numbers have generally trended downwards. Biologists blame declining habitat quantity and quality and say that nearly all wildlife species have been similarly affected by the general "road-to-road" farming philosophy.

There are numerous problems facing wildlife populations and future recreational uses of this resource. Most of the big problems and their general solutions are shared among the various species. Following is a list that applies to nearly all forms of terrestrial wildlife, game, nongame, and endangered species. More specific problems and solutions are included with the various programs.

Ken Stiebber



Major Problems and Solutions

Habitat is simply a place for any form of animal life to find suitable food and water, and to escape the rigors of climate and predation so they may breed, rear young, and replace themselves. Habitat is a complex mixture of all the necessities of life which vary dramatically for each of the year's four seasons, as well as for the different life stages of a single species. The quality and quantity of habitat is deteriorating throughout Kansas. Agricultural production, urban and industrial expansion, transportation system construction, and land and water development projects are the major causes of habitat decline. Although all losses are important, agricultural production which occurs on approximately 96 percent of the state's area has the most significant impact. Adverse affects from agriculture may be either short-lived or permanent, but effects from the other disturbances are more often irreversible.

Implement a system to inventory habitat, measure habitat quality, and monitor its trends. Establish effective cooperation with agencies and groups which influence land use and management. Help prepare and support state and federal land use policies which are beneficial to wildlife. Promote private land projects to maintain and improve habitat on private lands. Secure habitat mitigation and enhancement measures on all federally funded construction projects. Enact a state Fish and Wildlife Coordination Act so that all state agencies grant wildlife habitat its due respect. Acquire (rent, lease, buy, donation, etc.) lands and waters with good wildlife potential. Inform and educate the public on wildlife and habitat relationships and the values of wildlife. Advocate agricultural practices beneficial to wildlife. Improve habitat on all public lands. Examine and revise current laws and regulations and support new laws and regulations to improve wildlife habitat.

Existing funding is not sufficient to reverse habitat losses and to solve other problems facing wildlife. Developing and maintaining wildlife habitat is a form of land use that does not, under existing conditions, compete well on its own with the dollar return from other land uses. (Although, as mentioned earlier on a statewide basis, hunting is a \$25 million business in Kansas.) The value, economic and social, of all the nonconsumptive uses of wildlife is unknown, but likely far in excess of that for hunting.

Because wildlife is a public resource which yields public benefits to more than just those who buy a hunting license, public revenues

should be directed towards stopping the decline of habitat, and improving or at least maintaining wildlife populations.

Hunter/Landowner Relations: The decline of habitat is resulting in fewer good hunting areas on private land every year. Hunters are logically becoming more visible to those landowners who still possess good hunting grounds. As the state's population tends to become more urban and suburban, many hunters are becoming less familiar with and appreciative of landowner rights and attitudes.

Intensify information-education efforts directed at hunters to remind them that if they want to protect their privilege to hunt, they must respect the rights of landowners. Continue and strengthen the hunter ethics portion of the hunter safety program. Appeal to landowners to follow through with trespass complaints so violators will know they mean business. Strictly enforce any law or regulation associated with landowners rights and publicize the conviction of violators. Impress upon the courts the rights of landowners and responsibilities of sportsmen.

Sport hunting and trapping have come under emotional attack by those who believe game animals feel and live as humans, and that their harvest is not a bona fide part of wildlife conservation.

Advance the scientifically sound principles of wildlife conservation, including game harvest as a valid resource use. Encourage sportsmen-like conduct to give hunters a better image, and make it better understood that, at least for the past and present, sportsmen are the only significant financial contributors to wildlife conservation in Kansas.

Public opinions and biological facts are not sufficiently known or understood to develop the best possible management plans for the benefit of the public and the wildlife resource.

Emphasize more effort to determine the value the public places on wildlife not only for consumptive sports, but also for non-consumptive activities such as birdwatching, wildlife study and photography. Focus game research on development of more effective management guidelines that will increase wildlife populations, and on documenting relationships between habitat and wildlife.

BIG GAME

Goal: Increase deer and antelope populations to highest feasible levels consistent with habitat capabilities and public attitude, and provide maximum recreational use opportunity.

Deer Status

Less than 50 years ago, deer were considered extinct in Kansas. Today, prior to the hunting season, whitetails in the eastern two-thirds of the state number more than 30,000 head, and mule deer in the west nearly 10,000. The mule deer population appears to have stabilized in numbers, yet whitetails have been increasing at a rate of five to eight percent annually.

It is projected that deer will peak in numbers at 50,000 by 1982, while still providing an annual harvest by hunters. After 1982, available habitat will curtail future growth. In the last three years, deer hunters in the firearms season have averaged a little more than 10 days to get a deer. Archers took about 75 days.

1982 Objective

INCREASE THE DEER POPULATION TO 50,000, AND PROVIDE A MINIMUM OF 155,000 DEER HUNTING DAYS AT SUCCESS RATES OF 11 DAYS PER HARVESTED DEER FOR FIREARMS HUNTERS AND 75 DAYS FOR ARCHERS.

The objective allows for a 34 percent increase in deer hunting permits, a harvest increase of about 27 percent, and an increase in deer hunting days of about 19 percent, between 1976 and 1982.

Antelope Status

Beginning in 1965, the Fish and Game Commission began transplanting pronghorn antelope back to its native western Kansas range, where it had been scarce for many decades. Antelope populations in a 300,000-acre tract in Sherman, Wallace, Logan, and Thomas counties have been growing at the rate of 20 percent annually since 1969. The first hunting season, in which 80 permits were issued, was conducted in 1974 and has continued annually. There are five applications for every available firearm permit. Another small population of antelope exists in Barber and Comanche coun-

ties maintaining itself between 50 and 100 animals.

1982 Objective

PROVIDE 615 ANTELOPE HUNTING DAYS. ESTABLISH A MINIMUM OF 50 ANTELOPE PER HERD IN EACH OF FIVE NEW AREAS.

The objective would increase antelope hunting days by almost three times in the five-year period as a result of a herd growth from the 1976 post-season population of 900 antelope to 1,400 left after the 1982 season.

Big Game Problems and Solutions

There is a much greater demand for hunting big game than there are permits available.

Continually evaluate hunting season and permit regulations to determine and provide maximum hunting opportunity of existing big game populations without hurting the breeding stock.

Poachers are taking a large, but unknown supply of big game each year.

Improve effectiveness of law enforcement to reduce illegal take of big game. Acquire help of sportsmen and landowners to curb big game poaching.

Physical barriers prevent the northwestern Kansas antelope herd from expanding into unoccupied ranges.

Obtain antelope for stocking and acquire support from landowners to introduce antelope into suitable unoccupied range.

Concentrations of deer and antelope occasionally concern landowners regarding crop depredation.

Establish new antelope populations in areas only where there is widespread support. Advise landowners of big game behavior and life patterns as they relate to crop depredation. Advise landowners of Commission big game management policies. Provide advice and assistance to property owners to reduce problems of property damage by big game.

SMALL GAME

Goal: Increase small game populations and provide optimum recreational use opportunities.

Quail Status

Bobwhite quail occur in every county, and Kansas is one of the leading quail states. Quail are most abundant in the eastern one-third of Kansas where more than two-thirds of the quail are harvested.

For the last 15 years an average of 146,000 licensed quail hunters annually spent about 5½ days hunting and harvested 3.14 quail per day or 17 per hunter per season. Years since 1972, however, have seen statewide harvests fall below 14 birds per hunter per season and total annual harvest fall to only 75 percent of the kill previous seasons. Although some of the decline may be due to natural population cycles, the natural highs and lows will both be lower as a result of a declining habitat base.

1982 Objective

MAINTAIN QUAIL HABITAT TO PROVIDE A PRE-SEASON POPULATION OF 5 TO 5.5 MILLION QUAIL AND PROVIDE 872,000 QUAIL HUNTING DAYS AT 3 BIRDS HARVESTED PER DAY.

This reflects an 8 percent increase in annual quail hunting days over 1976 and a 9 percent increase over the 15-years average. 1982 comes at a time when quail populations, due to their own biological cycles, would be peaking out, providing hunter success closer to the pre-1972 "good years."

Pheasant Status

The ring-necked pheasant is rare or absent in east-central and southeast Kansas, maintaining highest populations in the west and northcentral portions of the state. It is found in moderate to low numbers throughout the remainder of the state. Since the mid- and early-1960s, annual pheasant numbers have dropped from more than 2.5 million (pre-season cock and hen total) to 1.5 million in 1976—due to declining habitat. Hunter days have increased, however, from less than 500,000 to more than 700,000 in the sane period, resulting in less harvest per hunter.

Unless significant new action is taken, the future does not appear to hold great promise for increasing pheasant numbers back to the "good ol' days" when there was an abundance of weedy crop fields with

plenty of summertime insects and permanent cover for winter survival.

1982 Objective

INCREASE PHEASANT HABITAT TO SUPPORT A PRESEASON POPULATION OF 1.8 TO 2 MILLION BIRDS, AND PROVIDE 703,000 HUNTER DAYS AT A HARVEST RATE OF 0.9 PHEASANT PER HUNTER DAY.

This objective would result in pheasant populations and hunter success to both increase about 20 percent over 1976 estimates.

Greater Prairie Chicken Status

Greater prairie chickens are most abundant in the tall grass prairie expanses of the Flint Hills, lessening in numbers to the east and west of this unique formation.

Greater prairie chickens are extremely dependent on vast stands of high quality, tall grass prairie. Cropland encroachment to the east and west of the Flint Hills is causing a decline in chicken numbers in these areas. However, behavior of the prairie chicken makes it extremely difficult to monitor populations and accurately document population changes.

Hunters do not relish the sporty prairie chicken as much as they do pheasant and quail. From 1962 through 1972 a yearly average of 40,000 greater prairie chickens were harvested by approximately 41,000 hunters. These hunters averaged about 1¾ days of hunting per season for a total of more than 71,000 hunting days. Average success was about one bird per season. Prior to 1973, hunting seasons for prairie chicken opened one week before other upland game bird seasons. Since 1973, the hunting season has opened with other upland game seasons, resulting in substantial decline in hunter interest.

Because of their behavior patterns, particularly their spring booming activities, prairie chickens have a high potential for providing nonconsumptive recreation. Their spring displays have already attracted many nature lovers to observe the booming ritual; however, the time spent in this recreation is unknown.

1982 Objective

MAINTAIN A GREATER PRAIRIE CHICKEN POPULATION TO PROVIDE 71,000 HUNTING DAYS AT A SUCCESS RATE OF ONE-HALF BIRD PER HUNTING DAY, AND PROVIDE 75,000 DAYS OF NONCONSUMPTIVE USE.

Lesser Prairie Chicken Status

The lesser prairie chicken has been making a gradual recovery since it was nearly exterminated during the 1930s Dust Bowl. The lesser chicken occurs in the southwest quarter of the state with the largest populations in the sand sage prairie areas south of the Arkansas River. The lesser is facing a new threat, however, in the rapid spread of center pivot irrigation which is replacing the sandsage prairie with irrigated cropland. By the time groundwater becomes too low and the price of pumping water too high for center pivot irrigation to remain economical, lesser prairie chicken populations will have decreased significantly.

Like greater prairie chickens, lessers are very difficult to monitor. However, estimates are that the population will decrease to less than 9,000 by 1982, compared with 25,000 in 1974, unless effective action is taken by the Commission and land-owners in southwestern Kansas to stem the tide of sandsage prairie conversion.

Controlled harvest of lesser prairie chickens by hunters will not affect chicken populations until they dwindle to small and isolated flocks, at which time they should not be hunted. Until that time, hunting mortality merely substitutes for natural losses. As for all game species, habitat is the factor which determines an increasing or decreasing population.

1982 Objective

MAINTAIN 750 SQUARE MILES OF OCCUPIED LESSER PRAIRIE CHICKEN HABITAT SUPPORTING A POPULATION OF 20,000 LESSER PRAIRIE CHICKENS.

This objective would maintain the lesser prairie chicken at approximately its 1976 status and would allow continued harvest by hunters at an annual rate of approximately 3,000 birds.

Rabbit Status

Three species of cottontail rabbits are found in Kansas: eastern cottontails, desert cottontails, and swamp rabbits. Eastern cottontails are found statewide, while desert cottontails and swamp rabbits are found in extreme southwest and southeast Kansas, respectively.

In the period 1958 through 1968, hunters averaged a daily bag of two rabbits. Since then, however, about 70,000 hunters have averaged between 1 and 1½ rabbits bagged per hunting day. Commercial harvest of rabbits may account for 5 to 10 percent of the total amount taken by sportsmen.

1982 Objective

PROVIDE A RABBIT POPULATION OF TWO MILLION, SUPPORTING 350,000 RABBIT HUNTING DAYS WITH AN AVERAGE DAILY BAG OF AT LEAST 1.75.

Jackrabbit Status

The black-tailed jackrabbit occupies the western two-thirds of Kansas. Population trend surveys indicate a noticeable decline in jackrabbit populations over the last 10 years, however, there is no information on numbers of hunters or harvest, making it impossible to estimate jackrabbit numbers. Since 1973, commercial harvest of jackrabbits has declined dramatically from about 3,000 to less than 100 taken, also reflecting a declining population.

1982 Objective

DETERMINE POPULATION STATUS OF JACKRABBITS AND IMPLEMENT MANAGEMENT PRACTICES TO INCREASE POPULATIONS AND STIMULATE RECREATIONAL USE OF THE RESOURCE.



Wild Turkey Status

Pioneer settlers in Kansas converted most original turkey habitat into agricultural lands and heavily harvested turkeys for daily sustenance. As a result, turkeys were eliminated from the state. The wild turkey has now been restored to southwest Kansas through trapping and transplanting efforts of the Commission in the mid-1960s, and due also to Oklahoma turkeys moving northward. Reintroduction efforts and the hunting seasons that have been conducted in the southwest quarter of Kansas have involved the Rio Grande subspecies of wild turkey. Since 1974, Kansas has enjoyed a limited spring hunt for gobblers in this area, while the population has grown from approximately 2,500 turkeys to an estimated 3,500 in 1977.

For the first three years of the hunting season, the 400 annual permit holders harvested between 123 and 139 gobblers. In 1977, permits were increased to 500 and 149 gobblers were harvested.

In 1975, the eastern subspecies of turkey were released at two locations in eastern Kansas. Initial results are encouraging, but time has been too short to determine if the transplants will be successful.

1982 Objective

PROVIDE 1,420 DAYS OF TURKEY HUNTING WITH A HUNTER SUCCESS OF AT LEAST 25 PERCENT; ESTABLISH SUSTAINING WILD TURKEY FLOCKS IN EASTERN AND NORTHERN KANSAS.

This objective assumes a population growth of 20 percent over the five-year period, reaching a pre-season population of 4,200 turkeys in southwest Kansas. Hunting permits would increase, as would harvest, in an amount to allow turkey populations to continue growing.

Fox and Gray Squirrel Status

The gray squirrel is found in limited numbers in the heavily wooded far eastern areas of Kansas, and the fox squirrel is widely distributed throughout the state. Their combined population is estimated between 1.4 and 2 million. The average harvest for the past four years has been approximately 319,000 with a daily bag of 1.3 squirrels per hunters. About 50,000 hunters annually pursue squirrels.

Although the amount is unknown, non-consumptive use of squirrels is believed to be higher than hunting use, particularly for fox squirrels in urban and suburban parks and other wooded areas of most communities.

1982 Objective

MAINTAIN TREE SQUIRREL POPULATIONS BETWEEN 1.4 AND 2 MILLION, SUPPORT 300,000 HUNTING DAYS AT A HARVEST RATE OF AT LEAST 1.3 SQUIRRELS PER DAY.



Ken Stiebben

Small Game Problems and Solutions

While simplified hunting season regulations may be easier for sportsmen to follow and abide by, they may not allow for optimum hunting opportunity throughout the diverse climate and land use conditions of the state.

Establish hunting season regulations that take maximum advantage of game populations and sociological conditions to provide sportsmen with optimum hunting conditions.

This will require intensified information and education directed to hunters and landowners to address hunter/landowner relations and make regulations clear and understood by all.

Small game hunters find it increasingly difficult to obtain access to good hunting on private lands.

Improve hunter/landowner relationships. Offer incentives to the landowner for permitting more hunter use. Secure additional public hunting areas and increase hunting opportunities on these lands.

MIGRATORY GAME BIRDS



Ken Stiebben

Goal: Maintain populations of migratory game birds to meet demand for all recreational uses.

Duck Status

Approximately 10 million ducks are contributed to Kansas from the fall migration of the Central Flyway. During any one-week period in the fall, there may be between 1.4 and 2 million ducks in the state. Mallards are the most common species, but there are an additional 26 species of ducks that may occur. Only about 20,000 pair of ducks (mainly bluewing teal, mallard, and wood duck) nest in Kansas.

Duck hunters in the past two years have averaged about 58,000 in number, spending a total of 360,000 duck hunting days. They have averaged about seven ducks per season, or slightly more than one duck per hunting day for an average annual harvest of more than 390,000.

Because of their high visibility in spring and fall migrations, there is also a great amount of nonconsumptive recreation provided by ducks.

Biologists anticipate over the next 15 years that numbers of ducks and duck hunters will continue to increase in Kansas due to the addition of more surface waters which serve to hold ducks for the hunting seasons. However, waterfowl populations in Kansas are strongly determined by habitat and weather condi-

tions. Even in years of high duck numbers, poor habitat and weather conditions will reduce duck populations in the state.

1982 Objective

PROVIDE 380,000 DUCK HUNTING DAYS WITH HUNTER SUCCESS OF 1.1 DUCKS PER DAY, AND DETERMINE THE NONCONSUMPTIVE USE OF DUCK RESOURCE.

The objective assumes a slight increase in duck populations and in hunter numbers, while maintaining at least the same hunter success as in the last two years.

Goose Status

Kansas geese are generally considered in two groups—dark geese (Canada and whitefronts) and light geese (snows and blues). Of the 1.5 million geese that may frequent Kansas in fall and early winter, about 57 percent are light geese, 26 percent are Canadas, and 17 percent whitefronts. About 100 pairs of Canadas nest in Kansas with all other geese being produced from Nebraska to the Arctic.

In recent years, hunters have harvested about 28,000 geese per season with dark geese accounting for almost two-thirds of the total. It has taken about five days of hunting to harvest one goose, for a total of about 137,000 goose hunting days.

The 15-year outlook is for a significant increase in geese numbers, as a result of conservative dark goose hunting season regulations and more water in Kansas.

1982 Objective

PROVIDE 140,500 GOOSE HUNTING DAYS WITH A HUNTER SUCCESS RATE OF ABOUT ONE GOOSE PER FOUR DAYS OF HUNTING.

The objective calls for an improvement in hunter success and a slight increase in the amount of goose hunting.

Duck and Goose Problems and Solutions

Normal operation of most large public impoundments does not maximize the potential for waterfowl (ducks and geese) attraction.

Cooperate with public water administrators to develop waterfowl management plans for federal reservoirs and other suitable impoundments which will improve their capabilities to support waterfowl, in keeping with other benefits of the impoundments.

The public has difficulty with accurate identification of nearly all migratory game species, other than dove, which reduces recreational enjoyment.

Prepare and distribute educational materials and programs to improve public identification and understanding of migratory birds.

Large concentrations of waterfowl may cause landowner irritation.

Establish acceptable population limits for problem areas and develop dispersal techniques. Educate property owners on waterfowl behavior as it relates to crop depredations.

All migratory game birds must be managed cooperatively by all states through which the birds pass.

The Commission must actively support and participate in activities of the Central Waterfowl Flyway Council.

Mourning Dove Status

Kansas is one of the nation's primary breeding states for mourning doves. As one of 14 states in the Central Management Unit, this state contains about 13.5 percent of the unit's breeding population. The dove, however, is sharing a common plight with resident upland game birds—a decline in population for the past several years. The dove decline is much less noticeable than for upland game birds, however, being

less than one percent a year.

In the past two years the number of dove hunters has averaged close to 90,000 with a daily harvest success of about 3.5 doves per hunter. Doves also provide much recreation to those who just observe their nesting and listen to their calls, very common in suburban and rural areas throughout Kansas.

1982 Objective

PROVIDE 651,900 DOVE HUNTING DAYS WITH A HUNTER SUCCESS RATE OF 3.5 DOVES PER DAY, AND PROVIDE ONE MILLION DAYS OF NONCONSUMPTIVE RECREATIONAL USE.

Dove Problems and Solutions

The mourning dove breeding population is decreasing.

Cooperatively with other members of the Central Management Unit (14 states), develop methods to reverse the trend.

Other Migratory Game Bird Status

This category includes common snipe, American woodcock, American coot, gallinule and two species of rails.

Population estimates indicate 150,000 American coots and 25,000 common snipe may occur in Kansas during peak migration. No estimates for gallinules, rails or American woodcock are available. Annual populations of all species vary considerably depending upon conditions of wetland habitat and climate.

Total harvest of these migratory birds by Kansas sportsmen may approach 20,000 during some years. Such harvest is usually in association with other waterfowl and upland game hunting.

Hunting demand for most species is anticipated to remain well below the supply.

1982 Objective

INCREASE HUNTING INTEREST FOR THOSE SPECIES CAPABLE OF SUSTAINING GREATER HARVEST, AND STIMULATE NONCONSUMPTIVE USE.

Other Migratory Game Birds Problems and Solutions

Lack of public interest in these species places their management in low priority, and results in under utilization of a sports resource.

Inform and educate the public of life histories, behavior, identification and methods of recreational use of these species.

FURBEARERS

Goal: Protect, maintain and enhance the furbearer resource and provide for all uses consistent with conservation of the resource.

Status

Included in this section are the short-haired furbearers (beaver, mink, muskrat, weasels), and the long-haired (badger, bobcat, red and gray fox, opossum, raccoon, spotted and striped skunk, coyote). Although the coyote is not considered by state law as a furbearer, the Commission noting the high level of interest in the animal, includes the coyote with similar furbearer species for planning purposes.

Little effort in the past has been directed toward monitoring or managing the furbearer resource. Low recreational demand, compared to the large supply, put these animals in low priority. Although interest in furbearers has recently increased dramatically, little is actually known about the supply of furbearers.

Sales of trapping licenses increased from about 2,000 in 1970 to almost 11,000 in 1976. The number of pelts sold increased from about 140,000 to 250,000 in the same period.

1982 Objectives

CONDUCT AN INVENTORY OF FURBEARERS AND DEVELOP METHODS TO DETERMINE POPULATION TRENDS. ESTABLISH FURBEARER MANAGEMENT PLANS. MAINTAIN SPORT HUNTING, TRAPPING, AND OTHER RECREATIONAL USES. MINIMIZE CONFLICTS OF PROPERTY DAMAGE. ESTABLISH THE COYOTE AS A FURBEARER BY STATE LAW.

Problems and Solutions

Sudden and large increases in furbearer hunting and trapping, caused by high fur prices, results in high competition for access to private lands and causes irritation to landowners.

Intensify efforts to improve hunter and trapper ethics.

Numerous species of furbearers can damage property and irritate agricultural interest.

Cooperate with predator and pest control interests to develop educational materials for property owners and to develop and promote sound methods of nuisance animal control.

NONGAME

Goal: Maintain and enhance habitat necessary to support non-injurious, non-game species at current or higher levels.

There are a multitude of wildlife species in Kansas that carry high recreational, scientific and economic values but are not considered as game animals according to Kansas laws. Some, such as the crow and rattlesnake, may be hunted; others, such as the robin and the tree frog may provide listening enjoyment. Some non-game animals are considered pests, particularly when they begin appearing in unusually high numbers, an occurrence which is usually a result of some action by man.

Each species has some important part to play in the complicated web of life on Earth. And before man takes action, either purposefully or by accident, to affect large populations of any of these species, he would be wise to know the short and long-term effects of his actions.

1982 Objectives

DETERMINE STATUS AND MONITOR POPULATIONS OF CERTAIN KEY NON-GAME MAMMALS, BIRDS, FISHES, AMPHIBIANS, REPTILES AND INVERTEBRATES REPRESENTATIVE OF VARIOUS ECOSYSTEMS.

Problem and Solution

Appropriate funding is the key problem. The Fish and Game Commission is currently financed by sportsmen. This program would produce benefits for all Kansans, not just sportsmen.

Acquire funding to accomplish these 1982 objectives from all sources who benefit from the program.

THREATENED AND ENDAN- GERED SPECIES

Goal: Improve status of threatened and endangered species until they are no longer so classified.

Status

There are 26 species proposed as either threatened or endangered in Kansas. Seven of these occur on the national endangered species list and are either full-time residents of Kansas or spend some portion of their life cycle within the state.

Nonconsumptive interest for threatened and endangered species—although not accurately measured at present—is assumed to be higher than for any other group of animals and appears to be increasing. Increased public awareness will likely result in even greater increases in demand.

Threatened Species

Prairie falcon (*Falco mexicanus*); Least tern (*Sterna albifrons*); Blue Sucker (*Cycleptus elongatur*); Arkansas darter (*Estheostoma cragini*); Topeka shiner (*Notropis topeka*); Alligator snapping turtle (*Macrochelys temmincki*); Northern crawfish frog (*Rana areolata circulosa*); Riffle beetle (*Dubiraphia n. sp.*) Riffle beetle (*Optioservus n. sp.*).

Endangered Species

Peregrine falcon (*Falco peregrinus anatum*); Whooping crane (*Grus americana*); Eskimo curlew (*Numenius borealis*); Bald eagle (*Haliaeetus leucocephalus*); Black-footed ferret (*Mustela nigripes*); Gray Bat (*Myotis grisescens*); Neosho madtom (*Noturus placidus*); Pallid Sturgeon (*Scaphirhynchus albus*); Sicklefin chub (*Hybopsis meeki*); Central newt (*Notophthalmus viridescens louisianensis*); Grotto salamander (*Typhlotriton spelaeus*); Gray-bellied salamander (*Eurycea multiplicata griseogaster*); Cave salamander (*Eurycea lucifuga*).

1982 Objective

DEVELOP AND IMPLEMENT MANAGEMENT PLANS FOR THREATENED AND ENDANGERED SPECIES.

Problem and Solution

Appropriate funding is the key problem. The Fish and Game Commission is currently financed by sportsmen. This program would produce benefits to all Kansans, not just sportsmen.

Acquire funding to accomplish these 1982 objectives from all sources who benefit from the program.



Bob Henderson

BOATING

Goal: Increase accident-free boating days and improve facilities that contribute to boating safety and recreation.

In 1960, Kansas began to require registration of all motorboats powered by machinery over 10 horsepower. In 1971, registration requirements were extended to any vessel powered by machinery and sail. As of December 31, 1976, there were 77,083 registered vessels in Kansas.

Nationally, boat ownership averages 39 vessels per 1,000 people. Kansas ranks 13th in the nation with 52 vessels per 1,000 people. It is estimated there are 140,000 vessels in Kansas and more than 400,000 Kansans include recreational boating among their pursuits.

The supply of recreational boating opportunity is difficult to measure. Available public waters have increased at a rate 50 percent greater than increases in boat ownership over the last 15 years in Kansas.

According to U.S. Coast Guard statistics, the national fatality rate averages 20 deaths per 100,000 boats per year. The rate in Kansas is 13.1 deaths per 100,000 boats. Over the past five years, the Kansas fatality rate has been 22 percent under the national figure.

1982 Objective

PROVIDE 4,012,000 BOATING DAYS WITH A REDUCED ACCIDENT RATE. IDENTIFY NEEDS AND PROVIDE FOR IMPROVED BOATING FACILITIES.

Boating Problems and Solutions

Requirements of the Kansas Boating Act are not being fully met.

Improve enforcement efforts and inform and educate the public concerning the Kansas Boating Act.

Better information is needed to structure and manage the boating program.

Conduct supply and demand surveys. Inventory boating facilities and needed improvements.

HUNTER SAFETY TRAINING

Goal: Increase the number of accident-free days of hunting and promote hunter ethics.

In the four-year period since the introduction of the Fish and Game Commission's hunter safety program, 85,806 students have graduated from the mandatory eight hour course. Compared to the previous four years, accidents declined by 16.5 percent (injuries declined 15 percent and fatalities 29.5 percent). The roster of certified, volunteer instructors numbers about 4,000.

The supply of new hunters needing this training is expected to remain fairly consistent over the next several years—about 14,000 per year.

1982 Objective

CERTIFY 14,000 YOUNG HUNTERS PER YEAR. MAINTAIN NO LESS THAN 3,000 VOLUNTEER INSTRUCTORS WITH A TURNOVER RATE OF NO GREATER THAN 15 PERCENT PER YEAR.

Problems and Solutions

Lagging employee and instructor interest and en-

thusiasm hinders the program in some areas.

Inform Fish and Game Commission employees and instructors of the importance of hunter safety to the overall success of Commission efforts. Provide incentives for program participation.

Many groups and individuals needing hunter safety training are not being reached by present programs.

Require hunter safety training for all hunters. Provide a volunteer refresher course.

There are not enough firing ranges open to the public where students can gain supervised experience in handling and firing guns.

Establish programs to gain admittance to private ranges for hunter safety students. Provide public ranges.

Compliance with the Kansas Firearms Training Act is incomplete.

Require vendors to assure compliance before selling a license. Inform the public of the requirements of the act.



Mission Statement of Forestry, Fish & Game Commission

WILDLIFE IS IMPORTANT to the quality of life for all Kansans, and accordingly, ownership of Kansas wildlife is vested in the people. As the public guardian of wildlife and servant of the people, the mission of the Forestry, Fish and Game Commission is to:

CONSERVE wildlife and the habitats on which it depends—to assure a continued heritage of living and diverse wildlife resources;

PROVIDE the public with wildlife use opportunities, and other related educational and recreational activities, compatible with the resources and consistent with public demand—to allow public benefit and appreciation of wildlife;

INFORM the public of wildlife status and problems—to promote understanding and gain assistance in achieving this mission.