

Approved: 2-2-95
Date

MINUTES OF THE SENATE COMMITTEE ON AGRICULTURE.

The meeting was called to order by Chairperson David Corbin at 10:00 a.m. on January 31, 1995 in Room 423-S of the Capitol.

All members were present except: Quorum was present

Committee staff present: Lila McClaflin, Committee Secretary

Conferees appearing before the committee:

Normal Daniels, Chairperson, Kansas Rural Development Center(KRDC)

Steve Bittel, Executive Director, Kansas Rural Development Center(KRDC)

Others attending: See attached list

Chairperson Corbin called for action on the minutes of the January 24 and 25 meetings. Senator Sallee moved that the minutes be adopted. Senator Steffes seconded the motion. The motion carried.

Zoo standards for keeping small cats in captivity, zoo standards for maintaining large felids in captivity, and zoo standards for keeping medium and large canids in captivity were distributed. This information was provided by Dr. Bill Skaer (Attachment 1). Also, distributed was information from Darrell Monte listing the categories of captive wildlife (Attachment 2)

Chairperson Corbin announced the agenda for the meeting was an overview of the Kansas Rural Development Center. He called on Norma Daniels, Chairperson of the organization.

Norma Daniels said the council was organized in November 1990 as part of the White House Rural Development Initiative Program. She explained what the mission and goals of the KRDC was and distributed a pamphlet containing that information (Attachment 3). Mrs. Daniels introduced Steve Bittel, Executive Director, KRDC.

Steve Bittel gave an overview of the KRDC. He said the general purpose was to make government more accessible to rural citizens. He talked about the primary accomplishments of the council, their current projects, and 1995 action agenda. Attached to his testimony is a list of the executive committee, executive committee members, and federal council members (Attachment 4). Mr. Bittel responded to questions regarding the High Plains corridor, job training in rural areas, available housing and financing of housing in rural areas, and what can be done to change the economic in the rural areas?

Mrs. Daniels stated the communities must take the initiative to build their programs and communities. They are there to help and provide leadership.

The meeting adjourned at 11:00 a.m.

The next meeting is scheduled for February 1, 1995.

SENATE AGRICULTURE COMMITTEE GUEST LIST

DATE: January 31, 1995

NAME	REPRESENTING
Marty Vanier	KAA
Norma Daniels	KRDC
Steve Betts	KROC
Dick Delsaver	The Coleman Co.
Bill Fuller	Kansas Farm Bureau

ZOO STANDARDS FOR KEEPING MEDIUM AND LARGE CANIDS IN CAPTIVITY

Jack Grisham (1), Roland Smith (2), Chuck Brady (3)

- (1) Oklahoma City Zoological Park, 2101 NE 50 St., Oklahoma City, OK 73111.
- (2) Roland Smith, Point Defiance Zoo and Aquarium, 5400 North Pearl St., Tacoma, WA 98407
- (3) Memphis Zoological Garden and Aquarium, 2000 Galloway Ave., Memphis, TN 38112

INTRODUCTION

Within the family Canidae, determination of minimum husbandry needs of medium (20-35 lb/9-16 kg) and large (over 35 lb/16 kg) species is variable because of differences in size, morphology and behavior. In this discussion, medium or large canids are defined as any species of canid belonging to the genus *Canis*, including the side-striped jackal, *Canis adustus*; golden jackal, *C. aureus*; black-backed jackal, *C. mesomelas*; Simian jackal, *C. simensis*; coyote, *C. latrans*; red wolf, *C. rufus*; dingo, *C. familiaris dingo*; gray or timber wolf, *C. lupus*; domestic dog, *C. familiaris* (and timber wolf x dog hybrids); as well as the dhole, *Cuon alpinus*; maned wolf, *Chrysocyon brachyurus*; and African wild dog, *Lycaon pictus*.

All canid species are cursorial. In addition, all canid species form a pair bond which is an exclusive male/female association during the breeding season. In canids, the pair bond usually extends throughout the pup-rearing period. These two factors make most species of canids particularly susceptible to the development of stereotypic, abnormal behavior such as pacing when confined to small enclosures or when isolated from conspecifics. Modern methods of contraception and the fact that canids are seasonally monestrous make it relatively easy to house male/female pairs together for most of the year, even when reproduction is not desirable. Care must be taken in the design of all housing, however, to insure that animals cannot escape or dig out. Caution should also be exercised when handling otherwise "tame" individuals.

GENERAL REQUIREMENTS

Some aspects of captive management for all medium and large canids are similar and discussed below. Requirements unique to certain groups are listed separately.

Senate Ag. Co.
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attachment 1
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- A. Temperature - Although medium and large canids originate from all manner of climates, most species are tolerant of broad temperature extremes, at least during daylight hours. Animals kept outside should always have access to shade, especially during warmer parts of the year. When acclimated, most species without young only require minimal, unheated shelters at night; in cold climates, wooden pallets should be provided for sleeping to prevent the loss of body heat. Dens should be dry, small, and cramped. If animals are given spacious dens, smaller "hide" boxes should also be provided. These smaller boxes enable individuals to retreat or fend off conspecifics. When breeding is a possibility, a separate den or hide box should be present for each pregnant female. All artificial shelters for tropical species should have a space heater for use in winter. Most temperate zone canids are well adapted for winter weather although supplemental heat encourages females to give birth within the den area. It also provides a warm dry area regardless of the rest of the enclosure. In spacious enclosures, canids often dig several extensive subterranean dens.
- B. Lighting - Natural lighting is optimal for all species of canids. When needed, fluorescent lighting is an efficient light source for full-spectrum illumination.
- C. Ventilation and Humidity - Indoor exhibits should have a negative air pressure, with a regular air change of non-recirculated air. Relative humidity should be within the range of 30-70%. Separate air handling systems should be maintained between the visitor and animal exhibit area to prevent possible disease transmission and complaints about odor.
- D. Water - Fresh clean water for drinking should be available at all times. Watering devices should consist of either built-in devices or sturdy portable containers. Regardless of size, water containers should be cleaned and disinfected daily. Some canids enjoy bathing and swimming, and pools should be incorporated into outdoor enclosures, space permitting.
- E. Sanitation - Hard-surface enclosures, pallets, and food containers (if used) should be cleaned daily with detergents and disinfectant. Dirt substrates in outdoor exhibits should be raked and spot-cleaned daily. Foot baths should be used prior to entering and exiting all canid enclosures or areas containing enclosures. Each should be filled with a disinfectant and its use strictly adhered to by all personnel.
- F. Enclosure dimensions - Enclosure sizes vary according to species and social group. As a general rule, a single large canid should have an enclosure measuring at least 10 ft. (3.1 m.) x 15 ft. (4.6 m.). or 150 sq.ft. (14 sq.m.). For each additional animal, the enclosure should be increased by 50%.

A single medium canid should have an enclosure measuring at least 8 ft. (2.5 m.) x 12 ft. (4.7 m.) or 96 sq. ft. (9 sq. m.). For each additional animal, the enclosure should be increased by 50%.

G. Barriers - Perimeter barriers should be least 8 ft. (2.5 m.) high and include an inward-facing overhang, the top protected by either electric cable or a 45-degree overhang. In addition to vertical barriers, all perimeters should also have either a concrete footing or horizontal protective mat around the entire enclosure. Most medium- and large-sized canids are prolific diggers and can easily tunnel under a chainlink fence.

H. Food - Medium and large canids are easily maintained when fed commercially- or custom-made diets. Commercial preparations containing all necessary vitamin and minerals are readily available, or may also be custom-made by the holding institution. On a daily basis, canids require 1-3 kg. of high quality, low-fat diet per 25 kg. of body weight. Whole animals used as feed should be limited to freshly killed carcasses, and should be removed at regular intervals. Diets containing high percentages of fowl, and especially ones containing chicken or turkey necks, should be avoided due to inadequate levels of calcium and phosphorus.

The quantity of rations fed will also depend on individual condition and whether or not feeding is communal or done on an individual basis. Where communal feeding is practiced, weights of subordinate animals and juveniles must be closely monitored. Obesity also occurs where communal feeding is practiced, and fasting all members one day a week may be used for weight control.

Milk substitutes used to hand rear infants should be specifically formulated for canids. Milk replacers should contain low levels of lactose to prevent eye problems.

I. Veterinary Care - Services of an experienced veterinarian should be available to all holders of non-domestic canids. When circumstances permit, an overall examination should be performed annually, and blood samples collected, serum banked as a baseline control, and the results recorded. Fecal examinations should be made twice a year to check for parasite infestation. Infant canids are especially susceptible to parasite infection and should be screened monthly during their first six months. Routine deworming with a broad spectrum antihelminthic at six and eight weeks of age is highly recommended. Preventative heartworm medication should be given to all canids housed in areas where this parasite is prevalent, and an occult heartworm test performed annually.

All canids should receive annual prophylactic vaccinations for

protection against canine distemper and parvovirus; modified live virus (MLV) products should be used. For protection against rabies, wild canids should be vaccinated with a killed virus (KV) product. Vaccination for leptospirosis, parinfluenza, and hepatitis is not generally required but if deemed necessary, should be given, and from KV products only. If MLV products are used for vaccination, vaccine-induced cases of these diseases may result.

Fleas can be a problem in some areas and should be controlled by spraying the enclosure with an approved commercial insecticide.

ADDITIONAL LITERATURE

- Brady, C.A. and M.K. Ditton 1979.
Management and breeding of maned wolves (*Chrysocyon brachyurus*) at the National Zoological Park, Washington.
INTER. ZOO YEAR. 19: 171-176.
- Clutton-Brock, J.; Corbet, G.B.; and M. Hills 1976.
A review of the family Canidae, with a classification by numerical methods. BULL. OF THE BRITISH MUSEUM 29: 117-199.
- Corbett, L. and A. Newsome 1975.
Dingo society and its maintenance: a preliminary analysis.
In: THE WILD CANIDS (M. Fox, ed.). Van Nostrand Reinhold, NY: 369-379.
- Davidar, E.R.C. 1975.
Ecology and behavior of the dhole or Indian wild dog (*Cuon alpinus*). In: THE WILD CANIDS (M. Fox, ed.). Van Nostrand Reinhold, NY: 109-119.
- Frame, L.; Malcolm, J.; Frame, G.; and H.J. Van Lawick 1979.
Social organization of African wild dogs (*Lycaon pictus*) on the Serengeti Plains, Tanzania 1968-1978. Unpub. manuscript.
- Ginsberg, J.R. and D.W. Macdonald 1990.
FOXES, WOLVES AND DOGS: AN ACTION PLAN FOR THE CONSERVATION OF CANIDS. IUCN/SSC Specialist Group, Morgues, Switzerland.
- Kleiman, D.G. and C.A. Brady 1978.
Coyote behavior in the context of recent canid research: Problems and perspectives. In: COYOTES (M. Bekoff, ed.) Academic Press, NY: 163-190.
- McMormick, A.E. 1983.
Canine distemper in African cape hunting dogs (*Lycaon pictus*) possibly vaccine induced. J. ZOO ANIMAL MED. 14: 66-71.
- Mech, L.D. 1970. THE WOLF.
Natural History Press, NY.

- Moehlman, P.D. 1983.
Socioecology of silver-backed and golden jackals (*Canis mesomelas* and *Canis aureus*). In: ADVANCES IN THE STUDY OF MAMMALIAN BEHAVIOR, AM. SOC. MAMMAL. 7: 423-453.
- Scott, J. 1991.
PAINTED WOLVES: WILD DOGS OF THE SERENGETI-MARA. Hamish-Hamilton, London.
- Sheffey, B.E. 1985.
NUTRIENT REQUIREMENTS OF DOGS. National Research Council Report, National Academy Press, Washington, DC.
- Smith, R. 1984.
STUDBOOK OF THE RED WOLF (*Canis rufus gregoryi*). Point Defiance Zoo and Aquarium, Tacoma, WA. pp. 1-25.
- Stains, H.L. 1975.
Distribution and taxonomy of the Canidae. In: THE WILD CANIDS (M. Fox, ed.). Van Nostrand Reinhold, NY: 3-26.
- Wandrey, R. 1975.
Contribution to the study of the social behavior of the captive gold jackals (*Canis aureus*). Z. TIERPSYCHOL. 39: 365-402.
- Winslow, S. 1986.
The management of red wolves (*Canis rufus*) at Audubon Park. AAZPA REGIONAL PROCEEDINGS: 109-111.
- Zimen, E. 1976.
On the regulation of pack size in wolves. Z. TIERPSYCHOL. 40: 300-341.

ZOO STANDARDS FOR MAINTAINING LARGE FELIDS IN CAPTIVITY

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GENERAL INTRODUCTION

Within the family Felidae, determination of minimum husbandry needs of large cats is variable because of differences in size, morphology, and behavior. For purposes of this discussion, a large felid is identified as any species of cat belonging to the genus *Panthera*, including: lion, *P. leo*; tiger, *P. tigris*; jaguar, *P. onca*; leopard, *P. pardus*; and snow leopard, *P. uncia*; as well as the puma (cougar or mountain lion), *Felis concolor*; clouded leopard, *Neofelis nebulosa*; and cheetah, *Acinonyx jubatus*.

With one exception, large felids are solitary carnivores functioning at or near the top of their trophic level. While this behavior permits them to be housed singly, it also requires that the introduction of potential mates be done carefully to prevent fighting, injury, or death. Their aggressive nature and physical capabilities demand that owners exercise the utmost care when designing cages or exhibits for any species, regardless of size, to insure that specimens cannot escape or reach into adjacent cages or public areas. Caution also should be exercised when handling otherwise "tame" individuals.

Minimum requirements for exhibit size and furnishings, diet, veterinary needs, and social groupings are broken down in the following way: 1) very large pantherids, 2) other large felids, and 3) cheetahs.

GENERAL REQUIREMENTS

Some aspects of captive management for all large felids are similar and are discussed below. Requirements unique to certain groups are listed separately.

Temperature - Although large felids may originate from all manner of climates, most are tolerant of wide temperature extremes, at least during daylight hours. Animals kept outside should always have access to shade, especially during warmer months of the year. When acclimated, most species without young require only minimal unheated shelter at night. Clouded leopards are more cold sensitive than the other species and should be protected

from minimum extremes in weather. When kept indoors year around, animals should be protected from temperatures above 85 degrees Fahrenheit.

Lighting - In nature, most species of large felids are nocturnal and, therefore, less active during daylight hours. Accordingly, they all do well under normal light cycles although shy or secretive specimens will thrive with less exposure. Smaller species may be exhibited under reversed light cycles without harm. Fluorescent lighting is an efficient light source providing broad-spectrum illumination.

Ventilation and Humidity - Indoor exhibits should have a negative air pressure of 10-15 air changes per hour of non-recirculated air. Relative humidity should be within the range of 30 - 70%. Separate ventilation systems should be maintained between exhibit and visitor areas to reduce the potential of disease transmission from the public as well as complaints from odor. If possible, separate systems also should be maintained for individual exhibits.

Water - Fresh clean water for drinking should be available at all times. Watering devices should consist of either exhibit built-ins for the larger species or sturdy portable containers for smaller species. Regardless of size, water containers should be cleaned and disinfected daily. Some large felids, especially tigers and jaguars, enjoy bathing and swimming, and large pools should be incorporated into outside exhibits, as appropriate.

Sanitation - Hard-surface primary enclosures and food containers (if used) should be cleaned daily with detergent and disinfectant. Perches and shelves where animals climb and sit should also be included in this regime. Dirt substrates in outdoor planted exhibits should be raked and spot-cleaned daily. Footbaths containing quaternary chemicals should be used prior to entering all felid enclosures or areas containing enclosures. Each should be filled with a disinfectant and its use strictly adhered to by all personnel.

Food - Large felids are easily maintained when fed prepared diets made from beef or horse products. Diets of this type may be obtained from commercial sources that already have the appropriate vitamins and minerals added, in amounts that vary according to the age and status of the specimen. Similar diets may also be prepared in-house. Whole animal carcasses (rodents, rabbits, or fowl), may be substituted upon occasion to vary the diet. To address problems with obesity, felids may be fasted one or two days a week. Bones, especially those from joints or knuckles, also should be given at once or twice a week to maintain good oral hygiene and muscle tone; fast days are good opportunities.

In the past, many zoos fed large felids muscle meat from freshly butchered livestock. Although this source of feed is

still occasionally used, practitioners are cautioned that diets consisting primarily of whole or ground muscle meat may be inadequate in vitamin/mineral content. Owners should also be wary of carcasses obtained from road kills or donations because of the potential for contamination. Feed animals selected from such sources should be inspected to insure that they are free of disease. Diets containing high percentages of fowl, including chicken or turkey necks, should be avoided because of inadequate levels of calcium and phosphorus.

Veterinary Care - Services of a veterinarian should be available. Periodic (at least twice yearly) fecal examinations should be required to check for parasite infestation. When circumstances permit, overall examinations should be performed and the results recorded. Annual vaccinations should include prophylaxis against feline panleukopenia (distemper), rhinotracheitis, and calicivirus. In areas where tetanus is endemic, felids should be vaccinated for this disease on an annual basis. Felids also are susceptible to non-specific diseases like tuberculosis.

All large felids nearing adult size that are likely to be transferred to another institution in the future should be tattooed or receive microchip implants when the opportunity arises. Common species such as pumas, and specimens not otherwise eligible for studbook registration should be identified by their accession or ISIS numbers. Specimens entered in regional or international studbooks should have their registration number tattooed on the inner aspect of the thigh, or other area as directed by the studbook keeper.

SPECIAL REQUIREMENTS

For purposes of the following discussions, large felids are divided into three groups based primarily on size, husbandry, or behavioral idiosyncrasy. No taxonomic relationship should be inferred.

1. VERY LARGE PANTHERIDS: *Panthera leo*, lion, and *P. tigris*, tiger.

Two species of felids may be described in this fashion, the African or Asian lion and the tiger; each species is represented in captivity by several subspecies or combinations thereof. Both are large species filling carnivorous niches at the top of their respective trophic levels. A number of subspecies have been named for each species but husbandry requirements do not differ among them.

Lions are the largest predator in Africa (and formerly the Middle East to India) and males attain weights of 330-550 lb (150-250 kg). Females are somewhat smaller (Nowak & Paradiso,

1983). Tigers occupy a similar niche in Asia and although there is less dimorphism in size; tigers from insular origins are smaller than those from the mainland and Siberia. The most northerly race is the largest living cat, and males weigh 390 - 675 lb (180 - 306 kg). In contrast, male tigers from Sumatra weigh only 220 - 300 lb (100 - 140 kg). Both species have gestations of approximately 105 days, and produce litters of 2-5 young (Nowak & Paradiso, 1983). Both orange and white morphs are present in captivity, although the former is more common (Seifert and Muller, 1987).

A. Social Grouping: Since they are solitary at least part of their life, either species may be kept singly as well as in pairs. Large exhibits may contain additional females although some older female tigers may not tolerate other females. Males should normally be kept separate from other males. Mothers with infants should be moved to a cubbing den or location away from other animals prior to birth, and not reintroduced to other adults until after the cubs are 2 or 3 months old. Adult lions of both sexes will tolerate cubs of other females if adequate space is available. Many adult male tigers also tolerate females and their cubs.

B. Exhibit Size: Lions and tigers are easily maintained in traditional barred or heavily wired cages as well as in large outdoor exhibits employing moats to separate animals and public. A cage for a single animal should measure at least 20 ft (6.1 m) wide x 15 ft (4.6 m) deep (300 sq.ft/27.9 sq.m); cages should be 50% larger per additional animal. Although adults do not climb well, their leaping ability should not be underestimated. Outdoor cages should have vertical jumpwalls at least 16 ft (4.88 m) high or be provided with tops at least 10 ft (3.1 m) high. If moats are used as a barrier, they should be at least 25 ft (7.6 m) wide and 15 ft (4.6 m) deep. All enclosures must have smaller shift facilities to permit safe cleaning, cage repair, or other separations. Shift cages should measure at least 8 ft by 8 ft (2.44 m x 2.44 m). Because both species are easily bred, owners not wanting young or who are unable to use birth control implants or neutering should build separate cages to separate adults.

C. Remarks: Although both lions and tigers are terrestrial in nature, they benefit from raised shelves or ledges for sleeping and resting. Large logs are used for claw sharpening. Young of both species may be raised naturally or by hand without impairing future parenting ability.

2. OTHER LARGE FELIDS: *Panthera onca*, jaguar; *P. pardus*, leopard or panther; *P. uncia*, snow leopard; *Felis concolor*, puma, cougar, or mountain lion; *Neofelis nebulosa*, clouded leopard.

The five felids listed above are discussed together because of their similarity in size. All but the snow leopard have

numerous subspecies whose distinctions may be ignored for purposes of this discussion.

The jaguar is the largest New World felid and ranges from the southern tip of South America northward into Mexico, and formerly, into the United States. Although similar in length to the leopard, jaguars are heavier and males weigh 79 - 348 lb (36 - 158 kg) ; females are somewhat smaller (Hall, 1981; Nowak & Paradiso, 1983).

The puma, also called cougar, panther, or mountain lion in various parts of its range, is distributed throughout the New World from the tip of South America northward to British Columbia and Alberta. Puma weights, 148 - 227 lb (68 - 103 kg) vary widely throughout their range; specimens from Canada are largest (Hall, 1981; Nowak & Paradiso, 1983).

The leopard is the widest ranging felid in the world, and is found from South Africa across that continent to the Middle East, Java, and northward to Siberia. Sizes vary widely according to habitat, and range from 82 - 200 lb (37 - 90 kg) (Nowak & Paradiso, 1983); those from desert areas are smallest. Patterns vary markedly throughout their range and animals from moist dense forests may be melanistic (Kingdon, 1977).

The snow leopard appears similar in size to the common leopard although thick fur belies its lighter weight: 55- 165 lb (25-75 kg) (Nowak & Paradiso, 1983). The smallest member of the "large" felids is the Clouded leopard (Nowak & Paradiso, 1983). Highly arboreal and restricted to undisturbed forests of Southeast Asia and Indonesia, it weighs only 35 - 50 lb (16-23 kg). Average gestation for all five species is 90 - 103 days, slightly less for clouded leopards. Litter sizes average 2-3 young (Nowak & Paradiso, 1983).

A. Social Grouping: All five species are solitary in nature and may be kept by themselves or in pairs except when young are present. Compatibility in some species, especially leopards and clouded leopards, may be a problem. Some leopards are only compatible while the female is in estrus (heat).

Clouded leopards are the most difficult members of this group to establish as compatible pairs. To insure compatibility, potential mates should be introduced to each other while approximately 4-12 months of age and not separated for long periods thereafter. While the female is separated and raising young, the male should be housed nearby; some females will, while raising cubs, even tolerate the male in the same exhibit if space and den size is sufficient (Shoemaker, pers. ob.).

B. Exhibit Size: Felids in this group are generally kept indoors or in situations that permit viewing through glass, bars or sturdy wire. Otherwise their small size and secretive nature make them difficult to safely exhibit in large moated facilities

commonly used for lions and tigers. Minimum cage dimensions for single animals should equal at least 200 square feet, and be increased by 50% for each additional animal. As in the case of large pantherids, a shift cage(s) should be available. Because all five species are excellent climbers and leapers, secure tops should cover all outside enclosures.

C. Remarks: All five species are arboreal or live in rocky habitats and should be furnished with elevated ledges or perches for sleeping and resting. Wood logs or other devices should also be included. Young of all species may be raised naturally or by hand.

3. CHEETAH: *Acinonyx jubatus*. The cheetah is morphologically and behaviorally quite unlike the two groups discussed above. A diurnal species, cheetahs are physically adapted for running at very high speed over short distances. Although approximately the same length as most large felids, they are much lighter in build and weigh only 77 - 125 lb (35 - 57 kg). Like other large felids, males are larger. Gestation is 90-95 days and litter sizes are 3-5 (Nowak & Paradiso, 1983).

A. Social Grouping: In nature, cheetahs tend to be solitary but adults may be kept as pairs or in larger groups with little difficulty. Problems in establishing breeding groups may, however, necessitate keeping adults of either sex separate from each other except during pairing to stimulate reproduction.

B. Exhibit Size: Cheetahs do best in spacious outdoor areas surrounded by fence or moated barriers. If kept in caged conditions, minimum dimensions should equal at least 200 square feet (18.6 square meters). Because they lack sharp retractable claws, cheetahs climb poorly but benefit from elevated wooden platforms or ledges for sleeping and resting.

C. Remarks: Cheetahs are relatively easy to keep in captivity but remain the most difficult large felid to propagate consistently. With the exception of the Pretoria Zoological Garden's breeding facility at DeWildt Breeding and Research Center, this species is not self-sustaining in captivity (Marker, 1977). Although consistent husbandry techniques have not been identified to date, many owners experiencing successful reproduction keep female(s) separate from males except when they are in estrus (heat). Young may be raised naturally or by hand although breeders were primarily mother reared.

Cheetahs suffer from unusually high incidences of liver disease and research is presently (1988) seeking solutions to this aspect of their husbandry. Other investigations of their physiology seem to suggest that dietary idiosyncrasies play a more important role in the cheetah's fecundity than for other large felids, and managers should stay abreast of new developments.

LITERATURE CITED

- Hall, E. Raymond 1981.
The Mammals of North America. 2:1027-1043. John Wiley & Sons, NY.
- Kingdon, Jonathon 1977.
East African Mammals: An Atlas of Evolution in Africa. III(A):348-365. Academic Press, London.
- Marker, Laurie 1987.
1986 North American Regional Cheetah Studbook. IV:1-90. Wildlife Safari, Winston, OR.
- Nowak, Ronald M. and John L. Paradiso 1983.
Walker's Mammals of the World, 4th Edition. 2:1081-1094. The Johns Hopkins University Press, Baltimore.
- Seifert, Siegfried and Peter Muller 1987.
International Tiger Studbook 1986. Zoologischer Garten Leipzig, Leipzig. 101 pp.

ZOO STANDARDS FOR KEEPING SMALL CATS IN CAPTIVITY (10-94)

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INTRODUCTION

The family Felidae is one of the most diverse groups of carnivores, and includes species that range in size from 1 kg (2.2 lb) to over 500 lb (230 kg). Small cats are defined here as those felids having an adult body weight of less than 20 kg (44 lb (Emmons, 1991, p.62). In most "small" felids, a group that covers 29 species, males are larger than females. This group excludes lions, tigers, leopards, snow leopards, and jaguars, *Panthera sp.*; cheetah, *Acinonyx jubatus*; clouded leopard, *Neofelis nebulosa*; and puma, *Felis concolor*.

In the wild, all species of small cats are more or less solitary, i.e. intolerant toward adults of the same sex, and exhibit a spatially and temporally dispersed social system (Bekoff, Daniels, and Gittleman, 1984). Most species predominate in woodland and woodland fringe terrain although some species may be found in nearly all terrestrial habitat types. While larger species function at or near the top of the trophic level, many small cats also serve as prey for other carnivores. Larger felids, tigers, lions, leopards, etc., also procure substantially sized prey and typically eat only once in several days; many smaller species take rodents and small birds and must hunt and eat several times per day.

HUSBANDRY

Minimum size specifications - Minimum recommended enclosure size is based upon two weight categories of the cats, those under 10 kg (22 lb and those ranging from 10-20 kg (22-44 lb) (see Table 1). Recommended minimum space per cat is as follows:

<10 kg = 6.5 x 6.5 x 8 ft (2 x 2 x 2.5 m) per cat (l x w x h)

<20 kg = 13 x 6.5 x 8 ft (4 x 2 x 2.5 m) per cat (l x w x h)

Floor space should be increased by 50% for each additional cat. Terrestrial species should have more floor space allocated than arboreal ones. Table 1 lists which cats are terrestrial; the above dimensions can be adjusted accordingly.

Enclosure contents - More important than an enclosure's size is its complexity and usability. Care should be taken to allow cats to utilize the vertical component of an enclosure by providing aerial pathways. Cats should have access to at least 75% of the enclosure's vertical space. Furthermore, small cats seem to

prefer perching platforms at or near the top of their enclosure, a place from which they can "hide" and peer out. They also prefer localized heated areas. Durable plastic materials as well as wood make good platforms/shelves for cats. Small cats also require logs upon which they can "sharpen" their claws. Rotting logs exposed to the elements further stimulate clawing activity.

Each enclosure should include at least one visual barrier for a cat to completely hide behind. Each cat also needs a den or secure area that can be defended against a cagemate.

Shift or secondary holding areas are strongly recommended in order to safely move animals from their primary enclosure for cleaning, feeding, and medical procedures. There should be one holding cage for each cat. For cats weighing less than 10 kg (22 lb), each shift area should be no less than 2 feet (.61 m) high with minimum of 6 square feet (0.6 m²). For cats weighing 10-20 kg (22-44 lb), each shift area should be no less than 3 feet (1 m) high with a minimum of 10 square feet (1 m²).

GENERAL REQUIREMENTS

Temperature - Temperature extremes should not exceed those of the cats' respective native habitats. Each cat should be able to move to an area protected from wind, rain and direct sunlight. Heat pads can provide additional sources of heat for cats housed outside; appropriate placement of heat pads can encourage the cats to stay in public view. Cats housed continuously outdoors should each be provided with a den designed to protect the cat from the elements and temperature extremes.

Some tropical species of small cats as well as temperate ones can tolerate a fairly wide range of temperatures but it is necessary to acclimate them slowly to lower temperature ranges. Where indoor temperatures exceed 85 degrees F (29 degrees C), a ventilation system must be used.

Lighting - Sufficient lighting (approx. 100 foot candles at 10 feet (3 meters) should exist in indoor enclosures to permit routine cleaning, but more subdued light levels (20-30 foot candles) are recommended for exhibition purposes [There is some suggestion that cats maintained indoors should be kept under full spectrum light but this is not substantiated.] The majority of small cats are thought to be nocturnal in the wild and as a result, numerous zoos exhibit cats under a reverse day/night light cycle. Regardless, there are no data to suggest that reverse cycles increases the activity of the cats. In fact, small cats seem more attuned to the noises and activities of staff than to light levels.

Ventilation - Indoor housing should be well ventilated in order to minimize drafts, odors, dust, and moisture condensation. There should be 8-10 complete changes of non-recirculated air per

hour, and with a 15-40% intake of fresh air. If possible, separate circulating systems for each indoor cat enclosure should be available to reduce the risk of disease transference.

Water - Fresh clean water should be available at all times. Water bowls should be cleaned and disinfected daily. Some species routinely defecate in water bowls. This behavior is difficult to discourage. Elevating water bowls 6-12 inches above the ground sometimes discourages this behavior. Automatic watering devices may be used for some cats.

Sanitation. Hard surfaces of primary enclosures, food containers, and water bowls should be cleaned and disinfected daily. Perches and shelves where animals climb, sit, and rest should also be kept free of feces and urine but it may not be necessary to clean them daily. Dirt substrates in outdoor planted exhibits should be raked and spot-cleaned daily. Footbaths should be used prior to entering and exiting all felid enclosures, or areas containing enclosures. Each should be filled with a disinfectant and its use strictly adhered to by all personnel. Appropriate controls for vermin infestation should be maintained.

Nutrition - The nutritional needs of small felids is well understood and the following summary by Mary Allen is offered (from Wildt, Mellen and Seal, 1992, pp 24-25).

"In general, wild felids share the same nutritional requirements as the domestic cat, although there is evidence that some species differ with respect to selected nutrients. Nonetheless, from a comparative perspective, wild felids are relatively easy to maintain nutritionally. The advent of commercially-prepared, nutritionally complete diets have alleviated earlier reports of bone disease, common when cats were solely fed muscle or organ meats. Although well-balanced, these frozen meat-based products have several inherent problems. First, Vitamin A is present in exceptionally high concentrations. The domestic cat requires fewer than 10,000 (IU)/kilogram (kg) of dry matter (DM). Some commercial preparations contain 48,000 IU/kg DM. This is some evidence that liver damage in the cheetah may be related to excessive dietary intake of vitamin A. Because these products are well-fortified with other micronutrients, additional vitamins and minerals should not be supplemented. Secondly, fat content in these products usually is in excess of 35% DM. Obesity in zoo-maintained cats may be due, in part, to excessive dietary intake of fat contained with insufficient physical activity. Third, these foods are typically soft when thawed. Soft diet consistency may contribute to poor oral health. Evidence suggests that feeding bones with meat attached, 2 days/week, may help provide physical stimulation to teeth and gums. The provision of small, whole vertebrate prey (mice, rats, rabbits) twice/week will provide similar benefits to small-sized cats. And lastly, these meat-based diets are highly subject to spoilage. Thawing under

refrigeration and delivery in insulated containers will check the growth of potentially harmful microbes.

Other methods of feeding also can present problems. For example, it is well-recognized that leopard cats fed a specific canned felid diet (formulated to meet domestic cat requirements), developed severe optic problems eventually traced to a taurine deficiency. In cases where muscle or organ meat comprises the bulk of the diet (for instance in institutions with "performing cats"), vitamin and mineral deficiencies can occur.

Based upon present knowledge, it can be concluded that inadequate nutrition does not appear to be affecting the health or reproductive fitness of most wild felids in captivity. Nonetheless, there are serious recommendations to be made, all of which should be adhered to at the institutional level. These include:

1. offering vitamin and mineral supplements only if the bulk of the diet consists of muscle or organ meats (appropriate types and amounts of supplements include 2 kg muscle [horsemeat], 15 g of steamed bonemeal and 1 Centrum @ tablet [vitamin/mineral source]).
2. providing detailed instruction to keepers as to the proper thawing, delivery and handling of foods highly subject to spoilage.
3. instituting a system for occasionally changing the diet and maintaining detailed records and dietary histories.
4. considering the regular use of a whole prey and/or bones with meat attached both for oral health and to stimulate natural eating behaviors."

Traditionally, captive felids have been fasted one day per week. While this method may be appropriate for larger cats, it is inappropriate for smaller felids. Fast days are NOT recommended for cats under 10 kg (22 lb).

VETERINARY CARE

Quarantine - Small felids are especially susceptible to diseases of the domestic cat and all newly arrived felids should be quarantined at least 30 days prior to entering the collection area. For cats originating from the wild or a range country source, the quarantine period should be extended. Beyond basic tests (CBC, serum chemistry panel, serum banking, and physical exam), serology testing for Feline Immunodeficiency Virus (FIV), Feline Infectious Peritonitis (FIP), Feline Leukemia Virus (FeLV), and Toxoplasmosis should be completed before the animal is mixed with other specimens. Three negative fecal checks

should be completed, and the animal treated for external parasites (fleas, ticks, ear mites, etc.), if present.

Vaccinations - Adult felids should receive annual vaccinations against feline distemper (panleukopenia), rhinotracheitis, and calicivirus (FVRCP), semi-annually if practical. Killed products are best. They should also receive prophylaxis against rabies, annually or at three year intervals, depending on the product used. Only killed rabies vaccines should be used for cats. In areas where tetanus is endemic, felids should be vaccinated for this disease on an annual basis. Felids are also susceptible to non-specific diseases such as tuberculosis.

Kittens should be vaccinated with killed (FVRCP) (Fel-o-vax) vaccine at 6-8 weeks, and receive a series of four immunizations every three weeks as well as when six and 12 months old. Young should also be given rabies vaccine at 4-6 months if a risk of exposure is present.

Fecal exams - A minimum of two fecal examinations are recommended per year, and appropriate parasite therapy instituted as necessary.

LITERATURE CITED

- Bekoff, M; Daniels, T.; and J. Gittleman 1984.
Life history patterns and comparative social ecology of carnivores. ANNUAL REVIEW OF ECOLOGICAL SYSTEMS 15: 191-232.
- Emmons, L. 1991.
Body size and feeding tactics. Pp. 62 in THE GREAT CATS, Seidensticker & Lumpkin (Eds.). Rodale Press, Emmaus, PA.
- Mellen, J. 1991.
Factors influencing reproductive success in small captive exotic felids (*Felis ssp.*): A multiple regression analysis. ZOO BIOLOGY 10: 95-110.
- _____ 1992.
Effects of early rearing experience on subsequent adult sexual behavior using domestic cats (*Felis catus*) as a model for exotic small felids. ZOO BIOLOGY 11: 17-32.
- Shepherdson, D. 1991.
A wild time at the zoo: Practical enrichment for zoo animals. AAZPA 1991 ANNUAL CONFERENCE PROCEEDINGS, San Diego, 1991.
- _____ ; Carlstead, K.; Mellen, J.; & Seidensticker, J.
Stimulating predatory behavior improves the welfare of small cats. ZOO BIOLOGY (in press).

Sunquist, F. 1991.

The Living cats, Pp. 28-53 in THE GREAT CATS (Seidensticker & Lumpkin (Eds.)). Rodale Press, Emmaus, PA.

Wildt, D.; Mellen, J. and Seal, U. (Eds.) 1992.

FELID ACTION PLAN, 1991 and 1992, AAZPA Felids Taxon Advisory Group Regional Collection Plan and IUCN Captive Breeding Specialist Group Global Felid Action Plan, Conservation & Research Center, National Zoological Park, Smithsonian Institution, Front Royal, VA.

Wright, M. and S. Walters (Eds.) 1980.

THE BOOK OF THE CAT. Summit Books, NY.

Table 1. Weights of small cats (after THE GREAT CATS)

<u>Genus</u>	<u>Species</u>	<u>Common Name</u>	<u>Wt (lb)</u>	<u>Wt (kg)</u>	<u>Habits</u>
Cats weighing < 22 lb/10 kg					
<i>Felis</i>	<i>rubiginosa</i>	Rusty-spotted cat	2.2	1.0	arboreal
<i>Felis</i>	<i>planiceps</i>	Flat-headed cat	3.4-4.5	1.6-2.1	terrestrial
<i>Felis</i>	<i>nigripes</i>	Black-footed cat	3.3-5.5	1.5-2.5	terrestrial
<i>Felis</i>	<i>guigna</i>	Kodkod	4.5-5.5	2.1-2.5	terrestrial
<i>Felis</i>	<i>tigrina</i>	Oncilla/tiger cat	3.8-6.0	1.8-2.8	arboreal
<i>Felis</i>	<i>margarita</i>	Sand cat	4.5-6.5	2.0-3.0	terrestrial
<i>Felis</i>	<i>manul</i>	Pallas' cat	5.5-7.8	2.5-3.5	both
<i>Felis</i>	<i>catus</i>	Domestic cat	6.5-8.8	3.5-4.0	terrestrial
<i>Felis</i>	<i>wiedii</i>	Margay	5.5-8.8	2.4-4.0	arboreal
<i>Felis</i>	<i>marmorata</i>	Marbled cat	4.5-11.0	2.0-5.0	arboreal
<i>Felis</i>	<i>geoffroyi</i>	Geoffroy's cat	4.5-13.3	2.0-6.0	arboreal
<i>Felis</i>	<i>yagouroundi</i>	Jaguarundi	6.5-13.3	3.0-6.0	terrestrial
<i>Felis</i>	<i>colocolo</i>	Pampas cat	7.0-14.0	3.2-6.4	terrestrial
<i>Felis</i>	<i>bengalensis</i>	Leopard cat	6.5-15.5	3.0-7.0	both
<i>Felis</i>	<i>silvestris</i>	Wildcat	6.5-17.5	3.0-8.0	terrestrial
<i>Felis</i>	<i>jacobita</i>	Mountain cat	8.85	4.0	
Cats weighing 22-44 lb/10-20 kg					
<i>Lynx</i>	<i>canadensis</i>	Canadian lynx	19-22	8-10	terrestrial
<i>Lynx</i>	<i>rufus</i>	Bobcat	15-22	7-10	both
<i>Felis</i>	<i>aurata</i>	African golden cat	11-27	5-12	terrestrial
<i>Lynx</i>	<i>pardinus</i>	Spanish lynx	26-28	12-13	terrestrial
<i>Felis</i>	<i>viverrina</i>	Fishing cat	13-30	6-13	terrestrial
<i>Felis</i>	<i>pardalis</i>	Ocelot	15-29	7-13	both
<i>Felis</i>	<i>temmincki</i>	Asian golden cat	27-33	12-15	terrestrial
<i>Lynx</i>	<i>caracal</i>	Caracal	24-33	11-15	terrestrial
<i>Felis</i>	<i>chaus</i>	Jungle cat	9-35	4-16	terrestrial
<i>Felis</i>	<i>serval</i>	Serval	18-40	8-18	terrestrial
<i>Lynx</i>	<i>lynx</i>	Eurasian lynx	37-44	17-20	terrestrial

information from
Darrell Monte FLA.

39-5.051 F.A.C.

freshwater fishing licenses, and all other conditions and limitations regulating the taking of freshwater fish as are imposed by law or rule.

Specific Authority: Art. IV, Sec. 9, Fla. Const., 372.021, 372.57 FS. Law Implemented: Art. IV, Sec. 9, Fla. Const., 372.57 FS. History: New 6-20-90.

39-5.051 Omitted.

39-6.0011 Possession of Wildlife in Captivity; Permit Requirements.

(1) Except as otherwise provided in this Title, no person shall possess any native or non-native wildlife in captivity except as authorized by permit issued in accordance with ss. 372.921 or 372.922, F.S., and as provided in this chapter.

(2) The provisions of this chapter shall not apply to entities operating solely as research facilities, which are registered and regulated as such in accordance with Animal Welfare Act (7 U.S.C. 2131, et. seq.) and regulations promulgated thereunder.

Specific Authority: Art. IV, Sec. 9, Fla. Const., 372.021, 372.921, 372.922 FS. Law Implemented: Art. IV, Sec. 9, Fla. Const., 372.921, 372.922 FS. History: New 6-21-82, amended 7-5-84, Formerly 39-6.011, Amended 6-1-86, 5-10-87, 4-13-88, 12-19-89, 1-90.

39-6.002 Categories of Captive Wildlife.

(1) The commission hereby establishes the following categories of wildlife:

(a) Class I:

1. Chimpanzees (genus *Pan*)
 2. Gorillas (genus *Gorilla*)
 3. Gibbons (genus *Hylobates*)
 4. Drills and mandrills (genus *Mandrillus*)
 5. Orangutans (genus *Pongo*)
 6. Baboons (genus *Papio*)
 7. Siamangs (genus *Symphalangus*)
 8. Gelada baboons (genus *Theropithecus*)
 9. Snow leopards (*Panthera uncia*)
 10. Leopards (*Panthera pardus*)
 11. Jaguars (*Panthera onca*)
 12. Tigers (*Panthera tigris*)
 13. Lions (*Panthera leo*)
 14. Bears (family Ursidae)
 15. Rhinoceros (family Rhinocerotidae)
 16. Elephants (family Elephantidae)
 17. Hippopotamuses (family Hippopotamidae)
 18. Cape buffalos (*Synceus caffer caffer*)
 19. Crocodiles (except dwarf and Congo) (family Crocodylidae)
 20. Gavials (family Gavialidae)
 21. Black caimans (*Melanosuchus niger*)
 22. Komodo dragons (*Varanus komodoensis*)
- (b) Class II:
1. Howler monkeys (genus *Alouatta*)
 2. Uakaris (genus *Cacajao*)

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3. Mangabeys (genus *Cercocebus*)
 4. Guenons (genus *Ceropithecus*)
 5. Bearded sakis (genus *Chiropotes*)
 6. Guereza monkeys (genus *Colobus*)
 7. Celebes black apes (genus *Cynopithecus*)
 8. Idris (genus *Indri*)
 9. Macaques (genus *Macaca*)
 10. Langurs (genus *Presbytis*)
 11. Douc langurs (genus *Pygathrix*)
 12. Snub-nosed langurs (genus *Phinopithecus*)
 13. Proboscis monkeys (genus *Nasalis*)
 14. Serval (*Leptailurus serval*)
 15. European and Canadian lynx (*Lynx lynx*)
 16. Cougars, panthers (*Puma concolor*)
 17. Bobcats (*Lynx rufus*)
 18. Cheetahs (*Acinonyx jubatus*)
 19. Caracals (*Caracal caracal*)
 20. African golden cats (*Profelis aurata*)
 21. Temminck's golden cats (*Profelis temmincki*)
 22. Fishing cats (*Prionailurus viverrina*)
 23. Ocelots (*Leopardus pardalis*)
 24. Clouded leopards (*Neofelis nebulosa*)
 25. Coyotes (*Canis latrans*)
 26. Gray wolves (*Canis lupus*) (including wolf x domestic hybrids which are 25 percent or less domestic dog)
 27. Red wolves (*Canis niger*) (including wolf x domestic hybrids which are 25 percent or less domestic dog)
 28. Asiatic jackals (*Canis aureus*)
 29. Black-backed jackals (*Canis mesomelas*)
 30. Side-striped jackals (*Canis adustus*)
 31. Indian dholes (*Cuon alpinus*)
 32. African hunting dogs (*Lycan pictus*)
 33. Wolverines (*Gulo gulo*)
 34. Honey badgers (*Mellivora capensis*)
 35. American badgers (*Taxides taxus*)
 36. Old World badgers (*Meles meles*)
 37. Binturongs (*Arctictis binturong*)
 38. Hyenas (all species) (family Hyaenidae)
 39. Dwarf crocodiles (*Osteolaemus tetraspis*)
 40. Alligators, caimans (except American alligator) (family Alligatoridae)
 41. Ostrich (*Struthio camelus*)
 42. Cassowary (*Casuarium spp.*)
- (c) Class III: All other wildlife not listed herein, except those for which a permit is not required pursuant to rule 39-6.0022, F.A.C.
- (2) Except as provided in s. 39-6.0021, Class I wildlife shall not be possessed for personal use.
- (3) Persons possessing any captive wildlife for purposes of public display or sale shall obtain a permit as specified in s. 372.921, F.S.
- (4) Persons possessing Class II wildlife as personal use wildlife shall purchase a permit as provided in s. 372.922, F. S.
- (5) Persons possessing Class III wildlife as personal use

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Attachment 2

Action Items

The Kansas Rural Development Council can undertake any activity or project intended as a response to development issues having multi-dimensional significance. Such a response should be based on one or more of the Council's strategic principles and should result in regional, or multi-community, benefits.

Characteristics of an action item include:

- To overcome a specific regulatory barrier.
- To demonstrate an innovative economic diversification model.
- To commission a policy paper on a specific development issues.
- To convene a planning conference.
- To elevate an issue to the level of the Economic Policy Council or a congressional committee.

Process For Assistance

Ideas for action items, on a policy or a project level, are received and reviewed for Council adoption by its executive committee. The executive director is responsible for coordinating the action item review, adoption and implementation process. Council members will be called on as needed to provide assistance to this process.

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Karen McClintock, Secretary

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KRDC Members

FEDERAL AGENCIES

Environmental Protection Agency
Federal Emergency Management Agency
Federal Transit Administration
KSU Cooperative Extension Service
Rural Development Administration
Rural Electrification Administration
U.S. Army Corps of Engineers
USDA Agriculture Stabilization and Conservation Service
USDA Farmers Home Administration
USDA Forestry Service
USDA Soil Conservation Service
U.S. Department of Commerce
U.S. Department of Education
U.S. Department of Health and Human Services
U.S. Department of Housing and Urban Development
U.S. Department of Labor
U.S. Small Business Administration
U.S. Department of Veterans Affairs

STATE AGENCIES

Governor of Kansas
Kansas Board of Regents
Kansas Department on Aging
Kansas Department of Commerce
Kansas Department of Education
Kansas Department of Health & Environment

Kansas Department of Human Resources
Kansas Department of Social and Rehabilitation Services
Kansas Department of Transportation
Kansas Department of Wildlife and Parks
Kansas House of Representatives
Kansas, Inc.
Kansas Senate
Kansas Small Business Development Centers
Kansas State Board of Agriculture
Kansas State Historical Society
Kansas Value Added Center
Kansas Water Authority
Kansas Water Office
State Library

OTHER

ORGANIZATIONS
Certified Development Companies/Regional Economic Development Districts

Farmer's Union
Huck Boyd National Institute for Rural Development
Kansas Association of Counties
Kansas Bankers Association
Kansas Farm Bureau
KTEC and MAMTC
League of Kansas Municipalities
Tribal Nations

PRIVATE SECTOR
Utilities, business and agriculture

Kansas Rural Development Council



Serving Rural Kansans

attachment 3

Steve Bittel
1-31-05

Kansas Rural Development Council

The Kansas Rural Development Council (KRDC) is a 62-member organization created to strengthen the economy and enhance quality of life for rural Kansans. The membership is comprised of heads of federal agencies in Kansas, Kansas agency heads, and local government and private sector representatives.

KRDC was organized in November 1990 as part of the White House Rural Development Initiative Program. Kansas is one of eight states chosen to pilot the program. By the end of 1992, thirty-six states are expected to be in this program. The overall mission of the White House Program is to: Improve the economic and social well-being of the nation's rural people by strengthening the capacity of rural America to be competitive in a global economy. The charge for the Council to achieve this is:

- Foster an environment to create intergovernmental and interdepartmental senior-level partnerships to collaborate with the private sector in program development and resource allocation to rural citizens.
- Develop a long-term strategic approach to rural development.
- Identify and resolve barriers to rural development.
- Ensure that the benefits of rural development are shared by all rural citizens.

Mission

The mission of KRDC is to provide a framework within which public and private sector resources can be used to promote rural development. The Council will serve as a forum for effective collaboration between the various entities to meet the needs and identify issues affecting rural Kansas. The Council will provide leadership in making strategic use of available resources to achieve short and long term rural development. In addition, the Council will serve as a focal point for identifying and addressing interdepartmental and intergovernmental barriers to implementing a long term rural development strategy.

Goals

- Retain and develop quality job opportunities in rural areas.
- Facilitate development of plans for providing reasonable access to appropriate levels of health care for residents of rural communities.
- Promote greater access to debt and equity capital for credit worthy rural businesses.
- Facilitate and encourage leadership development for present and new rural leaders, volunteers and local government officials.
- Enhance communication, coordination and cooperation between and among rural service providers.
- Make the latest technological advances in telecommunication available to rural communities.
- Increase the fiscal capacity for local economic development through cooperative agreement and, where feasible and locally acceptable, coordination of services.
- Facilitate the coordination of state and federal activities in the implementation of the state water plan.

KRDC is not just another agency to be dealt with when solving local problems. KRDC has no money to lend and will not tell you what to do. Programs will still be administered through appropriate service providers.



What does this mean to rural Kansans?

- KRDC members know each other on a first-name basis and, through continued interaction, they develop a rapport that becomes very useful when working with issues that involve several different agencies and units of government.
- Since KRDC represents most of the public resources available to rural Kansans, it can more readily pool resources to increase efficiency in delivery.
- With local government and private sector representation, KRDC is better informed of local problems and can better respond to these needs.

KANSAS RURAL DEVELOPMENT COUNCIL

General Purpose: To make government more accessible to rural citizens

Structure: 72 members representing Federal, State and local government and private sector --- all nonfederal members are appointed by the Governor

Established by a Memorandum of Understanding between Governor and U. S. Department of Agriculture --- 39 states have councils

Primary Accomplishments:

Halstead Flood Project --- mediated impasse between Corps of Engineers and National Historic Trust

- * saved \$120,000 on contract delay clause
- * involved Senator Dole's Office and Congressman Glickman's Office as well as Historical Society and city government

Banner Creek Project --- moved up funding for detention dam for wholesale water district and delayed section Highway 75 upgrade

- * saved \$240,000 on bridge design for highway
- * involved U.S.D.A. Soil Conservation Service, Kansas Department of Transportation, Jackson County and City of Holton

Single Loan Application --- KRDC has been working on this project for the past two years --- the purpose is the development of an application that fits

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all financial programs. The SBA 7(a) (the most commonly used public assistance program) has been that single application form. All other forms are supplemental. Currently a demonstration program using this form is being assembled.

Kansas Leadership Directory --- KRDC with the assistance of Fort Hays State University printed a directory of over 150 current leadership programs in Kansas. This directory includes program descriptions, objectives, curriculum outline and contacts for adult, community based and professional programs. The Kansas Leadership Directory can be found in community libraries, chambers of commerce and economic development offices throughout the state.

High Plains Trade Satellite Conference --- With a \$10,000 grant from U.S.D.A. Economic Research Service. KRDC and the Huck Boyd National Institute for Rural Development conducted a conference on trade potential in the plains region. Recognized national and regional experts discussed the potential of international trade along with specific issues needing to be resolved. SRDC's participating: Texas, Oklahoma, Nebraska, South Dakota and Colorado.

Job Training Study --- KRDC obtained a \$20,000 grant from U.S.D.A. Economic Research Service to help Kansas Inc. with the rural segment of the job training and retraining study in the State. The counties involved are Ellis and Graham in the west and Allen, Wilson, Bourbon, Crawford, Neosho, Woodson, Montgomery, Labette and Cherokee in the southeast. The study was completed in November, 1994.

Data-Base Project --- Stand alone menu driven computer program listing 280 State and Federal programs. One copy is available through INK and the remainder of the diskettes have been distributed to cities, counties, Chambers of Commerce, Economic Development Offices, county extension officers, regional groups and etc.

Current Projects:

Timber Inventory --- Working with State Forestry and National Forestry Officials on the development of a timber inventory in Kansas. KRDC's role has been and will continue to work with the timber utilization experts and private land owners to get the best value added processing of the resource ... timber bridges, dimension mills and etc.

Trade Development Inventory --- An outgrowth of the High Plains Trade Conference has been an inventory of international trade assistance programs available in the plains region. This inventory and a series of recommendations was conducted by the Huck Boyd National Institute for Rural Development and KRDC with financial banking by U.S.D.A. Economic Research Service. The inventory was completed in October, 1994.

Rural Capital Formation --- The Council is presently developing a financial data-base to be used by people working with small businesses. This data-base will have all public assistance programs dealing with finance. The difference between this and the original data-base will be the amount of

data available per entry. The Council is also working with other SRDCs in the region to resolve barriers to rural finance.

Beginning Farmer Programs --- The Council is working with the various State and Federal Agencies engaged in young farmer programs. The purpose of this group is to:

- 1) market all programs under one package, and
- 2) develop recommendations to make the program more effective.

Rural Housing --- One of the greatest problems facing many rural towns is the lack of housing. KRDC has implemented a task force to help communities facing housing shortages. The emphasis is on moderate income single family dwellings. The task force:

- * Developed a matrix of current programs.
- * Conducted a Housing Forum in Southeast Kansas, hosted by Mid-America Inc. --- Fourteen program managers representing six agencies were presenters at the forum.
- * Six housing conferences are scheduled for early 1995.

1995 Action Agenda

Six Rural Housing Conference designed to help communities use existing financial programs and also alert them to available resources.

- * Fort Scott, Kansas; Thursday, February 2, 1995
- * Manhattan, Kansas; Tuesday, February 14, 1995
- * Atchison, Kansas; Wednesday, February 15, 1995
- * Hays, Kansas; Tuesday, February 28, 1995

- * Colby, Kansas; Wednesday, March 1, 1995
- * Garden City, Kansas; Thursday, March 2, 1995

Three public forums designed to inform rural Kansans on environmental issues. These forums will cover water, wetlands and value-added agriculture products.

Update KRDC data-base and expand the programs listings.

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