Volume 47, Issue 4 July/August 2003

FCF

Feline Conservation Federation

Feline Conservation Federation

This newsletter is published bi-monthly by the Feline Conservation Federation, Inc. We are a non-profit (Federal ID# 59-2048618) noncommercial organization with international membership, devoted to the welfare of exotic felines. The purpose of this newsletter is to present information about exotic feline conservation, management and ownership to our members. The material printed in this newsletter is contributed by our members and reflects the point of view of the author but does not necessarily represent the point of view of the organization. FCF, Inc.'s Statement of Intent is contained in our bylaws, a copy of which can be requested from the Secretary. Reproduction of the material in this newsletter may not be made without the written permission of the original copyright owners and/or copyright owner FCF. Since the newsletter consists primarily of articles, studies, photographs and artwork contributed by our members, we encourage all members to submit material whenever possible. Articles concerning exotic felines are preferred and gladly accepted. Articles involving other related subjects will also be considered. Letters and responses to articles may be included in the Readers Write column. Deadline for the next issue is the first of even numbered months. Please submit all material to the Editor. Persons interested in joining FCF should contact the Term Director in Charge of Member Services.

Members are invited to participate in e-mail list discussions on-line at The_FCF@yahoogroups.com.

To sign up, contact Leann Montgomery, Member Services Director

The newly updated FCF web site is available at www.felineconservation.org

Cover: Little Dove Bobcat resides at Wildlife on Easy Street, a Florida sanctuary. Read Carolyne Clendinen's account of life and enrichment at WOES on page 10.

Bobaloo Bobcat thinks the best thing about holidays is the neat toys she gets to play with afterwards. Fishing for Easter Eggs is always fun!

In this issue...

Special Thanks to Alan Shoemaker, Ellen Dierenfield, Scott Amsel, Kermit Blackwood, Jessi Clark-White and Timothy Mallow, all for sharing their expertse in their fields.

Classified

All ads in this publication are void where prohibited by law. All transactions are between buyer and seller. All buyers and sellers must have proper licenses and permits for all animals offered for sale or sold. FCF, Inc. does not necessarily endorse or guarantee the honesty of any advertiser. FCF, Inc. reserves the right to edit or reject any subscription ad. No blind animal ads will be accepted. Only FCF members may place ads listing cats for sale. Adoption ads are free of charge for cats that need good homes where no money is involved in the transaction. All ads must contain the name of business or individual advertising. Ads must state whether the individual is a private owner or broker. Full current address with a phone number must be stated in the ad.
Ad rates for submitted photo-ready ads:
2 inches x 3.5 inches (business card size): $10.00

DISCLAIMER:
We cannot guarantee the printed quality of digital photographs. Please submit actual photographs or check with the editor regarding standards for electronic submissions whenver possible.

Caracal and bobcats--litterbox and littermates

Feline Conservation Federation, Inc.
Volume 47, Issue 4—July/August 2003

Editor's note: This issue of the newsletter focuses on the bobcat. Future issues will also have a specific focus on one species or group of wild cats.

The Bobcat

Dr. Tim Mallow gained his Master's Degree in Biology from the University of Central Florida, Orlandoin 2002. His thesis was Ecology of the bobcat in the Mallory Swamp, University of Central Florida, Orlando. 285 pages. Currently he is a PhD Candidate at the Florida Institute of Technology, Melbourne and he holds both a MSEE Degree from the Florida Institute of Technology and a BSEE Degree from the University of South Florida, Tampa. His current position is Director and Wildlife Biologist for the Coryi Foundation, Inc. Research, Conservation, and Education, 3715 Felda Street, Cocoa, Florida 32926. www.coryi.org

Dr. Mallow has authored many reports on both bobcat and Florida panther ecology for the Coryi Foundation, having spent the past ten years in the field studying wildlife biology and ecological research. His many published works and his involvement in public education and community conservation reflect his varied research interests that include population viability and survival, ecological modeling of populations, predator-prey dynamics, and extinction rate scenarios, bioenergetics, nutrition and reproductive potential, Micro-evolutionary genetic adaptation as it relates to small populations, landscape ecology of wildlife corridors in the promotion of gene flow and population demographic stability, effects of habitat fragmentation and habitat loss on population stability, animal community composition, gene flow, and juvenile dispersal, effects of interspecies transmission of disease between wildlife and domestic animals in the suburban-wild land interface zone and prevalence of depredation by wildlife on domestic animals, including attacks by large carnivores on humans. Dr. Mallow plans to enter a PhD program in biology at the University of Central Florida under the auspices of Dr. Reed Noss, Consulting Editor of Conservation Biology Journal and a past president of the Society for Conservation Biology. Dr. Noss has published extensively and is well known in conservation biology circles. He also served on Dr. Mallow's Master's committee.

We wish to express our deep appreciation to Dr. Tim Mallow for authoring both the Bobcat Natural History account of tracking a wild bobcat in Florida for the Feline Conservation Federation Newsletter. All photos used in this article are the property of Timothy John Mallow and are copyright protected.

LIFE HISTORY OF THE BOBCAT

by Timothy John Mallow, Coryi Foundation, Inc.

INTRODUCTION

The Bobcat (*Lynx rufus*) is a warm-blooded, solitary, and territorial predator mammal that is also regarded as a large carnivore by virtue of its wide-ranging travels and predatory effects. It is one of four species of felines that can currently be found in North America. Other species include the cougar (*Felis concolor*), Canadian lynx (*Lynx canadensis*), and jaguar (*Panthera onca*). A few other feline species can be found in North America such as the jaguarundi (*Felis yagouaroundi*), ocelot (*Felis pardalis*), and margay (*Felis wiedii*). But *F. concolor*, *L. rufus*, and *L. canadensis* dominate the landmass north of the Mexican border, with the first two existing in the largest populations in the United States. Bobcats are most genetically related with the Canadian lynx, Iberian lynx (*Lynx pardinus*), and Eurasian lynx (*Lynx lynx*). There is on ongoing debate among phylo-geneticists as to other species' inclusion in this group. But what is significant about this grouping is that it is thought that these 4 species had originated from a common ancestor and that it was partly the result of the pangaea breakup that they had speciated. (The continental land mass that existed when North and South America were geologically sutured with Europe and Africa is referred to as pangaea.]

Akbar's Skull. Mallory Swamp, FL
Died of unknown causes in the wild

Not as big as a panther, but about the size of a medium-sized dog, male and female bobcats average 99 cm (39 in.) and 92 cm (36 in) in length, and 11 kg (24 lb.) and 7 kg (15 lb.) in weight, respectively. Weights and sizes vary across their range with male bobcats in some western states approaching 60 pounds. They are most easily identified by their short tails, which are about 14 cm (5.5 in.). The pelt is short, soft, and dense. Its color is dark brown with black spots and bars most visible along the sides and legs. The backs of their ears are white with a black

outline. The ventral surfaces are generally white or off-white.

Bobcats can be found in most states in the country with some gaps of distribution in the Midwest. Looking similar in appearance and genetically related to the Canadian lynx, the northern end of the bobcat's range overlaps with the southern end of the lynx range near the Canadian border. Compared to a lynx, a bobcat has shorter legs and smaller feet. Due to its greater abundance in the US, the bobcat does not experience wide spread threat of extinction as a cougar, but some states have recently classified it as endangered and with urban sprawl, local populations are disappearing.

SOCIAL STRUCTURE AND TERRITORIES

Bobcats are territorial and solitary. Each adult maintains and defends an intra-sexually exclusive home range. By intra-sexual exclusiveness, it is meant that bobcats of the same sex do not generally share the same home range. But male ranges tend to overlap more with each other than female ranges. This is considered by some to be the result of greater territoriality among females that have to more diligently defend a range for the purposes of insuring adequate food resources for kitten rearing. Males on the other hand, appear to spend more energy travelling far and wide in order to increase breeding opportunities. Territoriality between females and males is not evident and ranges of males and females overlap extensively. Social interactions among bobcats are infrequent and brief. Except when adults come together to mate, or when a female is raising kittens, each bobcat remains alone throughout its life.

Home range sizes vary widely across the range of distribution. As an example, male home range sizes in Florida average 4900 acres and female ranges average 2900 acres. In Wyoming, ranges can be much larger and in some places in southern California, much smaller. Home range sizes for both sexes strongly depend on the enclosed quality of habitats and prey availability. In general, the higher the quality of habitats, the higher the prey densities, and the smaller the home ranges. And in areas with high quality habitat, competition for territories among females appears more intense than in areas of poor quality habitat. Because female ranges are smaller than male ranges, a male has access to two or more females in his range with which he can mate. Strict monogamy among bobcats has not been observed. Males with large ranges that encompass those of several females have been observed to mate with the different females in those ranges with no apparent regard for monogamy.

Home ranges are loosely elliptical in shape and boundaries often follow roads, streams, or other natural contours. Boundaries, as well as range sizes, do shift seasonally. For instance, males tend to expand their boundaries during the breeding season in order to maximize the opportunities to find a mate. When rearing young kittens during peak breeding months, females tend to use smaller areas because of the need to feed and protect their litter. This is why high quality habitat is more important to females – a prey rich area allows fewer long distant forays for food. Sometimes, an adult bobcat will expand or shift its range into an adjacent range if that adjacent resident adult has died. A transient adult (one without a well-defined home range) or dispersing sub-adult can also occupy a recently vacated range.

Bobcats maintain and defend their ranges with the use of territorial markers. These markers consist of urine, feces, scrapes, and tree scratches placed along the perimeter and within the interior of the range. They are typically placed in open and conspicuous places such as in the middle of trails and dirt roads. The objective of this marking behavior is to advertise that the resident occupies this area. If bobcats did not mark their ranges, then other cats would not know a range is occupied. As a result, these other cats would enter and consume the prey of that range. Eventually, the prey could completely disappear as the result of predation by a high number of predators. If this was happening in every range, the bobcats in an area could starve. Thus, marking is a way to conserve food resources. It is also thought to be a means of avoiding confrontations. When a bobcat approaches a well-marked boundary, it is less likely to wander beyond its range. Like other solitary felids that maintain territories, bobcats also rely on the markings to identify range boundaries in order to avoid combative encounters with a neighboring resident. Wounds acquired as the result of a fight can result in fatal infections and marking is thought to have evolved to prevent this.

Urine and fecal markings are usually deposited in conjunction with a scrape. A bobcat creates a scrape by raking its hind paws rearward in order to build a pile of debris consisting of leaves, twigs and dirt. The urine or feces is then deposited onto the top of the pile. In this way, the marker is elevated so that a breeze can carry and spread the odor. Tree scratches are made at a height of about two feet above the ground on the trunks of trees. Not only do the vertical scratches made by the cat's claws leave a visual marker, but they also leave a scent on the tree that originates from sweat glands in the paws. It is thought that scratching a tree also helps to remove loosened claw sheaths, and not to sharpen claws.

Like other cat species, when a bobcat approaches the scent mark of another, it raises its head with its mouth half-opened, and upper lip slightly withdrawn. This look gives the cat a grimacing or growl-like appearance. It will stand still, rotate its head, or appear to be staring. This behavior is called "flehmen". They will exhibit the flehmen expression after smelling any unusual odor. When they do this, they are not expressing any anger suggested by the growl-like look, but in fact activating an organ in the roof of the mouth behind the incisors. This organ is called the vomeronasal organ (VNO) or Jacobson's organ. One can see the openings to the VNO on a domestic cat. They are two small holes in a slightly raised area on the roof. This organ allows the cat to detect molecules of substances called pheromones. Pheromones are too heavy to be detected by typical nasal methods. Pheromones are found in the marking and birth fluids of cats. They provide a way that cats can identify each other more closely or determine if a female is in estrus.

BREEDING AND DISPERSAL

Mating usually occurs from the late fall to early winter. Courtship and mating usually last one to two days. During this time, the male and female will travel, hunt, and eat together. After mating, the pair will separate and go their separate ways.

Gestation lasts from 63 to 70 days, after which a female gives birth to two or three kittens. Births usually peak in the late winter or

Atlas, Eastern Florida Flatwoods

early spring. However, mating and births can occur in any month of the year. Litter size and pregnancy rate may depend on the age of the female and the availability of prey. Kittens will nurse from the dam (mother) for about two months, after which they will be introduced to solid food. From about five months on, the dam will teach her kittens how to hunt for food. From eight to eleven months of age, the dam will abandon her kittens and/or evict them from her home range. She probably does this because she has become pregnant with a new litter and does not want her older kittens from the previous year to harm her new kittens when they are born. The resident adult male of her range also often chases off these older juveniles.

When the juveniles are evicted from their mother's home range, they will initiate what is called dispersal - the process of leaving their natal range to strike out on their own in search of their own home range. During the eviction phase, juveniles sometimes remain at an edge of their mother's range for a period of one to two months, exhibiting very little movement. Eventually, they will move out of their natal range into new and unknown territory. During dispersal, juvenile bobcats can travel as far as 182 km (113 mi.) over several months before finding a vacant home range in which to settle.

The movement patterns during this time are nomadic and characterized by small, temporary areas of activity which can be occupied for one to two months, before the juvenile moves on. A dispersal pattern can occur in a specific direction, an arc, or a combination therein. In general, it is a wandering type of movement. The time and distance of dispersal depends on the density of bobcats in a population and the rate of adult turnover. The higher the population density and lower the adult death rate, the farther and longer will be dispersal because of the low probability associated with finding a nearby vacant range.

At the onset of dispersal, males are roughly 60% their adult weight, and females are about 100% their adult weight. Male bobcats become sexually mature (and can therefore reproduce), and reach their adult weight by their second winter of life. On the other hand, female bobcats reach their adult weight and can reproduce before the breeding season of their second year. Males disperse much farther than females because of the larger ranges they must establish.

PREY AND NUTRITION

Bobcats are strict carnivores and prey upon a wide variety of mammals, reptiles, and birds. In Florida they consume as many as 40 different species of animals. Prey types include cottontail and marsh rabbit, cotton rat, rice rat, wood rat, cotton mouse, golden mouse, Florida mouse, squirrels, moles, voles, shrews, deer, hog, opossum, raccoon, bobwhite, blue jay, meadowlark, robin, thrasher, moorhen, coot, house wren, Carolina wren, cardinal, sparrow, and even pygmy rattlesnake. Because of this wide selection of prey, they can be considered generalists - animals that feed off many different types of other animals. However, in Florida, 68-72% of their diet consists of rabbits and rats. In fact, because of this high preference for these types, they are also considered small mammal specialists in that state. In Florida, bobcats rarely kill and consume deer. In the north, especially during the winter, when snow restricts the movements of small mammals, bobcats rely more heavily on deer for food. When a bobcat kills a deer in the winter in the north, it can provide food for the bobcat for several days because it is kept fresh by the snow and freezing temperatures. However, in Florida, like the rest of the southeast, temperatures rarely remain below freezing for very long. Thus, deer carcasses cannot stay fresh for more than a day. Because of this, Florida bobcats rely more heavily on smaller animals.

Because these smaller mammals provide less meat than a deer, they have to consume a lot of them. It is estimated that a female bobcat and the three kittens to which she gave birth at the beginning of her second year of life will consume at least 3800 cotton rats, 700 cottontail rabbits, and 3200 cotton mice by the end of her second year. All this prey must be within her home range. Additionally, the adult male bobcat and all the other predators (birds, snakes, foxes, coyotes, etc.) using her range will be consuming many of these prey types as well. In turn, the prey populations must reproduce fast enough and be of sufficient density to avoid being eliminated by all this predation. The highest predation rates occur on prey species that reproduce rapidly. Conversely, bobcat predation helps regulate prey populations. Bobcat population numbers also fluctuate in accordance with annual fluctuations in prey abundance. In essence, a shortage of prey will weaken reproductive potential because of a drop in the consumption of nutrients critical to reproduction.

Like most mammalian terrestrial carnivores, bobcats possess teeth that are specialized for the acquisition and consumption for prey. In all, they have 28 teeth. Upper (2) and lower (2) canines are primarily used to kill prey. Conical in shape, upper and lower canines average 2.2 and 1.5 cm for males, and 1.6 and 1.3 cm for females, respectively. They are extremely effective in severing the spinal cord of small prey or delivering severe puncture wounds to a person or an attacking animal. Their roots are about as long as the exposed crown. The supporting sockets in the jaws, especially the upper, consist of strong thick bones in order to accommodate the massive force

exerted during a bite. From 13 to 18 months after birth, the apical foramen of the root of the canines completely closes. The apical foramen is the opening at the end of the root through which the main nerve passes from the jaw to the tooth. When it closes, the main nerve in the root essentially degenerates. Occasionally, a bobcat may break a portion of the tip of the canine when capturing prey. But because the root has closed off, pain is not as severe and may help to avert abscession. This can be viewed as an advantage for survival in the wild. Though canines are extremely important for killing prey and loss of canines can yield the bobcat less efficient in obtaining food, an abscessed tooth can be fatal. Upper (6) and lower (6) incisors are useful for plucking away the skin of prey. Upper (4) and lower (4) premolars and upper (2) and lower (2) molars are used to crunch bone and shred meat. They are generally broad and jagged. These teeth are located closest to the pivot point of the jaw. Thus, the greatest mechanical leverage is imposed on them.

Bobcats generally consume all the portions of small prey. The exception would include rabbits. Rabbit hide and portions of the digestive tract are typically discarded. Of importance in consumption is the acquisition of vitamin A. Cats appear to not be able to convert pro vitamin beta-carotene into fat-soluble vitamin A (retinol). Thus, all vitamin A must be acquired from the liver, lungs, kidneys, or adrenals of prey. A lack of vitamin A could lead to egg implantation failure in females. This would reduce conception rates. It may be the reason that conception rates are relatively low in areas where bobcat densities are high, where over-predation leads to a shortage of prey-derived vitamin A. This acts as a feedback mechanism to help prey numbers recover. Cats in general also require a high protein diet and because of mechanisms associated with nitrogen processes in feline metabolism, cats cannot utilize vegetable sources of protein, even when prey sources are low.

MOVEMENTS AND ACTIVITY

Bobcats are extremely active. They spend about 75-85% of their time moving. When they do rest, they only spend an average of two to three hours at any single rest site. They can move as fast as 10 km (6.2 mi.) in 24 hours. The bulk of the longer movements occur around dawn and dusk. During midday and around midnight, they move the least. This type of activity is what is called crespucular or bimodal. Movements may be classified as foraging or long distance. Foraging movements take place in habitats that are prey-dense. They are highly localized in a relatively small area. On the other hand, long distance movements serve to get the bobcat from one end of its range to the other in order to mark it, locate other areas possessing dense prey, or in the case of males, to find females in estrus.

A typical movement pattern in a 24-hour period can consist of the following: resting in a secluded and comfortable day bed from 11AM to 3PM; localized foraging from 3PM to 5PM; long distance movement from 5PM to 9PM; resting and localized foraging from 9PM to 11PM; long distance movement from 11PM to 1AM; rest from 1AM to 3AM; long distance movement and foraging from 3AM to 9AM; rest from 9AM to 11AM. Because of all this movement, bobcats expend a lot of energy. It is estimated that males and females expend a minimum of 1,121,000 and 738,000 calories of energy over a 24-hour period, respectively. Contrast this with the amount of calories an average human takes in per day. This amount of energy must be derived from the prey sources found within a bobcat's range.

Isabella, Mallory Swamp, FL
May 1996

HABITATS

The kinds of habitats that bobcats prefer strongly depend on prey availability. However, protection cover from severe weather, suitability and availability of cover for rest and den sites, sufficient cover for foraging and evasion from danger, and freedom from disturbance are additionally important. Thus, habitats that promote prey densities and cover are ideal for bobcats.

However, small mammals, which bobcats prefer, occur in greatest numbers in habitats which possess a lot of young vegetative growth, sparsely located trees and shrubs, and ample grasses, forbs, and herbs. These kinds of habitats are called early successional communities. Unfortunately, these habitats can be deficient in cover. Conversely, older habitats (late successional areas) or those that are forest-dense in trees and shrubs are abundant with cover, but less abundant in small mammals, because of the lack of herbaceous growth. Thus, a landscape that has a spatial mix of young and old habitats would be ideal for bobcats. Such a mix provides high densities of preferred prey sources (early successional areas) near the cover bobcats like (late successional areas). Typically preferred habitats include mixed hardwood swamps, pine Flatwoods, upland hardwood forests, hardwood hammocks, old fields, farmlands interspersed with heavily wooded forests, riparian forests, etc.

As far as prey goes in places like Florida, pine Flatwoods and early successional areas contain cotton rats and cottontail rabbits, forest swamps contain cotton and golden mice, and agricultural areas contain rabbits and rats. Edges of forest swamps with Flatwoods appear to be particularly favored. These edges are called ecotones. Species from the habitats on both sides of the edge coexist at the edge and thereby provide bobcats with a higher abundance and diversity of prey in a relatively small area as compared with the interior of a single habitat. This pattern of resource use can be found throughout North America.

Dens must adequately provide security and comfort for a bobcat. Such includes security from outside intrusion from other animals or people. Dens must also help the bobcat cope with extreme temperatures. During the hotter summer months, shade is important. During the coldest nights of winter, a den must possess sufficient vegetation to help thermally insulate a bobcat from the cold. Dens can be dense vegetation thickets, brush piles, or hollow dead trees. Where they exist, thickets of any vegetation are favored for denning. In Florida, this is largely palmetto.

Females tend to use higher quality habitats more than males, because they have the need to obtain a lot of prey from smaller areas when rearing kittens. Such helps to offset the high energetic demands of providing for dependent kittens. However, during the first few months of life, kittens are vulnerable to predation by other animals. Thus, natal dens need to be especially well concealed deep enough into a forest. It is also because of these reasons that natal dens can frequently be found in thick vegetation that is relatively near a prey dense habitat. Such makes life easier for the mother.

MORTALITY

The King's Girl, Mallory Swamp, FL
December 10, 1996
Killed by an automobile June 11, 1997

Bobcats die as the result of many causes. The leading cause of death may be hunter-induced. However, causes of death can be due to predation by other animals, collision with automobiles, starvation, and disease. Hunter-induced mortality (hunting and trapping) can account for as high as 67% of deaths. This cause of mortality peaks during winter months in areas where bobcat hunting is legal. A number of wild animals occasionally prey upon bobcats. Cougars infrequently kill bobcats and coyotes have been known to prey upon kittens. Collision with automobiles appears to be increasing as a result of urban encroachment into bobcat habitat. High-speed roads that are constructed to link communities across large natural areas bisect home ranges. As a result, bobcats in remote areas that have never encountered vehicles and roads, and then unwarily wander onto a road at the wrong time, are often hit by a vehicle. Male juveniles suffer the greatest death rates by cars as a result of their wide-ranging dispersal movements.

Starvation probably peaks in the winter and early spring when prey populations are the lowest. Juveniles are particularly vulnerable during this period since it coincides with weaning. Diseases may be predisposing factors contributing to bobcat mortality, but are generally not a major cause of death. Exceptions would include epidemic proportion outbreaks. Feline panleukopenia has been implicated in the near decimation of a population in south-central Florida. Ironically, this disease can be contracted from domestic cats.

Bobcats that encounter feral or free-ranging house cats that venture outside an urban area or live in a rural setting are at the highest risk. Such may be a common occurrence in severely fragmented populations. Rabies might be another decimator of bobcat populations.

Survival rates generally increase with age in young bobcats, which reflects greater foraging efficiency with age and experience. Mortality can have consequences that reach beyond the death of the individual. When a mother is killed, orphaned kittens that are less than five months old have little chances for survival. The younger they are, the easier they can succumb to starvation or predation.

Ntwadumela, Mallory Swamp, FL on August 5, 1996
Killed by a hunter Nov 13, 1996

POPULATION VIABILITY AND ECOLOGICAL STABILITY

Because of the territorial nature exhibited by bobcats, land is partitioned in much the same way as humans occupy property and houses. This territorial feature coupled with the solitary occupation of ranges and the large sizes of those ranges dictates that a lot of wild land must be left intact in order to meet the needs of a population. It is estimated that a viable population of bobcats needs to have 200 individuals occupying 159,000 acres of forested land with sufficient prey resources in order to insure long term persistence free of any degradable biomedical effects associated with inbreeding. Natural lands on the order of 100,000 acres in size are becoming increasingly scarce in the US. As natural landscapes continue to be rapidly lost or fragmented by urbanization, bobcat populations will gradually shrink in numbers or completely disappear locally. As a wide-ranging predator, bobcats are important components of natural systems. Loss of this predator can have pronounced effects on ecological stability. Most eastern states have already experienced a loss in numbers of major wide-ranging large carnivores such as the panther, wolf and bear. Because of the absence of these large carnivores, prey populations have increased. This, in turn, has led to an over-consumption of prey food supplies, which have destabilized many other species that are dependent on them. Thus, central to the dynamics of species extinction is the loss of habitats. If habitats continue to be fragmented or lost, the bobcat could follow the extinction path already experienced by the eastern cougar sub-species. But before that happens, many local populations in will probably disappear. Moreover, its absence as a predator of the forest will have degradable effects on other species and biodiversity.

REFERENCES

Ackerman, B. B., F. G. Lindzey, and T. P. Hemker. 1986. Predictive energetics model for cougars. Pp 333-352 in S. D. Miller and D. D. Everette, eds. Cats of the World. Nat. Wildl. Fed. Wash., D.C.

Anderson, E. M. 1988. Effects of male removal on spatial distribution of bobcats. J. Mamm. 69:637-641.

Bailey, T. N. 1974. Social organization in a bobcat population. J. Wildl. Manage. 38:435-446.

Bailey, T. N. 1981. Factors of bobcat social organization and some management implications. Pages 984-1000 in J. A. Chapman and D. Pursley, eds. Proc. Worldwide Furbearer Conf., Frostburg, Md.

Beeler, I. E. 1985. Reproduction characteristics of captive and wild bobcats (*Felis rufus*) in Mississippi. M.S Thesis, Miss. State Univ., Miss. State. 81 pp.

Brand, C.J., Keith, L.B., and C.A. Fischer. 1976. Lynx responses to changing snowshoe hare densities in central Alberta. J. Wildl. Manage. 40:416-428.

Burt, W. H. and R. P. Grossenheider. 1980. Petersen Field Guides: Mammals. Houghton Mifflin Company. Boston. MA.

Cortz, K. E. and F. G. Lindzey. 1984. Basal metabolism and energetic cost of walking in cougars. J. Wildl. Manage. 48:1456-1458.

Cox, J., R. Kautz, M. MacLaughlin, and T. Gilbert. 1994. Closing the gaps in Florida's wildlife habitat conservation system. Florida Game and Fresh Water Fish Commission, Tallahassee, Florida. 239 pp.

Crowe, D.M. 1975a. Aspects of aging, growth, and reproduction on bobcats from Wyoming. J. Mamm. 56:177-198.

Crowe, D. M.1975b. A model for exploited bobcat populations in Wyoming. J. Wildl. Manage. 39:408-415.

Erickson, A. W. 1955. An ecological study of the bobcat in Michigan. M.S. Thesis, Mich State Univ., E. Lansing. 133 pp.

Ewer, R. F. 1973. The carnivores. Cornell Univ. Press, Ithaca, New York. 494 pp.

Fendley, T. T. and D. E. Buie. 1986. Seasonal home range and movement patterns of the bobcat on the Savannah River Plant. Pp 237-259 in S. D. Miller and D. D. Everette, eds. Cats of the World. Nat. Wildl. Fed. Wash., D.C.

Fritts, S. H. 1973. Age, food habits, and reproduction of the bobcat (*Lynx rufus*) in Arkansas. M.S. Thesis, Univ. Arkansas, Fayetteville. 80 pp.

Glenn, B. L., A. A. Kocan, E. F. Blouin. 1983. Cytauxzoonosis in bobcats. J. American Veterinary Medical Association, 183:1155-1158.

Golley, F. B., J. B. Gentry, L. D. Caldwell, and L. B. Davenport. 1965. Number and variety of small mammals on the AEC Savannah River Plant. J. Mamm. 46:1-18.

Griffith, M. A., D. E. Buie, T. T. Fendley, and D. A. Shipes. 1981. Preliminary observations of subadult bobcat movement behavior. Proc. Annu. Conf. Southeast. Assoc. Fish and Wildl. Agencies. 34:563-571.

Griffith, M. A. and T. T. Fendley. 1986. Pre and post dispersal movement behavior of subadult bobcats on the Savannah River Plant. Pp 277-289 in S. D. Miller and D. D. Everette (eds) Cats of the World. Nat. Wildl. Fed. Wash., D.C.

Hall, H.T., and J. D. Newsome. 1976. Summer home ranges and movement of bobcats in bottomland hardwoods of southern Louisiana. Proc. Annu. Conf. Southeast. Assoc. Fish and Wildl. Agencies. 30:427-436.

Hamilton, D .A. 1982. Ecology of the bobcat in Missouri. M.S. Thesis, Univ. Mo., Columbia. 152 pp.

Henderson, M. T., G. Merriam, and J. Wegner.1985. Patchy environments and species survival: chipmunks in an agricultural mosaic. Biological Conservation 31:95-105.

Jordan, D. B. 1994. Identification and evaluation of candidate Florida panther population reestablishment sites. Pages 106-153 in D.B. Jordan, ed., Proc. of the Florida Panther Conference. Ft Myers, Florida.

Kier, A. B., S. R. Wightman, J. E. Wagner. 1982. Interspecies transmission of *Cytauxzoon felis*. American Journal of Veterinary Research, 43:102-105.

Kitchings, J. T. and J. D. Story. 1979. Home range and diet of bobcats in east Tennessee. Bobcat Res. Conf. Proc., Natl. Wildl. Fed. Sci. Tech. Ser. 6:47-52.

Kitchings, J. T. and J. D. Story. 1984. Movement and dispersal of bobcats in east Tennessee. J. Wildl. Manage. 48:957-961.

Kleiber, M. 1975. The fire of life: an introduction to animal energetics (rev. ed.). R.E. Krieger Pub. Co., Huntington, N.Y.

Land Acquisition Advisory Council Liaison Staff. 1992. Project Assessment: Mallory Swamp, Conservation and Recreation Lands Project. Florida Natural Areas Inventory. Tallahassee, Florida.

Langley, A. K., and D. J. Shure. 1980. The effects of loblolly pine plantations on small mammal populations. Am. Midl. Nat. 103:59-65.

Layne, J. N. 1974. Ecology of small mammals in a flatwoods habitat in north-central Florida, with emphasis on the cotton rat (*Sigmodon hispidus*). American Museum Novitates 2544:1-48.

Litvaitis, J. A., J. A. Sherburne, and J.A. Bissonette. 1986. Bobcat habitat use and home range size in relation to prey density. J. Wildl. Manage. 50:110-117.

Litvaitis, J. A., J. A. Sherburne, M. O'Donoghue, and D. May. 1982. Cannibalism by a free-ranging bobcat, *Lynx rufus*, Canadian Field Nat., 96:476-477.

Maehr, D. S. 1988. Florida panther movements, social organization, and habitat utilization. Annual Performance Report. 1 July 1987 – 30 June 1988. Florida Game and Fresh Water Fish Commission.

Maehr, D. S. 1990. Florida panther movements, social organization, and habitat utilization. Final Performance Report. 1 July 1987 – 30 June 1990. Florida Game and Fresh Water Fish Commission.

Maehr, D.S. 1997. The comparative ecology of bobcat, black bear, and Florida panther in south Florida. Bull. of the Florida Mus. of Nat. Hist. 40:1-176.

Maehr, D.S, and J.R. Brady. 1986. Food habits of bobcats in Florida. J. Mamm. 67:133-138.

Maehr, D. S. and J. A. Cox. 1995. Landscape features and panthers in Florida. Conservation Biology 9:1008-1019.

Maehr, D. S., E. D. Land, J. C. Roof, and J.W. McCown.1989. Early maternal behavior in the Florida panther (*Felis concolor coryi*). Am. Midl. Nat. 122:34-43.

Mallow, T.J. 2002. Ecology of the bobcat in the Mallory Swamp. M.S. Thesis. University of Central Florida. Orlando. 285 pp.

Mautz, W. W. and P. J. Pekins. 1989. Metabolic rate of bobcats as influenced by seasonal temperatures. J. Wildl. Manage. 53:202-205.

Mehrer, C. F. 1975. Some aspects of reproduction in captive mountain lions *(Felis*
concolor), bobcat (*Felis rufus)*, and lynx (*Lynx canadensis)*. Ph.D. Diss., Univ. N.D., Grand Forks. 155 pp.

Middleton, J. and G. Merriam. 1981. Woodland mice in a farmland mosaic. J. Appl. Ecol. 18:703-710.

Miller, S. D. and D. W. Speake. 1979. Progress report: Demography and home range of the bobcat in south Alabama. Bobcat Res. Conf. Proc., Natl. Wildl. Fed. Sci. Tech. Ser. 6:123-124.

Mohr, C.O. 1947. Table of equivalent populations of North American small mammals. Amer. Midl. Nat. 37:223-249.

Monk, C. D. 1965. Southern mixed hardwood forest of north-central Florida. Ecological Monographs 35:335-354.

Monk, C. D. 1966. An ecological study of hardwood swamps in north-central Florida. Ecology 47:649-654.

Monk, C. D. 1967a. Tree species diversity in the eastern deciduous forest with particular reference to north-central Florida. The American Naturalist 101:173-187.

Monk, C. D. 1967b. Successional and environmental relationships of the forest vegetation of north-central Florida. The American Midland Naturalist 79:441-457.

Myers, R. L and J. J. Ewel, eds.1990. Ecosystems of Florida. Univ. Of Cent. Fla. Press. Orlando, Florida.

Nava, J.A., Jr. 1970. The reproductive biology of the Alaska lynx. M.S. thesis, Univ. Alaska, Fairbanks. 141 pp.

Palmer, R.S. 1954. The Mammal Guide. Doubleday and Co., Inc., Garden City, New York.384 pp.

Powers, J. G., W. M. Pekins, and P. J. Mautz. 1989. Nutrient and energy assimilation of prey by bobcats. J. Wildl. Manage. 53:1004-1008.

Provost, E. E., C. A. Nelson, and A. D. Marshall. 1973. Population dynamics and behavior in the bobcat. Pages 42-67 in R. L. Eaton, ed. The world's cats Vol. 1. World Wildl Safari, Winston, Oreg.

Rolley, R. E. 1985. Dynamics of a harvested bobcat population in Oklahoma. J. Wildl. Manage. 49:283-292.

Seidensticker. J. C., IV, M. G. Hornocker, W. V. Wiles, and J. P. Messick. 1973.
Mountain lion social organization in the Idaho Primitive Area. Wildl. Monogr. 35:1-60.

Smith, R. L. 1992. Elements of Ecology, Third Edition. HarperCollins Publishers. New York, NY.

Taylor, C. R., K. Schmidt-Nielsen, and J. L. Raab. 1970. Scaling of energetic cost of running to body size in mammals. American Journal of Physiology 219:1104-1107.

Wassmer, D.A. 1982. Demography, movements, activity, habitat utilization and marking behavior of a bobcat (*Lynx rufus*) population in south-central Florida. M.S. Thesis, Univ. South Florida, Tampa FL. 146 pp.

Wegner, J. F. and G. Merriam. 1979. Movements by birds and small mammals between a wood and adjoining farmland habitats. J. Appl. Ecol. 16:349-357.

Feline Conservation Federation, Inc.
Volume 47, Issue 4—July/August 2003

Bobcat Enrichment

By Carolyne Clendinen

Kathy Carlstead, Ph.D. and Research Associate of the Honolulu Zoo points out that by using different enrichment techniques animals can be stimulated to investigate and explore their surroundings. This can be accomplished by presenting novel food items (or presenting food in different ways), as well as novel objects and smells. The presentation of new items and scents can help relieve boredom and improve the overall welfare of the animals. The volunteers at WildLife on Easy Street formed a committee to focus on the development of appropriate enrichment for the animals in our care. The committee decided to focus our enrichment on trying to encourage an increase in natural behaviors in our captive cats.

Being a sanctuary to approximately 170 cats and over 200 animals total, we had to decide exactly where to start. As a committee we determined the easiest way to approach our task was one species at a time. We started with our bobcats for a number of reasons. We are home to a significant number of them (over 30) at a wide range of ages. Also, they represented a variety of backgrounds. Some were pets, some came from fur farms, some were hand-raised and some came from the wild.

For our study of bobcats and enrichment, we used the SPIDER model, which was presented by staff from Disney's Animal Kingdom at a recent conference attended by some of our volunteers. SPIDER stands for Setting Goals, developing a Plan, Implementation, Documentation, Evaluation, and Readjustment. This presented a simple and organized system for us to follow.

The committee then used a list of questions to research bobcat behavior in the wild. These questions related to their hunting techniques and prey, territories and markings, threats, interactions with other animals as well as other observations. We also reviewed the histories of our current bobcat population and examined their enclosures. We investigated what bobcats did in their natural environment and then brainstormed ways to try to encourage and recreate those behaviors in their enclosures here.

From our research, we were able to target a number of behaviors that we wanted to encourage with our bobcats. These included grooming, water play, sunning, climbing and denning. When the committee developed ideas to recreate these behaviors, the ideas were then submitted to our staff and veterinarian for further approval. (It is important to consider individual health issues for each cat when determining the appropriateness of different types of enrichment.) These steps covered the goal setting and planning part of our model. Next came the fun part, the implementation!

For grooming, we used scents that we could spray into their enclosures. We used star anise and vanilla steeped in water. We then put the scented water into squirt guns and sprayed logs and trees in the bobcat habitats. (Just a note: the star anise was much more popular than the vanilla.) The bobcats would usually find the scent and either roll around or rub against the area we had sprayed. We found that when multiple bobcats were housed in the same enclosure, they would often start to groom each other as well. This was probably one of our more successful enrichment goals and it was fun to watch the responses of the cats. They loved it!

During our research, we discovered that bobcats sometimes spend time in the water. We purchased a galvanized tub that was large enough for the bobcats to play in, but small enough to be easily moved from cage to cage. The tub was placed inside an enclosure and was filled with a few inches of water. We found that some of our bobcats really enjoyed splashing around and investigating the water.

We also wanted to find ways to encourage our bobcats to sun themselves and climb, which were other natural behaviors that we studied. This involved examining our current enclosures. We had to determine which cages naturally had rocks and logs in sunny spots or trees for climbing and if or how we could improve or change the others. We used scented treats in the higher spots of their

enclosures to encourage them to climb. The bobcats seemed to enjoy this as well. We did note, however, that on our types of cage wire, the cats that were clawed sometimes had difficulty climbing the cage itself. We restricted any treats on the cage itself to cats that were declawed.

Our research also revealed that bobcats often create temporary dens. To encourage this behavior, we placed large boxes in their enclosures. The boxes had holes in them large enough for the cats to enter. The results of this were mixed. Some of our bobcats loved them (although they did not necessarily use them for dens) and some of them were not interested.

After each implementation of enrichment, we evaluated our successes and failures, determined what changes we needed to make and sometimes tried again (the readjustment part of the model). The adjustments we made were noted above.

As far as documentation, we decided the easiest way for us to record our enrichment was to make a list of all of our animals. When one of our volunteers gives an animal enrichment, the date and type of enrichment is logged on the list. The lists are updated monthly.

The enrichment committee at WildLife on Easy Street has found this model to be helpful in organizing, researching and documenting our progress. We have learned so much more about our animals through this process and with that knowledge, feel like we can give them better care while they are with us. We hope you can use some of the information we have shared here. For more information about enrichment or WildLife on Easy Street, you can visit the web site at www.wildlifeoneasystreet.com .

Left page: Precious andRunning Bear, two WOES residents
Above: Moses rests on his den box, made to resemble a more natural environment
Right: Windstar Bobcat climbs into his tower and peeks out, gaining both privacy and a new point of view

Mistaken Identity: Turkey hunter injured when Misled bobcat attacks

Raleigh-- The chances of a hunter being attacked by a bobcat are "extremely minute" despite a recent attack in Franklin County, and official with the state Wildlife Resources Commission said.

Capt. Kenneth R. Craft said he has not heard of a bobcat attacking a person in his 28 years with the state Wildlife Resources Commission, even though bobcats are prevalent in North Carolina.

"They're nocturnal and secretive, so you seldom ever see one, Craft said Sunday.

Hunter Steve Leonard was turkey hunting in Franklin County on April 14 when he was mauled by a bobcat.

Leonard, a resident of Garner with 30 years' hunting experience, said he and a partner were stationed about 40 yards apart near the bank of the Tar River. They started using diaphragm calls to imitate turkeys and had set up decoys.

"We were concentrating on calling the two gobblers, when all of a sudden it felt like someone threw a 20-pound sack of potatoes at my back," Leonard told the *News and Observer* of Raleigh.

"The cat jumped on my back and bit me behind my ear, clawed my face with its front claws and ripped up my lower back with its hind claws. It knocked my glasses off, which had cat saliva all over them when I picked them up."

During his turkey hunting career, Leonard said, he has had foxes and dogs respond to his calling, but never a bobcat.

Craft said he had never heard of such an attack. "They would absolutely not get anywhere near a person unless they were cornered or injured," he said.

Leonard was treated with a tetnus shot, the first 11 of 15 precautionary rabies shots and numerous bandages.

"I'm going turkey hunting...in Person County," he said. "I'm not going back to the Tar River this year."

Access to the Experts

The FCF is fortunate to have two of the veterinarian presenters from the USDA Symposiums on Large Cats available to answer questions from our members. These two veterinarians have kindly agreed to address questions from members sent in via the editor. If you have questions about prepared diets, vitamins and supplements, parasites, an odd diagnosis, strange behaviors, anatomy, formulas for kittens, what plants and chemicals may cause harm, or any other relevant topic, please write to the editor with your questions.

Facts on Foods and Carnivore Feeding

by E.S. Dierenfeld, PhD

We're trying a new column for readers, to highlight relevant issues with foods and feeding. Initially, we'll be tapping into the expertise of Dr. Ellen Dierenfeld, Nutrition Advisor for the American Zoo and Aquarium Association's Cheetah and Tiger Species Survival Plans. In that role, she helped author chapters on feeding husbandry for these species, which are available through the Nutrition Advisory Group's website (www.nagonline.net). Dr. Dierenfeld is Head of the Nutrition Department at the Wildlife Conservation Society (based at the Bronx Zoo), where she has been working for the almost 20 years and oversees an active analytical laboratory, research program, and developed Zootrition - a software program used to evaluate captive animal diets worldwide (Zootrition is a comprehensive database that provides zoo and wildlife managers with a powerful tool to compare nutritional content of specific food items and calculate overall nutritional composition of diets. Potential nutritional deficiencies and toxicities can be identified and additional information specific to local regions can be added by users. See www.zootrition.org for more information on the software).

She was born and raised in the Midwest (Iowa), and studied Fisheries and Wildlife Biology at Iowa State before shifting to Animal Science with an emphasis on comparative Nutrition for her Master's (giant panda nutrition) and PhD (wombats, kangaroos and rabbits) research at Cornell University.

Filling information gaps on nutrient composition of common feedstuffs, Dr. Dierenfeld and colleagues recently completed a summary of whole prey composition that can be obtained online through the USDA's Animal Welfare Information website (www.nal.usda.gov/awic/zoo/WholePreyFinal02May29.pdf). Another useful resource is the manual on handling and storage of meat products availalbe through the same website (www.nal.usda.gov/awic/pubs/meatprey.pdf). Additionally, a special issue of Zoo Biology, focussed on cheetahs, is available online at the Felid Taxon Advisory Group (TAG) website: (www.felidtag.org/), along with many other useful resources.

Please take a look at these resources as a first step, and help us identify missing information or providing useful feedback questions.

Keeping Carnivores in Captivity: Husbandry and Care Issues

Scott Amsel D.V.M.

Dr. Amsel developed his interest in exotic animals before veterinary school while working at the Miami Seaquarium, San Diego Wild Animal Park and Marine World, Africa USA. He attended veterinary school at the University of California at Davis, and specialized in the study of zoo and wildlife medicine before graduating in 1984.

After receiving his veterinary degree Dr. Amsel studied epidemiology and preventive medicine prior to pursuing projects involving dolphin species in the Amazon and Taiwan, ex-captive orangutans in Taiwan and Indonesia, and a broad range of wildlife species in Thailand.

Dr. Amsel has practiced small animal and emergency medicine as well as spending two years as staff veterinarian at the Los Angeles zoo and one year as staff veterinarian at Disney's Animal Kingdom. Since 2001 he has been veterinarian to exotic species, large and small, as founder of ZoLogic Veterinary Services in Moorpark, California.

NEW IMPLEMENTATION OF THE ENDANGERED SPECIES ACT AND ITS IMPACT ON FELID IMPORTATION

By Alan Shoemaker
Columbia, SC

Until recently, anyone wishing to acquire to import or export captive born endangered species had few problems getting the necessary permits as long as they could demonstrate that the specimen(s) was born in captivity, the applicant had suitable enclosures and expertise, and was willing to participate in a studbook or SSP-type management program. Importing individuals containing rare founders in their lineage was often an important justification for requesting a permit. Two years ago this situation dramatically changed.

Under the new implementation of the Endangered Species Act, the importation of an endangered species, **REGARDLESS OF ITS ORIGIN**, must have a positive impact on the remaining wild population. This implementation also applies to short-term loans that involve interstate movement of endangered species and thus zoos are required to get a permit for when obtain charismatic species obtained in hopes they will make a unique profit, i.e. white tiger, koala, Komodo monitor, where a fee is being charged by the sending (loaning) institution. In the case of international transactions, the fact that the specimen contains new founders in its background and is many captive-born generations removed from the wild is immaterial. The application forms, now available on the web, www.forms.fws.gov, have also changed somewhat from those published in the past, albeit some of the questions asked by FWS are not specifically listed on the revised application. The following are several of the profound impacts on importation that all zoos and private owners should be aware of:

1. **Enhancement**. All applicants must show how the acquisition, importation or exportation of a captive born specimen will have a positive effect on the wild population. Importation of a captive born felid from another country solely to acquire new founders is not sufficient justification to import or export a captive born animal. Neither is conservation education. In the future, applicants must show that **prior** to the application, they supported a project(s) in a range country that benefited the wild population, provided training for wildlife staff in the range country, sent equipment to the range country that is useful for wildlife conservation, etc. In some instances, providing such evidence will be challenging because no *in situ* program exists at the time of importation. Applicants in such instances can expect to be asked to identify such program support following importation, reporting back to DMA on said benefit. Animals coming from remote or unstable areas provide special challenges as conservation activities may not be realistic due to warfare, political instability, etc. but that responsibility will be the applicant's. Moreover, the applicant must show that this level of support will continue after the importation is completed.
2. **Program leadership**. Because applicants must be able to demonstrate how they are positively impacting wild populations, new responsibilities are being placed on program chairs. Not only must program leaders maintain their studbooks and PMPs/SSPs but they will also need to interact with range country biologists in order to identify conservation programs that applicants can support. Put another way, each program manager must develop a "shopping list" of projects that need support and articulate those potential projects to the species holders as a whole. The objective here is to insure that in the long run, the captive population will have a much greater relationship with its wild counterpart. Best of all, this is a good thing!
3. **Looking ahead**. Many small zoos feel that these changes will have little impact upon them because they never import or export wildlife, or borrow animals for temporary or season exhibits. Others owners of all types may feel that they are too small for such actions, that this costs too much, etc. In a word, however, never say "never". In the case of zoos, many inexperienced with international transactions have been asked to acquire specimens in order to re-pair their genetically valuable potential breeder. In other cases, relatively small zoos or private owners may decide to "invest" in a species that will require importation from another region. All wise owners of the future should consider evaluating their collection of endangered species with consideration being given to future enclosure development or renovation, and the overall demography of their collection. Should new specimens from another country be anticipated in 2-3 years, and especially if the management group suggests that additional founders are needed within the USA population, asking the program chairs for a selection of potential projects for selected species constitutes good planning and conservation even as it helps to meet of new permitting requirements requested by DMA.
4. **Private initiative.** While it has not been attempted yet, there theoretically is no reason that private individuals or organizations like FCF cannot import their own animals. Cheetahs are a good example. If an individual, group of individuals or organization wanted to import cheetahs, they only have to support any one of a number of *in situ* projects available to them, show FWS that they have facilities, expertise and a management plan in place for the animals they plan to import, and that they plan to continue their support of *in situ* conservation efforts. The program manager will need to have access to SPARKS or a similar animal management software program, have a core of future owners that are ready to cooperate together, and have a source of funds to pull all this off. And while all this seems to raise the ante, I reminded zoos making the same comments that 20 years ago they budgeted huge sums of money to import giraffes and antelopes from Africa, purchase charismatic animals from each other, all line items in their budgets that have gone away as animals have lost value and often, moved only by loan or donation. In essence, now is not the time to fret but rather, to consider the options and this new road map to success.

A Crash Course in Crisis Management

We had protocol for the cats…. it was the VULTURES we neglected to train for!

by Karen Sculac, owner/director of Big Cats of Serenity Springs

On a quiet, routine Sunday morning my facility was smack dab in the middle of what every animal care organization dreads, an injury to a human by a tiger, in our case 2 tigers. During routine daily maintenance and cleaning, my husband Nick and our one actual employee entered the enclosure of two 5-year old tigers, to shift the 'boys' into their lock-down and proceed with the chores at hand. Instead of entering the lock-down area, like these 2 cats had done routinely for 5 years, something went wrong, and Duke and Merlin 'grabbed' Kenny.

We practice and train and talk constantly here in an effort to be able to react and professionally handle any type of incident that we can possible fathom, hoping that much of the training will never have to be utilized, of course. Thank God we take what we do seriously. The training, experience, and professionalism of these two men are what kept an incident from becoming a tragedy.

Due to his experience, Kenny was able to react defensively, and Nick, with his experience, was able to react offensively. The entire episode, though it SEEMED to be forever, was, at our best guesstimate, a minute to a minute and a half. EXPERIENCE, EDUCATION, PRACTICE AND ESTABLISHED PROTOCOLS ARE VITAL!!!!!!

When both men were safely outside of the enclosure, immediate implementation of our planned and practiced protocol for injury began. When we first began working with the big cats, we had agreed that in the event someone was ever hurt, we would immediately call for medical help. It was to be our policy that if anyone said 'get medical help' we would call 911right then. No dilly-dallying, no questioning beyond the basic who's hurt, are they breathing, blood loss amounts, and which cat was involved—that particular piece of information would also let whoever was making the call know what cage and what species.

Well, there began my first learning curve for what I'd do differently! Everything we had practiced for the actual problem went smooth as silk...at least as smooth as these types of things can go. We are 'Big Cat' people. But I now know from first hand experience that we also better learn to be PR pro's as well! When I called 911...I had all the basic information I needed to get a medical response team, what I didn't have was a practiced and REHEARSED to the point of 'second nature' statement (which is how we practice for the cats!!) for the 911 operator when I was asked "What it the nature of your emergency?"

My response was my name, my location, and that my employ had some injuries from a tiger. She asked, "You mean someone was attacked by a TIGER!" Apparently I responded "yes." I now know that was a very bad move on my part! If we would have practiced THIS part of I crisis I would have had it drilled into my head to say "No. There are some bites…. some wounds"...some ANYTHING, but adamantly disallow the word 'ATTACK.'

We all know who monitors the ensuing police, sheriff, emergency responders and ER crew on scanners…the media!!! a/k/a THE VULTURES! And so what follows next is always a real live feeding frenzy.

Let the PROBLEMS begin…

Before the ambulance was out of the gate there were 3 messages on the phone with media requests, and they multiplied and they multiplied and they multiplied. "Journalists" (a phrase used loosely and only because if this accounting circulates I've got enough problems without being sued for 'slander' of a profession!!) could taste a TABLOID EVENT!

LESSON NUMBER 2. . .

Just about all of us run 'grass root' operations, with no media wizards, no statement writers, and no PR staff. Take the time to write, or have written, a press release in general terms for any type of situation that may call media attention. One for 'escape', one for 'injury', one for anything you can think of that could possible send the birds of prey swooping down on your door step. Have e-mail addresses and fax numbers handy and find someone--anyone--to send them to. I didn't do that.

First off, I had about a gazillion things running through my mind that I had to get done, and frankly, making sure our employee was as alright as we thought he was was number one on my list. Next on the 'to do' list was notify and report to our local Colorado Division of Wildlife guys ***ourselves***. Then notify and report to our USDA inspector ***ourselves.*** I would suggest these 2 things be done without hesitation or delay after the situation is secured and under control. You don't want these governing agencies finding out by reading the morning paper.

Notify volunteers that there is about to be a media blitz and tell them what really happened. Contact someone you trust in the 'cat world' with facts...not only can they decipher through compassion and understanding what you are 'blithering' about, you need the cat community to get 1st hand information as fast as possible, especially with the present climate swirling around exotics.

And last, but not least...take some deep breaths. The world is gonna feel like it's crashing in on you, and the press is gonna do its damnedest to get in a least a few sucker punches.

Speculation ran rampant and several reports had already run before Nick and I even got to the hospital later in the afternoon. By then we had decided we weren't going to talk at all for a few days. The press, with all their valor, had within hours already made up a story for themselves. Frankly, this decision was also based on my inane ability to get irritated and end up being quoted using the ONE phrase I would rather have not said :)

Most of you read the stories. It's amazing what 'creative license' allows some people to report as fact. To clear up a few of the doozies reported on our incident. We do not enter cages to feed the tigers; furthermore, we don't feed in the morning in the summer time with temperatures in the 90's. Kenny was NOT in the cage alone. And the animals were being 'shifted'. Kenny did not loose any body parts, nor was he ever in critical condition. Conscious, alert and coherent at all times, he and Nick talked through the whole ordeal (no I won't give you quotes, use your imagination for what that conversation entailed). This happened on a Sunday; and Kenny was back home on Wednesday evening.

Knowing we had to eventually say something and after we had all given ourselves some room to breathe, I spoke with several reporters…. and didn't give them ONE PIECE OF INFORMATION. I gave CONDITIONS. Also by then I had had time to stick my nose into every PR, media relations, and crisis management book I own!!!!

Lots of folks didn't want to do an interview my way...and by then I had nothing to lose so it was going to be my way or no way! The first reporter to show some heart and compassion and to swear to cover more about this facility than the accident...got to come in. In return for her word...I promised an exclusive, and she had to also promise not to let any of the vultures in the gate with her.

She did a very decent story. In fact, it is the only story listed on our web site under 'click here for accurate news. Keep in mind she is the only print reporter that spoke to us. It is amazing what happens when a newsperson actually has some facts.

A week after that, we did an on-site story with a local station. They too promised it would be positive and used to clear up rumors. It did. And I think it came across clearly that no liars in the press corps would ever gain access to this facility. May not be the way a lot of those PR pro's would play it, but it worked for us.

The rumor and gossip mills will always find a way to twist the stories to suit their style and agendas. On any given day we can only hope that with careful choices we may be able to get at least one or two honest stories out there. I know I've had quite a few calls now from reporters saying they agree it should have been handled differently. My response has been simple: I'll follow your work and if your actions prove your words, I MAY trust you another day.

In the end, and with hindsight being as magical as it is, I guess the best advice I can give is while we all practice (or least we all ***should*** practice) for an emergency as a 'unit.' We need to also practice for the aftermath, for often that is where the true crisis lies. No longer will I sit in my comfort zone as just a Big Cat person….for the cats I will add to my responsibilities learning & PRACTICING the art of PR crisis management. I urge everyone to devote at least some time and training to the same. Wishing safety, purrs, chuffs and lion songs to your world.

Karen & the gang at Big Cats of Serenity Springs

Excellent Reference books to have :

Crisis management for zoos and other animal care facilities (I don't have the publisher for this one but it's the AZA/AZAK one)

MediaSmart ***How to handle a reporter by a reporter*** by Dennis Stauffer published by MinneApple Press isbn # 0-9640429-0-8

The PR Crisis Bible ***How to take charge of the media when all hell breaks loose.*** by Robin Cook published by St Martins press isbn # 0-312-25230-7

Guerrilla PR ***Wired*** by Michael Levine published by Mcgraw-Hill isbn #0-07-138231-3

Successful Spokespersons are made not born by Hal Hart published by isbn # 1-58721-366-4

(All available on Amazon.com)

Isis bobcat in the bathroom sink

Making A Difference: *FCF sanctuary member In-Sync Exotics takes on the task of arranging for new homes for the Big Cats of Noah's Land*

This is a story of an amazing animal rescue. At the same time that national press was focusing attention upon the unfortunate and starving animal collection discovered abandoned by Saddam Hussen's family in Iraq, there was an animal organization right here in our feline community working tirelessly and behind the scenes to end the tragic neglect of 32 great cats here in Texas, USA and find suitable facilities willing to take on their care for life. Because of all the hard work and devotion to the task exhibited by Vicky and Eddie Keahey and their volunteers, the forces organized against private ownership lost their opportunity to exploit this tragedy in another national press spotlight aimed at private owner abuse and neglect of exotic animals. And we all know such press coverage hurts every one of us by giving the feline community another black eye.

In June of 1994, FCF member Vicky Keahey of In-Sync Exotics rescued her first tiger from a drive-through park in Bastrop, Texas known as Noah's Land. Since then, that park has gone through some very difficult times. In August of 2000, In-Sync Exotics was contacted to rescue eight more tiger cubs from the same facility. In May of 2001 there were two more cubs needing a home that they were able to place with Pride Rock sanctuary.

In November 2002, the Noah's Land facility was permanently closed and that left 48 lions, tigers, leopards, and cougars in need of a place to live. The owners of Noah's Land had done little to find any new homes for the animals and had no source of income to feed and care for them. In-Sync Exotics was contacted by the USDA and asked to take as many of the cats as possible. With In-Sync already at full capacity, it could only provide refuge for two of the cats. On February 3, 2003, Vicky and her husband, Eddie, drove to Bastrop to pick up two very special tigers. The two tigers were the parents of the first tiger Vicky ever rescued. Tragically, in February of 2000 Vicky lost that very tiger during a spay surgery.

When Vicky arrived at Noah's Land, she couldn't believe what she saw. According to Vicky, "Some of them were living in a cage that was only about an 8' X 8' square. There was urine and feces everywhere. The drinking water was filled with rust and mud and had a stagnate smell to it. There were dead carcasses lying all around and some of the cats were close to 100 to 150 lbs under weight. It was obvious there was little supervision to make sure the animals were being cared for."

After crying the whole way home and spending a sleepless night, Vicky and Eddie decided they were going to have to do something to help these cats. The USDA and the SPCA both felt that the cats were not in critical condition and therefore would not do anything to confiscate any of them. "Critical condition" according to the USDA and the SPCA is when the animals are to the point of euthanasia.

Cindy Carrichio from the Austin Zoo offered to help with the placement of the cats and even donated $500.00 to go towards the rescue. Then Vicky got a phone call from Cindy and Carol Asvestos asking her to back out of the rescue. When Vicky and Eddie refused to abandon the mission, payment was stopped on the donation check. Vicky and Eddie were left on their own to find placement for all the Noah's Land cats.

They began their crusade to find proper homes for 28 tigers and 2 leopards. The others, they were told, had been taken to an auction and sold. After spending many fruitless hours on the phone attempting to get USDA's assistance with this project, Vicky and Eddie started calling sanctuaries they knew personally that might have the ability to save these desperate felines. Vicky concentrated on placing out the skinniest ones first, worried that they would not survive very much longer. "Bengali, the tiger that went to Popcorn Zoo, was the one that really made me cry. I had seen him a few years ago and he was big and beautiful. Now I see him and offer him a bone with meat on it he won't even get up to get it," said Vicky.

By the end of the week, Vicky and Eddie had found suitable facilities for all of the big cats, yet it was still going to be 6 weeks before they would all be picked up and transported to their new homes. They drove back to Bastrop on February 7 to pick up the first load. Vicky and Eddie transported six tigers and the two leopards to Tiger Creek Refuge in Tyler, TX and one more to themselves at In-Sync Exotics. Another went to Doug Terranova in Kaufman, Texas. Vicky and Eddie left a donation of food to last for a week. They returned the following week to help ensure that everything went ok loading the second group of nine tigers being driven to Tiger Haven in Tennessee. Big Cat Haven in Georgia, picked up two more in the middle of that week and left a donation of 600 lbs of chicken for the remaining cats. Bengali was picked up the following week by Judy Savage from Buffalo Roam Sanctuary, in Texas, who held him awhile so that he would get the food and care he needed and not die before Popcorn Park Zoo in New Jersey could pick him up.

That left eight more tigers that were going to be left there for another ten days before fellow FCF sanctuary members, Karen and Nick Sculac, owner/operators of Serenity Springs in Colorado, could pick them up. They sent a $500 check to help cover the cost of the

meat and care these tigers would need until they could arrive. Vicky sent her son to Bastrop to stay with them and make sure that the food donations were fed to the cats and their water was kept clean. He would only be able to stay a week, which still left the cats there for a couple of days. February 25th the remaining tigers cats were supposed to be picked up but instead they learned that Serenity Springs still needed another ten days to prepare for them. Eddie made the 4-hour round trip drive to Bastrop two more times to leave additional food donations. But after ten more days, even more complications prevented Serenity Springs' arrival again. Knowing that the cats were in more and more danger the longer they stayed in Bastrop, Vicky and Eddie decided to drive the cats to Colorado themselves.

"We had already spent $2,000.00 on the rescue and transport of the first 22 cats but we had to do this," Vicky said. "With the help of Doug Terranova, who had taken one of the cats, we were able to use his semi-truck to drive back to Bastrop one last time to pick up the remaining cats bound for Colorado. The original plan was for Doug and Eddie to take the cats all the way to Colorado, but Doug's daughter and the tiger he had just taken in became very sick and he had to stay home," Vicky explained. "That meant we had to transfer the cats from Doug's truck to a rented truck and Eddie and two of our volunteers drove them to Colorado. They made the round trip in about 23 hours driving nonstop."

"We first thought the cost of the transport was going to be about $800.00 and Nick and Karen were going to pay for the trip. When Doug could not go on the trip and we had to rent a truck the cost went up an additional $443.00. Jonathan Kraft, director of Keepers of the Wild, an Arizona facility, agreed to fund this cost. On March 13th the cats finally arrived at Karen and Nicks' facility.

Because of their compassion, dedication and love for these majestic felines and aided with financial support from several benefactors, Vicky and Eddie Keahey were able to make sure that 32 big cats formerly languishing in sub-standard conditions are finally safe in new homes with plenty of food and clean water.

In-Sync's resident bobcat, lions and tigers all relish their well-enriched spaces. The tigers are having to share their exercise area while new cages are constructed for the new rescued cats to live in. Being able to save additional cats makes the temporarily crowded conditions a worthwhile sacrifice.

"Now all we have to do is find the money to build habitats for the 3 new cats we have taken in," notes Vicky. "The $2,000.00 we spent on this rescue was supposed to go towards habitat constructions. Right now, In-Sync Exotics tigers have to share running space. There is an 8,000 square foot play area for exercise and playing but use of this space by the cats must be divided up into 3 and 4 hour time slots for all of them to be able to go out and play."

Vicky believes that even through all the troubles and chaos that they went through placing so many cats, and even knowing that some of their cats are now cramped for space, she would do it all again. Vicky pointed out, "We are a rescue center, that's what we do."

FCF members can help by making a tax-free donation to adopt one of the cats. Go to the website for further information @ www.insyncexotics.com or call In-Sync @ 972-442-6888. Send donations to: InSync Exotics P.O. Box 968, Wylie, TX 75098

Feline Conservation Federation, Inc.
Volume 47, Issue 4—July/August 2003

AN ECHO OF MIU

By Kermit Blackwood

The cat family in all its surreal diversity personifies much of what we might assume as known of that ancient, matrilineal culture preceding and giving birth to and maintained by dynastic Egypt. For in the culture of cats, we have observed a certain societal order perfectly maintained and recapitulated. Amongst the serenity of lions, the loyalty of cheetahs, ferocious independence of the caracal, the tempestuous protective grace of the reed cat, benevolent inventiveness of Bastet - F. silverstris, the ancients appreciated a common thread of cat consciousness. Cats were sentient beings in the minds of the ancient Egyptian mystics and workers of the fields. It was the cat that kept the plague at bay and warmed the hearts of often-conquered peoples.

Where the jackals, Indian and Abyssinian wolfs and their hybrids reproduced with the Ituri basin's basenj became in time the refined progeny of dogs, the Saharan canids also accrued some of the finer attributes of human beings. Proto dogs of Egypt contributed their gentle humors and keen sense of longing for compassion that endears us to them. Human kind could learn to sing to the moon, raid lions of their kills and cooperate to track down and subjugate even the most formidable prey - sacrificing life and limb. From canids, humans learned how to cooperate and how to build on opportunism. Canids gave us their gift of forgiveness, and of honesty.

But in all their divine fury and naturalistic sense of everything uncommon, the felids perpetuated traits and ethics the ancients deemed closest to the God. Cleanliness, love of the sun, supernatural strength, an eerily paranormal awareness of things to come and the ability to survive just about anything earned the cat a most revered and sacred standing in the Egyptian's naturalistic philosophies. And wouldn't you know our ancestors figured that the most perfectly adapted creatures on earth must have been hand crafted by the all-knowing Cognizance (e.g. God). Once that all-knowing Cognizance realized it needed vision to know itself, in order to become - to be born, it created a feminine principles - an attribute called Tefnut. And of those principles "the eye of the God" as she was known, was born or rather became, and tuned in to cogent works around her. Our ancestors took to adoring cognizance/light/photosynthesis and a whole pantheon of feline entities personified these principles.

In other words the ancient peoples of pre-dynastic Egypt revered not one but a number of wild felids and these felids came to represent different entities on Earth. These divine attributes of the Cognizance took the form of cats because they came as close to perfected nature as could be imagined. In time nomes (tribal provinces of ancient Egypt) came to identify themselves with cats and they crafted their societies around those of felids.

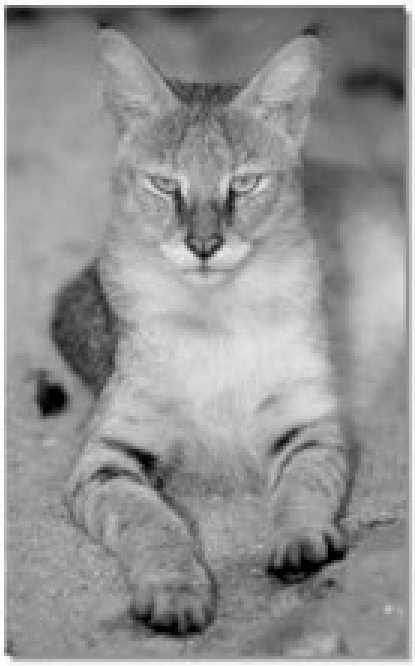
A female cat chooses a male and then refuses him for good reason. She judges his oafishness without blame. She gives birth and looks after their progeny as a mystical huntress. The ancients found her crafty in the ways and means of Egyptian mystery schools pertaining to effort, distance, and transmutation. The cat mother cooperates with her sisters to maintain a hunting territory shared amongst their blood relatives. Males come and go but generally disperse into their own folds at the encouragement of their own feline mother deities. A matrilineal tribe of cats would occupy their territory for as long as they were left unmolested. She searches out healing herbs for whatever ails her and magically heals broken bones and skin. They would look after their own, even providing food for the old and the weak; the eldest remaining close at hand to protect the innocent and so on. Each Egyptian queen and high priestess, every single female and male nomarch (matrilineal chief of a regional nome) was loyal to one of several feline attributes of the God. Temples and Sphinxes were all built depicting the connection between leaders and felines.

This may seem a bit anthropomorphic and it is to some extent. And this is the way the ancients measured and delineated the orders of social structure. They measured feline society first and then generated a plan, enabling a human one from the first. Tefnut, Sekhmet, PaKhet, Mut and Bastet were all named divine attributes of the God and as such reflected or rather animated precepts of our naturalistic theosophy from which we learned everything that would ever be known by us of our world.

As you may recall, Egypt was founded in agriculture and the methods and materials of agriculture fell within the administrative responsibilities of the nomarchs. In many, many instances, women were the sole heirs of the nomes and it was through their sacred blood, patriarchs could in time theoretically lay claim to the power they so craved. Regardless, the inheritance of nomarchs was accrued matrilineally, and since the beginning of our culture it has been accepted that women are the guardians of culture. The cat, whichever species represented that nomarchy would come to represent that nome or group of tribes, female classes of administrators, descendents of, or relatives of the king and/or his wife, the chief queen.

Tefnut and Sekhmet were represented in ancient art as Lioness headed deities each maintaining some aspect or region of universal order. Tefnut represented moist air and is depicted by the shape of her ears as an Egyptian cave lion - an extinct, mane-less, northeastern and spotted relative of the Asiatic lion. Sekhmet represented divine retribution and was considered an emanation of her ancestress Tefnut. Yet Sekhmet is depicted again by the shape of her ears and scruff under her chin as Lioness of the Atlas form, now only native to Northwestern Africa. PaKhet was alternatively represented as one of three wild feline species, most commonly as the reed cat, F. chaus. In some depictions from the middle kingdom on, PaKhet was

The Jungle or Reed Cat



depicted as the caracal and in specific funerary art PaKhet was depicted as an odd amalgamation between the serval and reed cat - as these depictions of the creature will exhibit traits of both or even all three! Bastet was generally depicted as F. silvestris the African wildcat, or hybrids between either the reed cat and the wildcat, or the serval and the wildcat.

Originally it was my sole intention to provide for your readers a detailed analysis of cat mummies and the DNA of these mummies and I realize that this will make compelling reading. But that said, first the readers must become acquainted with the role of different cat species (something Egyptologists of the eighteenth and nineteenth centuries seemed indifferent to as many do now) and how the regional capitols of matrilineal tribes came to be associated with different forms of semi-domestic and domestic cat species that in time were all but replaced by eastern Dashrt cats, F. silversteris and southern subspecies of the same.

Where each respective Nome provided an agricultural and theosophical base for the Nile cultures over time, the wild reed cat was not only tolerated but also encouraged to make permanent residences in those riparian regions where rodents made thrift of granaries. It might very likely have proved beneficial too in the extirpation of plague carrying rodents. The semi-domestic reed cats were probably never fully domesticated as adults and acted as temple guardians. Those temples being naturally the nome temples of agriculture surrounded by agrarian complexes. Mummies of the reed cat and also of the serval have been described from at least the fifth dynasty and probably much earlier.

As with most domestic species, hybridization appears to be the rule in the development and refinement of captive populations. Where the reed cat became established among human habitations in certain Egyptian Nomes, the Dashrt wildcat found human settlements just as inviting and likewise established itself in the regions where grains were stored and shipped especially in the arid regions and ports of coastal cities and villages where the reed cat was absent. The Egyptians of course depicted both species of cats and seemed intent on their differences.

During a period of instability the sacred role of the cat was satirized and politicized as eastern patriarchal raiders, the Hyksos or Sheppard Kings, conquered Egypt and slay the husbands and sons of matrilineal nomarchs and queens. The reed cat's place as a sacred creature was replaced during the difficult reorganization of religious ideology as women were removed from power. The domestic wildcat and its hybrids would come to replace the lion, caracal and reed cat in most depictions of cat deities. Until the Hyksos patriarchs were run out of Egypt, the role of the cat in Egyptian philosophy was generalized and suppressed until it became little more than a symbol. All this would change with the advent of the eighteenth dynasty. Hapshepsut, Tye and Nefertiti all had sphinxes of their images and built temple complexes to Pakhet, Bastet and Sekhmet.

It is of course quite interesting that crown prince Thut Mose' (Amenhotep lll' eldest son) mummified pet "Tai Miuwette" appears to be a reed cat while the mortuary temple of his namesake and ancestor depicts the strange hybrid cat cutting to pieces the great serpent of the underworld Apep. Order had been restored in the matrilineal realm of miu.

References listed on bottom of next page

The Reed serval - rabbit headed cat- comes from the Book of the Dead of Hunefer and shows the Sun-god Re in the form of a cat decapitating Apophis. It dates from the XIXth Dynasty.

How times have changed. . .

Long Island Ocelot Club Newsletter
January 1962

News from Around the Jungle

The biggest news in the Michigan area seems to be Thor, African lion that belongs to Woodrow W Woodhouse in Grand Rapids. Thor was a year old November 1961. It all started with the county prosecutor received a complaint about wild animals being allowed inside the city. Thor's owner then started a campaign for a new law. I was present at the Mayor's office on October 21st and can report that we have won another moral victory. The city commission passed a new law allowing exotics inside the city limits. People who wish to own exotic animals inside the city limits must get a permit from the City Manager. No fee is charged. Any exotic animal may be kept with this permit under proper housing and sanitary conditions. I feel it is good for the cat and the owner. This way we know cats will be properly cared for. Pet owners will know their rights and the requirements the law makes of them. Most important, there is now an ordinance that permits them to be kept.

March 1966 News from Around the Jungle

David Salisbury of Cocoa, President of the Florida Group in his area, reports as cited in a local Newspaper, that the local "dog ordinance" has been expanded to include all animals, "not only ocelots, but cats, mules, horses, etc."

Dave has watched the progress of this legislation, beginning with a petition that a neighbor of an ocelot owner presented to the City Council voicing objection to an ocelot at large. After discussion, the Council passed an ordinance, familiarly called the "ocelot ordinance", which brings the ocelot, and all other animals, into the same category. The local requirement is that any three neighbors, living in separate residences may sign a complaint against animal of any species, which after a hearing may result in an order to the owner to confine the animal to his own property, or an order to impound the animal.

---

continued from article on previous page

REFERENCES

(From the Papyrus of Nebseni, Brit. Mus. No. 9900, Sheet 14, ll. 16ff.) (Book of the Dead)

GERMER, Renate, Das Geheimnis der Mumien, Reinbek bei Hamburg, Rowohlt, 1994. (12 x 19 cm; 197 p., fig., ill.). ISBN 3-499-19357-4 95.1178

GINSBURG, Léonard, Felis libyca balatensis. Les chats du mastaba II de Balat, BIFAO 95 (1995), 259-271. (fig., tables, pl.).

During the excavations of tomb no. 7 in the surroundings of mastaba 11 at Balat (Kharga Oasis) a group of 23 cat skeletons were found. Their examination and particularly the analysis of their skulls (compared to those of several species of wild felids) suggest that this species was domesticated. One individual that lived up to adult age despite a malformation seems to corroborate this fact. Absolute dating estimates the skeletons to come from the period between 722 and 117 B.C. The animals are slightly less developed than the ones found at Saqqara, which date from the Ptolemaic Period. The species from Balat most probably dates from the period of the Persian occupation. It would thus represent the most ancient known group of cats that show the physical characteristics of domestication. Author

HARER, Jr., W. Benson, Implications of Molecular Biology for Egyptology, JARCE 32 (1995), 67-70.

Felis sylvestris catus, Feral Domestic Cat Dr. Pamela Owen - The University of Texas at Austin

Felis sylvestris lybica, African Wildcat Dr. Pamela Owen - The University of Texas at Austin

van der KUYL, A.C., C.L. KUIKEN, J.T. DEKKER, W.R.K. PERIZONIUS and J. GOUDSMIT, Nuclear counterparts of the cytoplasmic mitochondrial 12S rRNA gene: A problem of ancient DNA and molecular phylogenies, Journal of Molecular Evolution, Berlin 40 (1995), 652-657. (ill.).

VERMEERSCH, Pierre M., L'homme et le Nil au Paléolithique final, Archéo-Nil 4 (Mai-Juin 1994), 5-16. (maps, fig.).

CORTEGGIANI, Jean-Pierre, La "butte de la Décollation", à Héliopolis, BIFAO 95 (1995), 141-151. (fig., ill.).

USDA Licensed Exhibitor is acquitted of charges, but at a tremendous cost

The following true story reflects an ongoing assault by Animal Rights interests against private ownership of wild felines, this time targeting those who exhibit wildlife for public education/entertainment. The shift in attitude of the political power in Texas is most evident with respect to the rights of the rugged individualist and their freedom to be unique and self-employed by utilizing wildlife in their livelihood. It wasn't too many years ago that national press was commenting upon Texans and their tolerance for a "tiger in every back yard".

But in the year 2001, the counties began the process of passing ordinances to comply with the Texas State legislature's mandate that each county either strictly regulate or ban private ownership of most exotic wildlife species. During this shake-down period Cindy Carrichio of the Austin Zoo was a vocal advocate in several county courthouses of the "banning ordinance" approach. The aftermath has been the creation of a patchwork quilt of county regulations and a new Texas with a drastically altered landscape.

Texans with exotic cats are a persecuted minority. Today many are faced with county ban laws or regulations that they cannot comply with. The feline community has had to provide new homes for cats that would have remained with their original owners had their counties not banned their existence. Many have chosen to go into hiding rather then give up their beloved felines. And still others, such as Marcus Cook chose to take a stand when his county of Kaufman was considering passing a ban ordinance. Back Marcus wrote me "we introduced our attorneys, (2 of them) into the picture and locked and loaded for a law suit, they backed off at once, and have now signed the exact same order that we wrote for them to regulate

On June 13, 2003, in the Dallas Morning News the cat community read about a lawsuit filed the day before by the Texas Attorney General against Marcus Cook and his non-profit corporation, ZooCats, of Kauffman, TX. The offenses the Texas Attorney General charged ZooCats, Inc. with included "failing to disclose that tigers are carriers of salmonella and round worm... (and) failing to disclose that the public will come into contact with dangerous diseases and bacteria when handling, petting, and/or feeding wild animals including, but not limited to infant or juvenile wild animals... (and) continuing to expose the public to dangerous wild animals without first providing to business and the public a written disclosure statement including the following:

(a) warning of the inherent danger and unpredictability of the animals being exhibited;

(b) warning of the dangerous bacteria and diseases including, but not limited to salmonella, that the animals carry

(c) advising that individuals will need to disinfect any body parts and any physical areas that the animals may have come into contact with; and

(d) obtaining the signature of each individual on said written disclosure prior to their exposure to such animals.

In addition, Attorney General Greg Abbott was seeking damages for alleged violations of the Deceptive Trade Practices Act and the Texas Nonprofit Corporations Act. The suit contended that ZooCats' director, Marcus Cook falsely claimed affiliations with various charitable organizations, such as the Dallas World Aquarium, the National Fish and Wildlife Foundation's Save the Tiger Fund, and other wildlife programs underwritten by Exxon Mobil.

The court order froze the charitable assets of ZooCats and related nonprofits, as well as operator Marcus Cline-Hines Cook. Dallas attorney Robert Trimble oversaw placement of six baby tigers. Three cubs confiscated were given to the AZA accredited sanctuary, the International Exotic Feline Foundation in Boyd, Texas and three were given to the Austin Zoo, operated by Cindy Carrichio, the well-known advocate against private wild cat ownership, and co-founder of the newly created Animal Care of Excellence sanctuary accrediting service. Both facilities began advertising their new cubs in vigorous fund-raising efforts so they could provide permanent housing for the cubs. The receiver, Robert L. "Skip" Trimble, a Dallas attorney and noted animal rights activist, predicted that eventually the other 30 animals owned by ZooCats would be sent to the animal sanctuary in Boyd.

ZooCats has exhibited tiger cubs at places such as Six Flags Over Texas, the Dallas Museum of Natural History, and the Mesquite Rodeo and has allowed some interaction between the baby cats and people. Attorney General Abbott contended that ZooCats should be shut down because tiger cubs can bite and scratch and may harbor diseases.

ZooCats operator Marcus Cook retained the services of the Law Offices of Marc H. Richman to represent his interests and fight the charges filed. According to a press release issued by this law firm, after two days of hearings on Abbott's suit, State District Howard Tygrett of the 86th Judicial District Court issued an order finding insufficient evidence to support the Attorney General's claims. Judge Tygrett held that there was no public interest to be served by taking the animals from ZooCats. The judge ordered the State to return the cubs immediately. The judge wrote in his order, "The place to establish rules and regulations for the exhibition of animals is through the U.S. Department of Agriculture, health authorities, or by statute, and not piecemeal through the courts."

Richman believes that the judge could have issued his ruling because the evidence showed that Cook had "exhibited hundreds of exotic animals for 15 years throughout the country with no one getting as much as a scratch or a cold" from a cat. Richman also noted that the ZooCats animal compound far exceeds federal standards.

Cook said he feels vindicated by the judge's ruling, although he is chagrined by Abbott's suit. "All they had to do was come to one of our exhibits to know that no one was being put in danger," Cook said. Another of Cook's attorneys, Jon A. Haslett, said the case shows that even the state can be guilty of lawsuit abuse. "The legislature reduced spending by $10 billion because of the deficit, including drastic cuts in health programs for children," Haslett said. "Yet the Attorney General spends tens of thousands of dollars of taxpayer money and uses five lawyers to file a suit without any factual basis."

Cook may ask the judge to order the Attorney General to pay his attorney's fees, which exceed $50,000 to date.

Playa de Oro Reserva de Tigrillos, Ecuador - July Update

Feline Conservation Federation Group Trip July 11-21, 2003

by Tracy Wilson
Director of Education and Conservation

I just got home yesterday from our trip to Playa de Oro Reserva de Tigrillos in Ecuador. It was a wonderful trip, we had lots of fun and got some work done at the reserve too. We had 6 people on this trip; Leann Montgomery, Grace Lush, CJ Bakker, Sandra and Richard Nebetta, and myself. We all brought lots of supplies to donate to the reserve and village. I had a metal ice chest filled with vet supplies that FCF member Lisa Padula donated and I bought a lot of tools and building supplies in Quito with FCF donation money. Grace donated a ton of stuff—a 3 foot long solar panel and power pack, battery operated drill, a battery operated saws-all or hand saw, lots of hand tools, toys and supplies for the village school and daycare, outfits for the kids marimba dance troop, mud boots for the kids, I can't even remember what else she brought, it was a lot. We are hopeful that the solar panel along with the power pack will be able to operate a small refrigerator to help with food or medicine storage. It did charge up the tool batteries just fine, we used the tools all week. CJ, Leann, Sandra and Richard also brought some various items for the reserve and village also. Richard is a dentist, so he brought toothbrushes and toothpaste for the whole village. CJ brought along a satellite phone to test out from the reserve also. It did work from the reserve, but she only could call within Ecuador, because she did not know the proper country codes to call another country. So she called our hotel in Quito and they got a big kick out of being called from the jungle. She also called our van driver in Quito and let him know we were all ok, and find out what time he would be picking us up on our return trip. He said he could hear her loud and clear and was amazed. So perhaps on our next trip, we can try it again and see if we can call outside of the country. It should work if it was able to call out at all, just a matter of learning how to use the technology.

We toured the Playa de Oro village when we first arrived, and I was to inspect chicken coops during the tour. The village has been having some problems with wild cats and other predators coming into the village and stealing free roaming chickens at night. Chickens are fairly new to the village, so this is all new to them on how to deal with predators and protect their chickens. But, it is a very important issue for them to understand, how to live with predators peacefully and not to make the situation worse by possibly starting to kill predators that enter the village to protect their chickens. We want to provide knowledge to them that they can solve this problem by better protecting their chickens, and not by killing animals that may come looking for an easy meal. I think they really do not like killing animals unless it is to be used for a specific purpose such as food, and they are very open to learning how to deal with such problems. Rosa and Earthways have been working on the getting the village to build better chicken coops for a few months, and they wanted me to look over the coops they had while we were there. I was to reward and praise the owners of very good chicken coops, to help encourage others to build better coops. So whenever we saw really nice chicken coops, all of our group pointed at it, stared at it, took pictures, and made a big fuss over them. Proud chicken coop owners stood by their coops to have their pictures taken of them. I left some money with the village council to hand out to the owners of the best chicken coops as rewards for good work. $3 is a lot of money to them, about a day's worth of wages, so reward money went a long way. I also left materials and supplies for those who needed better coops and could not afford the materials. The reward money and materials were provided by FCF donations, as this is an important part of our educating the villagers about co-existing with the cats and protecting them. It is an action that instills the belief in them that the cats are very important to us, which makes the cats very important to them as well. The village is organizing a community work day to use the supplies I left behind to help get chicken coops built for anyone that owns chickens and needs a coop. So when we return in November, everyone should have good chicken coops, and this problem will be resolved. Once they all have good chicken coops, Earthways is giving them a large amount of money for a community project, but not until they all have good coops. I believe the village plans to use this money from Earthways to run water lines from a spring fed well into as many homes as they can with it.

The reserve's current ocelot resident, Missy, who was in such bad shape when I was there in February, has improved drastically. I

Missy ocelot, a reserve resident

almost can't believe it's the same cat, she looks so good! She put on a lot of weight, and is now at a very good healthy weight. She is more active, and her fur looks great. She's come a long way from living in a wooden crate since Rosa found her this past November. I believe she had lived in a wooden crate for 4 months by the time Rosa found her, and she had fur missing in spots, and just was in terrible health. She still does not care to hunt for food, but prefers a bowl of chicken meat. So we're not sure still if she is going to be able to be released in the future. I stood within a foot of her while she ate her meat, and she never once hissed or growled at me. She just does not seem to have a fear of humans that she will need to live and survive in the wild. We certainly don't need to release a cat that will go visit the village with no fear of humans to steal their chickens. She is still a young cat, so perhaps in time she will "wild up."

We did get her cage enlarged on this trip, so that if she cannot be released, she does have a larger enclosure to live in long term. We used FCF donation money to buy the caging materials and we also had to hire a couple guys from the village for a few dollars a day to help out. With the daily heavy rains, it really cuts down on how much time you can work outside productively so we needed the extra help to get the cage done before we left. We also found out that they build a lot differently than we do since they do not have the tools and materials available to them like we do at home. So we had to learn their way of building cages, and it was very interesting how they do things. They have extremely good craftsmanship, even without modern conveniences. Of course, we also incorporated our tools and techniques into the cage, so it was a learning experience all the way around for everyone. It was pretty funny for a couple of women to demonstrate to a group of men how to use a drill and other power tools though. And some of our concepts for the cage design were pretty far fetched to the worker men, despite the fact that the designs are pretty standard in cages back at home.

Missy's current cage is built into a corner of the lodge building. So two sides of her cage are attached to the lodge building, with long windows in the walls that makes her very open and exposed to the people inside the lodge. It's about 15 feet long and 15 feet wide. We added onto the length of her cage another 20 feet and 15 feet wide. It is also attached to the lodge building on once side, but without windows in it. So for the new cage, she has a solid wood wall on the lodge side, and the two walls we added, are made with solid rows of large bamboo canes standing upright. So the three new walls of her cage addition are essentially solid to give her more privacy. The fourth wall of the existing cage wall is the common wall to her old cage. The bamboo canes were probably 6 to 8 inches in diameter, and not perfectly straight, so she can see outside past the bamboo through the small cracks and gaps, while staying concealed behind them to anyone outside. We framed up the roof with some bamboo canes for support and fence wire, so it is basically open to see the sky and will let the existing trees grow through the roof. We treated the bamboo with a water sealer to help make the bamboo last longer in the humid climate. We didn't get to see her released into the new area, as it needed just a few finishing touches when we left, but they will have it finished soon, and she will soon be exploring her new private space. I suspect she will start spending a lot of her time in that new end, since it does afford her a lot of privacy away from people.

The little tamarin, Pico, that we took to the reserve in February was doing very well also. He's become quite spoiled and tame to my surprise, as the last time I saw him, we were having to medicate him and look after some of his wounds. So back at that time, he mostly screeched at the mere sight of a human. It is kind of a catch-22 with him,

we want to release him, but he is a social animal and needs interaction. So while he is at the reserve getting healthy, the only interaction he has access to right now is with humans. He also cannot be released alone, or troops of other tamarins will kill him if he is alone. Rosa is planning on looking for a roommate or two for him on our next trip to live with him so he won't be lonely and can have the proper interaction he needs. Then perhaps the whole little troop can be released together. He's healthier than when I last saw him, but still needs some improvement. I left some vitamins for him and that should help some, and we left instructions to improve his diet. They built him a enclosure on the lodge porch, and he loves for people to come into his cage and visit him. He would climb all over you, talk to you, and loved to be scratched all over. Towards the end of the week, we had given him so many treats, that he started demanding them from us. And he can put on quite a racket if he doesn't get his way! Enma, the lodge caretaker, called Leann his "Gringo Mama" from Kentucky, and said that she (Enma) was Pico's "Negro Mama" from Ecuador. He's become a very cultural little monkey I suppose.

The camera traps are having quite a bit of difficulty working in the conditions down there. The reserve is located in an area that has been claimed to be "the most humid place on earth". Three of the four cameras were non-operational when I arrived. The major problem we have got to deal with, is that the film is deteriorating while in the camera and that is what is breaking the cameras. What happens, is that the film has a layer of emulsifier on it, and I think that it is not rain water getting inside the camera, but the humidity is causing the emulsifier to break down and liquefy. Then the wet emulsifier is getting all inside the camera, and it gets all over the spindle that rolls the film up as pictures are taken or rewinds it. Then it gets down into the mechanical part that turns that spindle and dries and hardens. Then the spindle will not turn, so the camera cannot take a picture, rewind film, nothing. It's simply causing the mechanical parts of the spindle to burn up. Plus the pictures that have been taken are ruined. Some of the cameras had taken pictures before breaking, so I pulled all the film out of the cameras, and I will try to develop it. I am not very positive that I can salvage much of the film, but we'll see.

The only way I know how to prevent this in the future, is that we should probably take the film out of the camera after about every 10 days whether pictures have been taken or not. We have been leaving a roll of film in the camera until at least a dozen or so pictures have been taken in the past. It will waste a lot of film, but the option is that pictures will get ruined from the emulsifier breaking down and cameras become non-operational, so that's a waste too. Since the batteries are not lasting long anyway, they are changing batteries about every 10-12 days anyway. So it will not be so difficult to get into a routine, every ten days, pull out all the film, and change all batteries at the same time.

On the remaining camera, it was operating, but I caught it just in the nick of time. Mauro brought it in the day before we left, and it had 12 pictures on it. I tried to rewind the film, but it would not rewind. I had to go into Mauro´s tool shed, and open the camera, and manually pull the film out. So I don't know if the film got ruined or not because of the small cracks in the walls letting a little light in. But the same problem was about to happen to this camera, the film was all wet, some of the emulsifier was liquefied (so I know some pictures were definitely lost because of that), and the spindle could not turn. But it had not been stuck long enough to burn out the mechanical part yet. So that's pretty much the low down on the cameras. One of our trip members, CJ, has an electronic repair business, and she offered to take the 3 cameras and try to repair them for us at cost. We're afraid if we sent them back to the manufactor or elsewhere that they would be very expensive to fix.

So we thought we would give CJ a chance to get them repaired at cost for us, and save a little money. If not, we will have to send them back the manufactor and see what they say. CJ is pretty confident that her company can get them repaired for us very inexpensively though, so we are quite thankful to her for offering to try the repairs. We plan to get them repaired and carry them back down with us in November.

I will get the film from the cameras developed in a few days, and see if any of it can be salvaged and what we end up with pictures of. I left the remaining camera set up near the lodge, as there is a wild ocelot prowling around the lodge at night. We heard him calling the very first night we arrived at the reserve, but he was so sneaky under the jungle cover that we never caught a glimpse of him. We did see his tracks during the day though. We heard him nearly every night. We tried to stay awake late into the night to catch a glimpse of him with my night-vision goggles that I brought, but the sounds of the jungle nights never failed to lull us to sleep earlier than planned every night. We also had some sneaky kinkajou's that would climb up to our windows at night and chatter at us almost all night. But when we got up to try and look at them, they would scamper away or hide from our view.

We also did a lot of fun things while at the reserve, but I will let one of our trip members write up an article about their experience and what it meant to them for our next edition of the FCF newsletter. We enjoyed a nice long hiking trip to a beautiful water fall, a long cold rainy boat ride upriver to see some unusual scenery, lots of naps in hammocks, lots of laughter at dinner, sitting on the porch at night in the dark playing pots and pans for drums while singing songs and dancing, watching the village children's marimba dance troop, touring the village, wonderful foods, funny experiences in the city and lots of shopping in the Indian crafts markets. We had so much fun and bonded so well, that some of the reserve staff cried when we left. It was truly a wonderful experience, and I hope that anyone who is interested will try to make it on our next trip in November.

Tour participant Grace Lush has set up a web site with stories and photos from this trip to the reserve. You can find it online at www.bundascattery.com/playa.htm

A Tail of Two Bobcats

By Krista H. Griffin of Stamps, AR

Big brother Simon meeting little half-sister Izzy

When people realize that you have bobcats in your home you get a variety of responses; but mostly they ask, "Do they make good pets?" My response to that questions now after raising two of them is - - "The question is would ***you*** make a good keeper?" Note I use the term keeper and not owner; they believe they own you and not the other way around. I guess actually it must be a relationship of mutual respect. I am constantly learning something through our experiences together.

As of right now our situation is this: Simon, the eldest, is quite contented with his companion Izabella. They are not a mating pair as they come from the same gene pool on their father's side. Anyway, Simon was neutered long before a second bobcat was even considered. In hindsight I wish I had not had him neutered; but I believed at the time, that Simon would be the ***only*** bobcat in our home and had hoped that it would possibly prevent the territorial spraying of our home as well. I was wrong.on both counts. At about the age of two years, Simon began to spray anyway—and everywhere.

So began the construction of the outside confinement area. My husband began work on the largest, most elaborate cage he had ever built. When it was finally completed, ours was a bittersweet departure of Simon from the inside of our home to the outside cage. At first we brought him back in the house practically everyday and continued this practice for a while but it soon became apparent that Simon wasn't too happy with the routine. He was contented to be outside and bringing him inside only seemed to make him grouchy. Since my husband and I work outside the home and are away for a larger part of the day (5 days a week), I felt that Simon needed a companion.

Enter Izabella—and here we go again with the round-the-clock bottle feedings and everything that goes with it (a tiresome job but such a special bonding time between you and your baby). Izzy, as she is called most of the time, really became a momma's baby. Right away we could see the personality differences between her and Simon. It would seem that perhaps some nutritional differences as well. It wasn't that long ago that we weren't sure that Izzy would even still be with us. I was going along trying to repeat the same steps and practices of raising Simon when suddenly everything went wrong. I was unaware that Izabella was experiencing a calcium deficiency. It seemed to happen so fast. One night we were playing with her and suddenly she was dragging her back legs behind her and defecating uncontrollably. She could not get up onto her back feet. She couldn't be handled and would not be comforted. We managed to get her to the pet taxi and bright and early the next morning we made a mad dash to the veterinarian (which by the way is a 2 hour drive).

We began treating Izzy for the calcium deficiency and hoped that there had not been any major fractures to her spine as there was a questionable area on her x-rays. We needed to increase her calcium intake but at that time she had stopped eating. We began to give her B-12 injections to try to boost her appetite while also injecting her with Calciferal (which you have to be very careful with). It was a long haul but finally she began to eat again. We increased her daily calcium with extra doses of calcium gluconate mixed with magnesium carbonate powder and crushed vitamin D tablets. We also gave her more bone and cartilage with her meat.

O the indignity of a bath for Izzy

Today Izzy is not only up on her feet again but is running, jumping, stalking and doing all the normal bobcat things. I would not give up on her when she was down but I have to say that the Lord answered my prayers for her. Yes, I prayed for a bobcat. After all, she is one of God's creatures.

After a slow introduction process, Izzy is now out in the cage with Simon. They are very happy together. At the beginning of Izzy's introduction to Simon, he seemed more irritated with me then with Izzy. It was a very sad tie for me because he seemed to be rejecting me. It was as if he felt he had been betrayed. Hi momma had a new baby. After he got used to having Izzy around and was quite contented with her he acted as if he really didn't need **my** attention anymore. Sometimes though, Simon and I have our moments of reconnections; then he goes back to Izabella, who still enjoys getting to come into the house on occasion to nap on momma's bed.

Both Simon and Izabella will always be my babies. Each of them in their own special way has made a lasting impression on this family and occupy a very special place in my heart.

Feline Conservation Federation, Inc.
Volume 47, Issue 4—July/August 2003

Face to Face: All About Wild Cat Field Research

By Timothy John Mallow, Coryi Foundation, Inc.

I had been up all night tracking him across the wet flatwoods and hardwood swamps of the eastern side of the greater Mallory Swamp of north Florida. This vast region of pines and swamps is considered sheer wilderness because of its wide expanse across the Big Bend region. So vast and remote is this region that during the Civil War deserters had sought refuge deep within a part of the swamp. There, the place is called "Deserters Hammock", as delineated on topographic maps. Such a feature and name sort of establishes a cautious tone and mood for this area, and for my experience there.

Twenty-four hours with no sleep, my eyes were straining to stay open. The beeps of his radio-collar emanating from the speaker of my tracking receiver contrasted harmoniously with the pre-dawn calls of the whipper whirls. A light ground fog caressed the windows of my jeep. The sparkling morning stars commanded my attention of the heavens in this amphitheater of life. The scene was most surreal and yet, medieval. I suppose the only reason I didn't fall asleep was because I wanted to meld with the forest, the wildlife, and most importantly, the austere and most majestic object of my focus - .

Akbal had proven himself a capable animal. His home range was huge compared to most other bobcats in my study. His daily travels were far-ranging. At times, I could hardly keep up with his travels as I tracked him day and night. Beyond that, he was in fact, a most supreme predator-fighter. The day he was captured rendered up that fact. I capture most of my animals in traps. But during two weeks of September 1996, I used cat hounds and their master from west Texas along with a wildlife veterinarian student from Gainesville, Florida. The master, the most notorious Rowdy McBride, is a man of extreme experience. His forays into the world of nature have included hunts in Siberia where he was tasked to capture Siberian tigers for a joint conservation project conducted by the Russians and Americans. There, he lost one of his hounds to a male tiger that had back tracked the hounds while being pursued. Rowdy and his hounds had also been to South America to capture puma for a similar study. He's also worked for the Florida Fish and Conservation Commission to capture Florida panthers so biologists could radio-collar them to find out what was needed to save those great cats from the brink of extinction. Thus, Rowdy and his hounds were more than capable at helping me with my captures. However, the day Akbal was captured proved a most trying day for one of his hounds.

We started the hunt around 5AM. As Rowdy's four hounds walked along the dirt road, noses to the ground, I sipped on my coffee as I eased my jeep slowly behind them. For whatever reason, the hounds had turned off onto another road. That road took us into a darkened forest, its canopy of tall pines hovering above us like emerald ghosts maintaining a vista that commanded that men pay due reverence to their domain. The trail was grassy, indicating that it was less traveled by man. A ground fog this early morning broiled the dawn light with luminescent volume. All in all, the place was most mysterious.

All of a sudden, Suzy, the lead hound, bolted into the forest, yelping and barking incessantly. The other three hounds followed her cue. Vehicles came to a halt. I climbed to the roof of my jeep and listened to the echoes of the hounds as they purposed to route their quarry. Bringing the eyepiece of my scope to my eyes, I strained to see the action in the distance. But all I could see was an occasional tail of a hound as it crossed the grassy trail ahead of us.

Akbal was literally taking these hounds for a circuitous trip. We sat back and watched over the course of 45 minutes as he made figure-eight patterns about our vehicles. Back and forth across the trail he'd appear then disappear into the forest. Seconds later the hounds would follow. I felt like I was in the front row of an auditorium and watching a production of Wagner's "Ring of the Nebulung". It was most intense. I got so excited at one point, I jumped off the jeep, with camera in tow to follow the hounds. But Rowdy quickly staved my pursuit to prevent me from distracting his hounds. Reluctantly, I clamored back to the top of my jeep.

All of sudden, Akbal made a dash aft of our position and made way for a side trail. We could see his back bounce up and down with his gait as he ran through the tall grasses that lined the side of the trail. The hounds caught wind of his new course and made pursuit and so did Rowdy. The vet student and myself patiently waited to see if this symphony would return to our stage. But the howls and barks of the hounds faded in the distance.

When Rowdy's hounds were in pursuit of a cat via the mere scent on the ground, the vocalizations they made tended to resemble a series of sharp yelps. When the hounds could see the cat or bay it up a tree or in a thicket, the yelps turned into drawn out howls. After a few minutes of suspense the yelps turned into howls. At that instant, Rowdy had emerged from the side trail and frantically signaled to Mark (the vet student) and myself. We immediately knew what that meant.

Tempered by experience, Mark and I extracted our capture equipment from the vehicles and ran as fast as we could to where the action had now progressed. Now, the reader does well to know that hauling such equipment a few hundred yards is no walk in the park. All in all, we had 4 medium-sized backpacks, 3 medical cases, a pole syringe, and cameras to tote between the two of us. I remember carrying my load of equipment as I ran through the tall wet grasses that covered the trail. In that sprint, if my sweat had not wetted my clothes, then the morning dew most certainly did. I recall that we ran so fast to where Rowdy and the dogs were that in the excitement, I tripped over my bootlaces that had become untied as they were snagged by the some of the more 'raspy' grasses.

Anyway, Mark and I knew what was going on - by the time we got to where the dogs were howling, it all became evident that they had bayed the bobcat at the edge of a small water hole adjacent the grassy trail. However, just as we got there, we saw Rowdy bolt immediately to the hole. Things happened so fast that I could barely recall the details at that point. But my eyes quickly focused on the cause of Rowdy's concern - Suzy, in her zealousness, had jumped onto the bobcat. Together, feline and canine tumbled into the water hole, which was by my guess, about six feet deep. Both of them disappeared into the murky water. All we could see were the turbulent bubbles of their struggle. Then the bobcat rose to the surface, apparently standing on the hound (which was still underwater) to keep itself

above the water. "Oh my gosh!," I shouted, "Suzy is going to drown!"

The cat once again disappeared below the surface. The three of us immediately dived in to separate the two, for fear either might be killed in the process. Floating, swimming, feet barely on the bottom of the water hole, I don't recall. But what I do remember is that our hands groped into the frothy mix not knowing whether we'd latch onto the hound or the highly armed Akbal. Confusion was the rule. In a situation like this, one tends to think less of oneself and more so of the animals under one's charge. For Rowdy, it was the life of his hound Suzy that was of paramount importance. For me, it was Akbal.

Now, all things being equal, if a 27-pound adult male bobcat squares off with a 60-pound cat hound mutt, one could reason that it would likely be a close draw. However, given the power and cutting edge of a wild feline's claws and teeth, I'd have to say that the hound would fair the worse of such a confrontation. Let's face it; these cats spend all their days surviving under the most trying circumstances. Those that live to adulthood are generally considered to be the best fit, genetically speaking, to cope with the environmental factors in which they operate. After all, a 27-pound bobcat can bring down a 90-pound deer. Akbal was in our midst because he was a survivor, genetically superior to the less fit of his kind. Thus, this cat was by no means a walk in the park for any domestic hound.

And thus, such was how the scene did pan out. Instinctively, Rowdy reached for Suzy. I tended, in my own way and as best as possible, to the bobcat. Pulling her by the scruff, Rowdy brought up from beneath the surface a mix of wet hair, blood, and stupefied expression -- Suzy had faired the worse. Her face and head was covered in blood. I think it was at that point that we all realized that Akbal was more than a match for any chase hound and that we had bitten off more than we would otherwise care to chew.

Looking about into the water, I saw a trail of bubbles transect away from us toward the far edge of the hole. Soon thereafter, like a Los Angeles class submarine on an emergency ascent, the great cat broke the surface of the water and frantically swam hard to escape his captors. The contrail of his wake added to the turbulence created by the three of us in the mix of hound, man, and cat, generating confusing waves in the aquatic vegetation that lined the hole. Clamoring up the bank, Akbal turned to look back at us, not even bothering to shake himself of the water on his fur.

My attention averting from the fallen mutt, I watched eagerly as the three remaining hounds circumvented the hole to once again route the predator. But this time, weariness and a thick edge of dense shrubs at the far side of the hole worked to our advantage. The hounds bayed up the cat relentlessly against the impenetrable wall of briar and fetterbush. Akbal spat and hissed his aggression. The dogs barked and howled back, occasionally one of them launching forward to take a nip. But such was futile as the great feline swiped its razor sharp claws in an explosive outward arc. The hound would back off in turn.

'What to do! What to do!' I whispered in contemplation. Seeing that Rowdy had taken the severely wounded Suzy to the near bank to pull her out of the action, I turned to Mark shouting pressingly and sufficiently to be heard above the mayhem, "Prime 3 cc on the pole syringe, ten percent telazol push. I can get him on a reach from the hole with the dogs on the flanks. He's cornered." Quickly did Mark fill the syringe with the ketamine mix and mount it to the end of the pole. After wading to him and grabbing the pole, I darted back across the hole. After three steps, I was in water deeper than head high and found myself now swimming with one hand.

Rowdy followed, looking to me curiously when he came astride me near the far edge. "Give me the pole", he sharply commanded. He had to be kidding! "I can do it", I replied reactively and snidely, "I'm in position." The look on his face told me what he was thinking. And I was thinking the same thing. After all this effort and time, each one of us thought to be better than the other in apprehending a cat, and as such, we each considered it our own duty to handle each capture's most critical moment. "Well", I thought to myself, "This is my critical moment. I am in the hot seat and do not intend to give it over to another." Aside from that, this was 'my' cat, 'my' research, and therefore, 'my' show! Rowdy ate the proverbial bullet and watched reluctantly and patiently as I eased gently closer to the very angry and very active animal, a mere four feet from me.

His eyes were bright with a deep amber sheen. His ears flattened, he presented a resolved look and instantaneously spat at me. His breath struck my face with a hot flash of passion and fear. For some strange reason I thought the fragrance to smell pleasantly familiar as that of a girlfriend from my high school days. But then again, it seems all the breaths of my bobcats smell like those of my ex-girlfriends'!

The dogs kept up their incessant barking, in the mix and throe of action, frequently averting Akbla's attention from me. Standing in the waist deep water steadying my stance on its muddy and unstable bottom, I drew the pole to a ready position and locked my thumb to the dispensing plunger. My heart was racing. This was no spear, and I was not a Masai warrior about to take a lion. Yet, my adrenalin surged. Despite the technological dominance of this study with all our high tech tracking equipment and advanced medical gear, this moment was one of pure art. I had one shot and it had to be zeroed to the haunch; for any slight deviation from the muscular target could land the needle deeply impaled into the abdomen and possibly into a vital organ. And, it had to be timed to occur in synchronicity with the rotation of Akbal's head away from me and to the dogs; for then the penetration of the needle would be unseen by him and the drug could be successfully dispensed. With so many variables, I felt as if I'd be better off donning a blast shield and letting 'The Force' guide my 'light-sword'.

I closed my eyes, drew in a breath, and then reopened my eyes, drawing down with sheer concentration onto the fleshy thigh. No fancy cross hairs, laser guidance, nor fly by wire acquisition system here; just plain old savvy 'English' was at hand. The world was closing around me, yet went silent. Oblivious to sight and sounds, I saw my cue. His head rotated, and so then instantly did my arm. The pole catapulted, striking Akbal in the haunch just aft of the crease. In one single motion, I drove the needle deep and depressed the plunger. With explosive reaction to the sting, he bolted toward one of the dogs in the process of trying to flee deeper into the brush. Like a pinball glancing off a post, he changed direction in an instant, becoming entangled in a network of vines.

"I got him," I yelled. Rowdy then moved in to exert more effective control on the dogs. Looking at the syringe, I could see the plunger had been driven all the way down and that the now bent needle was adorned with a drop of the ketamine mix at its tip. I began to breathe easy. Throwing the pole to Mark, I urged him, "Reload please". We had to be ready should the initial dose be insufficient. Within five minutes, Akbal began to tip in response to the drug. Eventually, he settled to prone and turned on his side into a deep sleep. My critical moment had passed and so did I, with flying colors. We had Akbal, at last!

Suzy... well, she is another story. Truly, this was not a good day for her and she required emergency medical care at the small animal hospital 50 miles away and numerous stitches. Needless to say, she spent the next few days recovering from her severe head wounds. As for Akbal, this was just the beginning of a number of exciting close encounters over the course of the following year during field research.

To the casual reader, this method of capture may seem inhumane. Indeed, chasing after a wild animal with four hounds may seem dangerous and is harassing to the bobcat. However, what we are trying to accomplish will serve to take this species far into the future. To me, it is no different than the painful prick of a needle that may keep me from acquiring polio or small pox. Ecologists, in this sense, are doctors of the natural world and though methodology is not always pleasant, the positive results of research that conserves a species or a resource far outweigh any unpleasant and largely harmless means to that end. And I must add that radio-collar research places no impediment on an animal's day-to-day venue of survival. Radio-collared subjects go on to live as long as non-collared subjects with the same mortality frequencies in each sex and age class.

It is no easy task to study a population of any species of wild cat. The forests or savannah plains are your office, your laboratory, and your home. A comfortable bed is typically the seat or hood of your vehicle or a bed of pine needles. Hours and days go by without seeing another soul and you often question your decision to make a niche of such a calling in life. You put up with sweltering heat and humidity, torrential rains, freezing nights, pesky insects, and venomous snakes. And then there are the hunters that scoff your work of conservation or kill your subjects. And of course there are the wary landowners that hate you for generating data from research that is used to establish land use limitation policies. Then there are vehicle break downs, as well as getting stuck in deep sand or mud. And when funding runs out, you scrape the barrel of your personal accounts merely to avoid a time gap in the database. Last but not least, there are the 'war wounds'. Working closely with wild cats is risky. The bobcat may not be a lion, but his tenacity is as robust. Pound for pound, they are as voracious as a leopard, as powerful in the bite as a jaguar, and as determined as a lion to stand their ground. This researcher has numerous scars, needless to say.

However, despite these challenges, you do not quit because you have been smitten to a passionate end and lifestyle – that of interacting with exceptionally beautiful and majestic creatures in the natural world. Most importantly, you live and work to protect what is left and know that what you are doing is truly a labor of love with a significant and honorable goal.

I think the hardest part of the work though is to see the death of an animal you have come to know in the wild through months and years of tracking. Ntwadumela is a case in point. This male was killed by a hunter after only 3 months of radio-tracking. He was shot in the hind leg by a high-powered rifle, suffered a shattered femur, and succumbed to massive infection of the wound, blood poisoning, starvation, and shock. After 4 days of delirium, he painfully limped his way into a tree fall and brushy den at the edge of a marsh and died in his sleep. When I found him, he was lying on his side with his eyes and face pointed to the marsh. I crawled into the den, laid down where he was, and looked out to see that which was his last view in this world. His view consisted of brilliant amber waves of marsh grass moving lazily in the autumn wind, a blue sky above at their tips, and wisps of cottony clouds transecting that sky. I also recall the night before he had died: an endless sea of stars with a crescent moon; whipper whirls chiming in the distance; and peepers singing amidst the aquatic foliage. Then I recall his face as I had found it: his eyes were open and it was as if he wanted a lasting look at the life he had known – a seemingly final closure to a certain love of life. Funny, I think many humans do this on their deathbeds! Each time a cat dies, I sense a part of me go with it. Contrary to popular opinion, researchers do get attached to the animals they so diligently watch and study in the wild.

When one of your study animals dies, they rarely die close to a road or trail. Often, one has to trek deep into a swamp or a secluded hammock to retrieve the carcass. Many times, the carcass is not intact and you merely save items that are the most valuable for research. You have to try to ascertain cause of death in an investigative way in much the same way as a forensic criminologist. There have been many instances that I have bagged an animal and stuffed it into my backpack for the walk out. It can be a messy business. But again, what can be obtained at a necropsy back at a field station can shed more light on the ways these animals live and die. On rare occasions have I had to abandon the animal in place due to an advanced state of decomposition. A female bobcat died in the middle of a huge gum swamp awhile back. My associate and I spent a few hours wading through waist deep water, using the tracking collar as a guide to her body. We had to first breach the swamp at an edge inundated with sun drenched aquatic grasses. There, the web of life was extremely diverse and abundant – alligators and cotton mouth water moccasins included. Once in the dark interior of the swamp, we pressed forward not knowing where the proverbial road may lead. Fortunately, we located her body floating in 4 feet of water. This cat smelled terrible. There was no way I was going to haul her out. So we did a field autopsy right there in the water. The best we could conclude was that she died as the result of a moccasin bite. She had a large wound on her right flank that had appeared to take on a necrotic character prior to death that indicated venomous break down of tissues. The saddest part of this is that her death had orphaned three 3-month old kittens. Attempts to trap them were unsuccessful and they are presumed to have not survived at such a young age. This is another ugly aspect of field research – the orphans! And you become more sullen when you realize that you are merely seeing the tip of the iceberg with respects to all the animals you have not radio-collared, and that have succumbed to similar fates out of man's vista.

So what can we deduce about a population at large with such a relatively small sampling? I'll reserve this for the second article in the series.

WILD FELINE TRAINING SERIES

By **Jessi Clark-White**

AN INTRODUCTION TO CLASSICAL CONDITIONING

Classical conditioning is the science of associations. Perhaps the most famous examples of classical conditioning were Pavlov's dogs, which learned that dinner was always preceded by the ringing of a bell, and thus began to salivate any time that noise was heard. But classical conditioning affects the behavior of our cats in ways much more significant than drooling over odd noises!

A simple way to distinguish classical conditioning from operant conditioning is this: If the animal's behavior or actions influence what happens to him, operant conditioning is at work. If the animal's actions do not influence the outcome of events, classical conditioning is taking place.

Pavlov's dogs did not *have* to salivate when the bell rang in order to get their dinner. Dinner always followed the bell's ring, which induced such a state of anticipation that the dogs would salivate unconsciously. This is classical conditioning. If you refuse to put your dog's dinner bowl down for her until she sits quietly, you are taking advantage of operant conditioning.

And now for a bit of training trivia; studies have found that if a classically conditioned response is placed in conflict with an operantly conditioned behavior, the classically conditioned response will prevail.

You might ask how classical conditioning could be of use to you, since it cannot be used to teach an actual behavior such as "sit" or "come." Classical conditioning is beneficial because it can be used to make profound changes in how your cat feels about the situations he's placed in.

CONDITIONED EMOTIONAL RESPONSES

Classical conditioning can explain how we develop emotional responses to certain objects, events, and places.

In an infamous 1920 experiment, researcher John Watson put a rat in the playpen of a baby named Albert, who had no innate fear of the rodent. Then, in a fine display of scientific compassion, Watson made a loud noise to frighten Albert. After pairing the presentation of the rat and the sound several times, Watson placed the rat in the playpen but did not make the noise. Even without the noise, Albert feared the rat. He had developed a conditioned emotional response to the rodent.

Conditioned emotional responses can be developed either deliberately or (more often) accidentally and are very resistant to change. Does your cat get excited when he sees his food dish? That's a conditioned emotional response.

Some fears are conditioned emotional responses; others are innate or instinctive. Fears develop as a result of traumatic experiences (an abused cat cowers at a raised hand), lack of exposure/socialization (fear of the unknown), or in some cases they simply exist (how many of us can explain why we are afraid of spiders?).

Undesirable conditioned emotional responses can often be overcome through two classical conditioning concepts:

Counterconditioning and desensitization.

COUNTERCONDITIONING

Counterconditioning involves exposing the animal to a low level of whatever bothers it, and simultaneously presenting something positive. When done correctly, this causes the animal to like whatever nasty thing you started out with, such as a loud noise. You are *conditioning* a response that *counters* the cat's current reaction. You might not like getting rained on, but if $20 bills started piling up in your hand whenever it started raining, I'll bet you'd be hunting down cloudbursts in short order!

Negative counterconditioning is also possible, although rarely useful. Conditioned taste aversion has been used to keep coyotes from attacking sheep. Farmers have begun lacing the wool with a substance that nauseates the coyotes.

After a couple of tastes, the coyotes learn to avoid sheep.

DESENSITIZATION

Desensitization involves doing that same nasty thing over and over again until the animal gets used to it. Desensitization and counterconditioning work together; if you are counterconditioning a cat to something, he is automatically being desensitized to it in the process.

TRAINING WITH CLASSICAL CONDITIONING

Let's say you want to be able to trim your serval's claws, but he hates having his paws handled. If you touch his paw briefly, then immediately give him one of his very favorite treats, the positive aspect of that experience will outweigh any negative feelings he had about the fact that you touched his paw.

After this sequence has been repeated over and over again, that brief touch on the paw will come to signify "Oh, goody, *I'm getting a treat!"* Then you can make the touch longer, gradually progress to picking up the paw, and finally ease into actually clipping the nail. Through classical conditioning, you have transformed him from an intractable beast to a cat that actually enjoys nail-trimming time. This is an oversimplification of the training process, but it serves as an example of what you can accomplish.

It should also be mentioned that classical and operant conditioning are not always distinct from each other. Revisiting the nail-clipping scenario, we can see that classical conditioning is changing the cat's associations from negative to positive*: Having my paw touched is fun; It means I'm getting a treat.* But at the same time, the cat is actively learning something: *If I hold still while my paw is handled, I get a treat*. That is operant conditioning at work.

The keeper staff at the Houston Zoo employs positive reinforcement to teach the animals in their care specific behaviors. The training usually encourages natural behaviors, and also allows some veterinary procedures to be performed without anesthetizing the animals. Animals trained in this manner allow themselves to be weighed, touched in sensitive areas and even allow blood drawn from their tails.

NEXT ISSUE: CRATE EXPECTATIONS

Next up, I'll drop the tedious scientific background and present complete instructions for training exotic felines to enter a travel crate on cue. A future article will take on the pungent issue of litterbox problems. If you have tips or stories on these topics to share, please drop me a line. I'm also soliciting suggestions for future article topics; you can e-mail me with your input at jetflair@eudoramail.com.

***Jessi Clark-White** is a professional dog behaviorist, emergency dispatcher, and first-time exotic cat owner. Her articles have appeared in DogSports Magazine, the AKC Gazette, Off Lead, Forward!, NADOI News, and The Siuslaw News, as well as on her websites www.K-911dogtraining.com and www.AfricanServal.com. She is currently writing a book on care, training, and the politics of living with servals. Article copyright 2003 by Jessi Clark-White.*

The Oregon Husbandry Course and Wildcat Haven Tour

By Jessi Clark-White

Obligate carnivore…. USDA-APHIS….CITES, REAC…. 9-guage wire…. Ketamine….stable over most of range, 2 subspecies endangered….

The information started flowing at 9:00 am and didn't stop until after 6:00, when were challenged to retrieve it from our tired brains for the test. We were an exceptionally diverse group, brought together by one common denominator: passion for exotic felines. There were owners of tigers, cougars, servals, caracals, Geoffroy's cats, leopards, and bobcats; sanctuary employees, USDA inspectors, and people interested in getting their first exotic cat. The June 27th FCF Basic Wild/ Exotic Feline Husbandry Course was attended by 18 students.

Instructor Leann Montgomery valiantly presented a mountain of material despite distractions, debates, and questions galore. The Wilsonville Public Library's air conditioning decided to malfunction just for us, cooling the entire facility with the exception of our conference room. Leann got to stand all day in 84-degree heat, making herself heard despite the library loudspeaker so thoughtfully piped into our room ("We will be closing in thirty minutes, so please make your way to the checkout desk….") and the din of the library director's retirement party. During the test we were treated to a very interesting (and loud) foot-stomping live Mennonite adaptation of *We Will Rock You*. Despite their best efforts, we all passed!

The course covered a broad range of topics, including natural history, regulatory agencies (nicknamed "Alphabet Soup" by Leann!), caging, equipment, nutrition, veterinary care, contingency planning, and training. It was a lot to cover in one day, and I think it's safe to say that everyone learned something new. The attendees made some excellent suggestions; we obviously have much to learn from each other.

Any shortfalls of the venue were overshadowed by the wonderful opportunity to learn and to meet fellow cat people. Many of us were glad that technical difficulties with the projection system delayed the start of the course, as it gave us the chance to introduce ourselves and share pictures of our cats. The presence of two USDA inspectors added to the value of the course; they were very willing to answer questions and emerged with a greater understanding of wild feline husbandry along with - I venture to say - increased respect for the FCF.

Tank, the bobcat, after a long day of greeting visitors at Wildcat Haven

The next day, we were off to Wildcat Haven. Cheryl and Mike Tuller spent hours showing us their cats and their beautiful facility, home to 25 felines. This is an exotic cat and cat lover's Mecca, with large, naturally landscaped enclosures containing servals, bobcats, lynx, cougars, ocelots, and a caracal, jungle cat, and Geoffroy's cat nestled amongst the trees.

One of the highlights of the day was meeting Noni and Neko, the two rescued cougars. They eliminated a personal prejudice of mine with a single purr. While I support the right of qualified people to own whatever animal they choose, I admit to having questioned the wisdom of living with a cougar, having written them off as too dangerous. That attitude changed forever as I slipped my hand through the wire to scratch a purring puma on the chin. My cougar infatuation began the moment Noni cradled his powerful head in my hand, narrowed his eyes in contentment, and wrapped a gentle paw around my arm. I am incredibly grateful to Cheryl for introducing me to her boys; it was an unforgettable experience. I hope to visit them again some day.

Another special moment was meeting Paris and Bellagio, the two ocelots boarding at Wildcat Haven. I never could have imagined that ocelots were so stunningly beautiful. Their shiny, velvet coats are emblazoned with the richest and most striking markings you can imagine. And who couldn't fall in love with Bear, the friendly bobcat who greeted us with a purr and invited all comers to scratch his chin.

Of course, I had to linger with the beautiful spotted servals, finally meeting some of my Sirocco's kin. The opportunity to tour Wildcat Haven was thrilling, as the only exotic cats I'd met before that Sunday were Sirocco and a lynx at a wildlife park.

Two course attendees considering getting a small exotic feline had their first chance to meet servals "up close and personal" and see a wide range of personalities from friendly to shy to downright hostile. The tiny, hissing 22-year-old Geoffroy's cat could melt anyone's heart, and we met many beautiful bobcats and lynx as well. On behalf of all of us, I would like to say a great big thank-you to Cheryl and Mike for opening their doors to us and trusting us to interact with their cats.

Simba's Story

By Marty Evans

My husband raised his first pair of bobcats in the 1950's. They were orphaned by hunters. After raising them for two years, he spent over two more successfully reintroducing them into the wild. He also raised orphaned fawns and they were later freed with minimal contact and able to shy away from humans. I have raised several breeds of dogs and a multitude of other small animals also starting in the 1950's and have always wanted to try exotics. These experiences have helped us to better understand and prepare for all of our exotics and we are sure they are healthier for it.

We have opened our hearts to all sorts of animals in our ten years together and began raising our first bobcats three years ago. We also have caracals, geoffroy's cats, Bengals (small hybrid domestics) and Pixie Bobs cats along with kinkajous and our three dogs, several turtles and lizards and our obnoxious Macaw that wakes us every morning imitating either our doorbell or the phone. It seems that we are always managing to find some animal that is in need of attention and love.

One evening I was talking to a friend that lives in Tacoma, WA and in the conversation of our cats she said "Did you see the ad in the paper of a bobcat for sale?" I said I hadn't and she proceeded to give me the phone number and told me to keep her informed, since we both assumed the ad was for a Pixie Bob, which we both have. However, at that time I already had my girl bobcat, Shelena. After finishing the phone conversation I put in a call to the phone number she had given me. The lady that answered said the cat belonged to her son and he was not in at the time but she would give him our number.

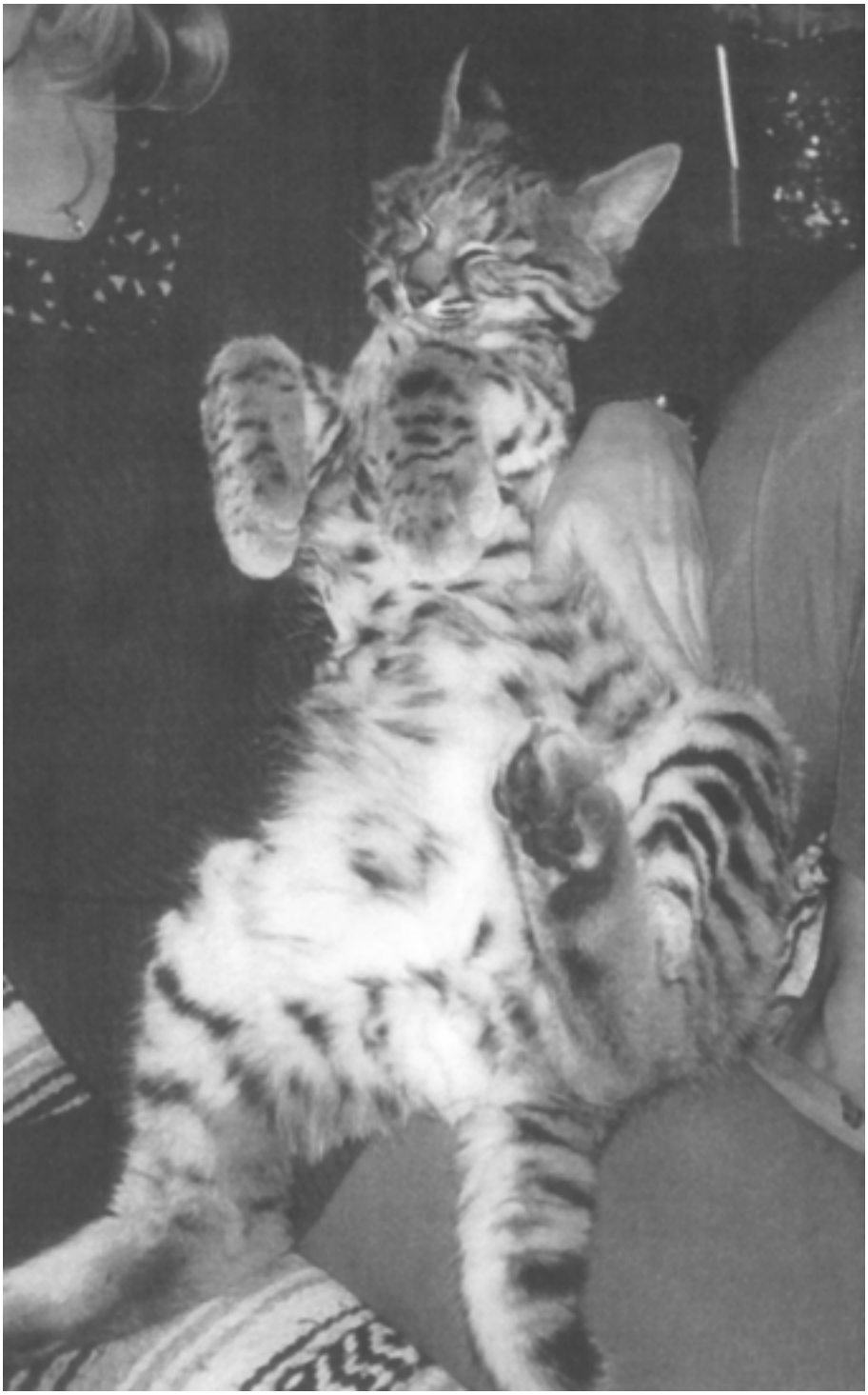
The next morning the phone range and a young fellow was on the other end. He had the bobcat on some property at Rockport, WA. and he was looking for a home for him. He wanted $1200.00 for the cat. His wife wanted him to get rid of it because they had a 7-year old daughter and a 4-month-old baby. This person told me that he had purchased the cat from a couple that was being transferred to Hawaii and they could not take the cat with them. He told me he always wanted to say he owned a wild cat. This, as we all know, is the ***wrong reason for getting an exotic cat!*** He said he had already received several inquiries and some people were coming to see the cat. After I got off the phone and talked to my husband we decided we had better go take a look so I called him back, and we were on our way.

After arriving and as we were walking the trail to where he was building a new home and had the bobcat, we found out that the cat had gotten out twice but returned because it did not know how to hunt for itself. He also told us that a tree had fallen on the cage while the cat was in it, and after getting the cat out he had removed him to the current cage. Upon seeing this poor animal we knew it was indeed a bobcat and was not being taken care of properly. The enclosure he occupied was a prison, just large enough to turn around in and that was all. His diet was raw beef liver and a commercial cat food for domestic cats. We told him that unless the other people had the right place it was not going to work and if they lived in the city or subdivision it was not legal to own one. After a long talk and getting him to understand, we left with Simba.

At our place we got him all settled in to his new home with places to run and hide. His enclosure attached to our home, but he spent most of his time outside. He was used to having a black cat with him so we introduced him to one of our Pixie Bobs which was all black and that made everything better. Now for the food, the liver and cheap cat food he was on was not good for him so it was time to change him over to a diet that was healthier. Not so easy. Taking away the liver and putting down chicken necks did not cut it. So we went to offering Simba both and that was a little better. He would also take rabbit, so we found a source for that.

With all these changes he decided he did not like his Pixie Bob cage mate and he did away with him. This might have been because Simba was not well. We noticed that he was loosing weight and no matter what we tried, it did not work. This situation called for a

vet visit and so off to the vet we went. His weight was down to 15.2 pounds. No one thought he could make it through the winter, but that was not a subject for discussion for me. He had a high white blood cell count so the veterinarian put him on an antibiotic and one of the vets said try lacing his meat, and at this point anything he would eat, with corn oil to help put some fat on Simba.



Well the antibiotics worked and his appetite came back and the corn oil in the meat put on the fat and Simba would eat anything in sight. Our guy went into the winter months weighing between 30 and 35 pounds. We were all happy and we thought our battle was over and a wonderful story would be had by all. Lots of lessons learned and a lot of knowledge acquired for future times. He came out of winter looking great with an appetite to go with it.

Simba was a Montana Blue bobcat, so his fur had no red in it. Simba preferred women to men, but he loved my husband Darrel. He could be moody. At times wanted to be with you and other times he wanted to be left alone. His favorite toy was a large hard rubber ball on a rope that hung from the roof of the cage. He also liked to play hide and seek behind the plants and trees in his enclosure. One day we noticed Simba was a little thin but thought it was because he was loosing his thick winter coat and did not pay much attention to it, especially since he had just climbed to the top of his cage to visit with a wild bobcat that appeared on our deck one night. That was over eight feet straight up! But by the end of that week Simba could hardly move and his weight had nose-dived so suddenly that we called the vet and said we were on our way and they were ready for him.

While we were waiting for the blood work to come back they started hydrating him and getting an antibiotic ready to give him. We had already started corn oil in his meals earlier. The blood tests came back and he was diabetic; his blood sugar was off the scales and his insulin was non-existent. The prognosis for this terrible autoimmune disease was a long hard battle with no great feeling that we could ever get it under control. Just to get him stabilized, Simba would have to be sedated several times a day and blood drawn and the insulin given and after weeks of that maybe it would be that he would only have to have a shot twice a day. Even then, glucose control, as any human diabetic can attest, is a tightrope walk at best, with highs and lows and everything in between. With a domestic cat it is a challenge, with a wild cat, the constant manipulation and invasive blood tests and injections was sure to become more and more difficult as time went on. We could not see putting Simba thought all of that so we made the heart wrenching decision to put him to sleep. The vets and us all had a good cry, we tried so hard. We gave Simba 9 months of the good life and we had to tell ourselves that he was much better off then when we found him. I still have a hard time going to his enclosure but I have to soon to make it ready for our caracals to live in, as it is so much bigger then where they are now. They will love it. Simba may be gone, but he will never be forgotten.

As for some of the lessons we have learned: We know not to take our cats' sudden behaviors changes or appetite loss or ***anything*** for granted. We pay closer attention to all of even the smallest changes and then initiate a detailed discussion with each other about our observations, and then we put in a call to our vet as well.

Pacific Northwest Exotics

"Working to Promote and Protect Exotic Animal Ownership"

APRIL MEETING MINUTES

submitted by Jen Anderson Secretary-Treasurer/Editor

The April meeting was held at the home of Mike Mills and Jeff and EZ Jewell in Sandy, Oregon on Sunday April 27th. I was unable to attend the meeting due to family issues, so **"Thanks"** goes out to Cary Rutherford for taking the meeting notes as follows:

- We received a letter from Jean regarding the Exotic Expo. She does want us to do the October show on the 18th & 19th at the Washington County Fairgrounds. She stated a letter was sent, asking PNWE to participate in the February show, however, we never received that letter.
  - A notice should be put in the next newsletter regarding the show. We should discuss the issues and form a committee at the June meeting.
- At the Companion Pet Expo we took in $110.65. Our expenses were 74.48
- Steve purchased 10 of the Phoenix Exotics, Small Exotic Cat books for a total of 48.00.
- There are 10 t-shirts left
- The Washington bill has been modified; one of the modifications is to prohibit breeding. Sharon attended the last hearing and discussed her experience with us in detail. There was another meeting scheduled for the 9th of May.
- Someone stated that it was important to build relationships with people that make a difference…Politicians etc…
- There was a suggestion for the club to help pay for Sharon's bill fighting expenses. Stamps, Gas, etc…
- The Oregon bill (3065) has been tabled in Ways & Means.
- There was some discussion of the Tiger Sanctuary in California that had been sited for neglect and abuse.
- The next PNWE meeting will be held at Tammy's house on June 15th.
- We should discuss the summer picnic at the June meeting. Sharon Ensley and Family have possibly agreed to host it at their place on August 17th.

Microchips

- Apparently one company (Angelquest?) is testing a new micro chip that would be a locator as well as identifier.
- There was discussion on purchasing a chip setup w/ free reader for club use. EZ agreed to report on the costs and availability.
- The suggestion was brought up to hold a chipping fundraiser (low cost chipping, possibly outside at one of the shows) to help raise money for the club.

- Tammy brought a litter of Patagonian cavies with her and Jeff and EZ had a new litter of 5 coatamundies.
- There was some discussion of nipples and formulas as well as a new wallaby milk supplement.
- Sharon asked for suggestions on how to bulk up Simon's muscles, as he has been thin since she got him back after escaping. Steve suggested that she try Dyne, which can be purchased at www.revivalanimal.com.
- There was some discussion of animals suckling for comfort after having been weaned.
- Someone (I think it was Sharon) said that she had been using Urine-Ate Stain Remover & Deodorizer to get rid of pet mess smells and had a considerable amount of luck with it. I found it at the following link: http://www.usahardware.com/inet/shop/item/61500/icn/20-424739/shipp_enterprises/11005.htm

Thank you to all members who attended the meeting and thanks to Mike, Jeff and EZ for sharing their home with us!

This is FCF member Janette Dunn's serval enclosure in her yard. She has wonderful landscaping around the cage, a wooden floor, tall walls with a tree structure inside and wooden ramps around.

Kitty Litter Technology

A couple of weeks ago, I succumbed to an ill-begotten urge to purchase an electric cat box. That's right, and electric cat box. You heard right.

Here's the concept: the cat box is equipped with a disposable container, a sensor, a timer, and a mechanized "rake." When the cat makes a "deposit," the sensor recognizes the event, the timer allows a respectful interval to elapse, and the rake then drags itself through the cat litter and deposits the waste in the disposable container. Every few days, one replaces the disposable container and the kitty litter chores are done.

Now, just to get this out of the way, yes, it was expensive. Not to be daunted by this however, I decided to help the cats learn the true purpose of the electric litter pan. $80 for this bit of frivolity, but I figured I was darn well worth it.

It did, however, present a bit of a learning curve for the kitties, who had been used to one sort of litter; the new kitty box required clumpable litter. This stuff is rather like sand, but when in contact with litter, a clump is formed. Initially, however, Ling thought it was some sort of a spa: he leaped into the litterbox and rolled around in it like he was trying to cover every atom of his fur with litter. He then promptly curled up in the box and took a nap.

Being a nurse--and a resourceful one at that--I produced a small urine sample in a disposable Dixie cup and poured this in the pan to the amazement of the kitty crew. They stared, transfixed at the lump as it coalesced there, and watched in total awe as the mechanical arm drug the rake through the litter and deposited my sample into the disposable bin.

Thereafter, the cats were totally enthralled by this new device and quickly began to use the pan exclusively. We rarely saw the them after that.

If by chance their attention spans waned before the raking process started, they would run from any portion of the house after hearing the motor begin and stare in rapt glee as the evidence of their potty habits vanished into the bin.

The rake is attached to the mechanical arm that powers it back and forth through the litter by means of a snap-in attachment that, after the second sweep, neither snapped-in nor attached on one side of the box. At first this was a fairly minor irritation, but over time, it became more and more of an issue. Initially, small bits of cat litter were gently deposited on the other side of the bin, ie on the floor outside the box. Soon the level of enthusiasm generated by the rake escalated, however. And now we have a new form of entertainment for the felinefamily members: The Great American Shit Toss. Yes, indeed, soon the rake began to drag so badly on one side that it would lag well behind the rest of the process until rounding the corner to (allegedly) deposit the turds in the bin. As a result, it became the kitty litter equivalent of Babe Ruth.

The cats were endlessly fascinated by this new permutation. They determined ONLY to poop on that side of the box, and to poop in petite amounts. I think they were taking bets on distance before this whole sad event concluded. And they are DEEP in mourning now that we have switched back to the old manual system.

Reprinted with permission from the Pacific Northwest Exotics Newsletter.

A Visitor from Overseas

Huang Thuy, Vietnamese Coordinator of the Owston's Palm Civet Breeding and Conservation Program, visited the US for about a month in June and July. Thuy visited several AZA Zoos and several FCF member facilities, studying husbandry and nutrition, construction methodology, and learning more about the small carnivores not native to Southeast Asia.

Thuy was impressed with the quality of care given to all the animals he saw. He commented that the animals he saw at the privately run facilities were happy and well-adjusted, and in some instances seemed more content than the zoo animals he had observed. He also noted the quality of enrichment was very important to him and he enjoyed seeing some of the toys and cage enrichment provided by private owners.

Thuy holds the first bobcat kitten he has ever seen at Robert Bean's facility in Tennessee

Feline Conservation Federation, Inc.
Volume 47, Issue 4—July/August 2003

A Bit About Bobcats

by Lynn Culver

Our First bobcats - Bobby and Dot

Back in May of 1994, a girlfriend of mine asked us to take in a pair of adult southern Texas bobcats she had rescued from a facility that was keeping them in rabbit hutches. And so Bobby and Dot moved to our place in western Arkansas. Bobby is a beautiful animal, 35 pounds, with a close nap brown\ rosetted pelage. He has an unusually short tail, less than two inches long, and a beautiful full ruff on his impressive face. When I bring these two bobcats their dinner, he always greets me at the door with his muttonchops flared. Dot's fur is sliver-gray with big black dots and blotches, but rarely do I get the opportunity to have a long look at her, she is so shy.

The following spring Dot went into estrus and bred with Bobby. I'll never know why, but she gave birth to three kittens and stopped attending to them after cleaning them up. Every year since she has been an excellent mother who produced and cared for both a spring and late summer litter.

My husband heard the pitiful cries of these baby bobcats and found one had crawled through the fencing of the cage and was in the yard! He put it and it's siblings back in the house, but Dot proceeded to drag them back out of the house onto the ground again, so we decided to pull them for hand rearing. The two females and single male were hungry and eagerly sucked the bottle. We learned that you had to be careful feeding bobby babies as they would over eat and bloat if given the opportunity.

Hair-Raising Kitten Raising Stories

Raising kittens from birth is challenging. These kittens had no protective colostrum in their system. We fed them around the clock, day and night, but on the fifth day, I did something very wrong. I was too tired to get up in the middle of the night and so I fed them late that night and did not check on them again until early the next morning. And when I did, I discovered the male kitten was totally limp. Soaked in sweat from the heating pad under the carrier, I had inadvertently cooked him. He had "gone flat", a term that is quite descriptive, if you ever see one in this condition.

I immediately gave him a 3cc injection of lactated ringers solution under the skin and then 20 minutes later repeated this procedure. I had managed to re-hydrate him and correct his electrolyte imbalance with the lactated ringer's solution, but he was in a very fragile condition. This kitten did not have the strength to suck a bottle. And so began our introduction to tube feeding. Bart and I measured the distance from his mouth to the bottom of his ribcage and marked off the tube and while one of us held him still in our hands the other carefully slid the tube down his throat and filled his stomach with KMR formula. We had to repeat this procedure five times a day for five days, before he was finally strong enough to suck the bottle. I remember wondering if he would ever suck the bottle again. But the crisis did eventually pass and in the process he earned the name Wimpy, because that's what he was – a very wimpy kitten.

And when his sisters were 10 days old, they fell ill. I woke them from their afternoon naps and instead of immediately squirming and squealing for food, they yawned and stretched. That is a red flag – trouble in paradise. We injected them with lactated ringers solution sub-Q and took their temperatures. They both had fevers. We drove them to our most knowledgeable vet, who happened to be 70 miles away. I had brought formula and bottles for the drive, but I regret not bringing lactated ringers solution and syringes. They started going downhill and one was extremely critical when we arrived. They spent the night at the veterinarian's home, and one female didn't survive.

When the remaining female was 17 days old, she developed pneumonia – most likely aspiration induced, as bobby babies are very greedy with the bottle and get over-excited and can easily inhale formula into their lungs if you are not careful. And that left us with just Wimpy, who was by this time, quite strong. And two weeks later, I flew to Wisconsin and picked up a litter of three, 6-week old bobbies. We sold two and kept one, which we named Missy Woo.

Mystery Anemia

The two bobbies bonded immediately and we hoped to someday produce kittens from this delightful pair. But when they were about 10 weeks old they came down with a mysterious illness that left them anemic, feverish, and anorexic. I consulted our vet and we treated them with antibiotics and sub-Q fluids, and lots of lixotinic vitamins, rich in iron and B vitamins for their anemia. We force-fed them their bottle formula and lavished all our love and attention on them.

They hung on like this for three days and slept in our bed by our heads, but we couldn't seem to break their fevers. Sunday, they took a turn for the worse. Wimpy's nictitating membrane was covering his eyes, something that wasn't happening earlier. His fever had been running around 103 to 104 steadily. He was so weak, and I knew he would die that day. While my husband Bart lay with them giving them comfort, I began gathering up all the bobby toys scattered about the bedroom and house and I braced myself for the bitter end. Bart noticed the toys missing and realized what that meant and

we both cried.

We laid beside them all morning into the afternoon and prayed to God for a miracle and begged them to hang on. And later that afternoon when we could stand the pain and sadness we felt inside no more, we left them sleeping on our bed and moved to our porch. We immersed ourselves in lovemaking to release the fear and sadness and hopelessness we had endured for the past three days. It was several hours that we spent away from our beloved bobbies. Then it was time to face the grim reality. We entered our bedroom afraid of what we'd find. We discovered our formerly dying patients staring at us with new vigor and bright eyes. We had been granted our miracle!

Their fever had subsided and they were finally on the road to recovery. It took about another week for them to finally be completely well, their fever waxed and waned several more times. I took them to my local vet on Tuesday, and he wormed them and gave them a shot of dyperone – which is an anti-pyremic, anti-inflammatory and analgesic. That seemed to help also, but the mystery illness just had to run its course, which was almost 10 days from start to finish.

Boundless Bobcat Energy

That was the last time these two cats have ever been ill. Today they are 8 years old. Raising them has been a joy. They spent the first 11 months of their lives entirely in our homes. Bart and I both worked part time, and some days we would work the same days, and we would leave them home alone and return to find that they must have spent the day sleeping. Missy Woo and Wimpy never destroyed anything. They never used their claws to scratch the furniture, they never broke any knick-knacks, they never chewed anything – they never went through a bitey-phase. We never had to teach them "no-bite" – they never even opened their mouths on us. We never had to teach them "no scratch".

They were however, playful and energetic, so sometimes we would move them onto the porch to vent their boundless energy. We did have to keep the toilet seat down or they would go fishing, splashing toilet water all over the bathroom walls and floor. And they did kind of whoop-up on my gardenia bushes on the porch, but that was the extent of their destructive behavior.

They were purrfect, except for their spraying behavior – that's what got them banished from our house. They had reliable toilet habits as kittens– always used the kitty litter, but when they were 11 months old, I noticed a smell on the porch. I pulled up the rug in front of their litter pan and discovered they were peeing on the carpet. Missy Woo had her first baby heat and was marking around, and Wimpy was following suit. It was time for our beloved house bobbies to move outdoors.

The Feel of Grass between their Toes

Bart built them a wonderful 600 square foot compound that connected to a porch window by an arched wooden tunnel about 12 feet long. They could come and go as they pleased. For several years they lived in this enclosure with access to the cat room, which contained their own double bed (mattress covered with a protective plastic cover and sheets and blankets) their own couch (covered with a throw) a picnic table, a rocking chair and a custom-built cedar cat tree with carpet covered platforms. Outdoors, their compound had a kitty pool for summer weather, elevated wooden ramps all around the walls, a cedar tree tower in the middle with springy stair-step platforms, a two-story log cabin and a few clumps of bamboo struggling to get established.

When this pair of bobcats was 16 months old, we adopted a 4-month-old, vaccinated, domestic kitten. We carefully introduced him to Missy Woo and Wimpy, who now weighed about 20 pounds each, and it was love at first sight. They adored Darlin and would greet him with bobcat "woo-woo's and groom him and lay with him. In fact, the first three years we raised bobcat kittens for sale, every kitten we produced loved Darlin. He had a way with the bobbies and it was our highest hopes that he would one day mate with a bobcat, but he had other ideas and eventually he moved over to the neighbor's barn and he left us forever.

I loved to visit Missy Woo and Wimpy on the porch, when they were cuddled together on their bed I would lay beside them and stroke their soft fur and whisper in their ears "I love you" and they would purr so sweet. And then they will stand up and try to pee on me. That is the one behavior you have to get used to if you want to share your life with a bobcat. Having them neutered or spayed is no guarantee it will stop that marking behavior. Face it, Bobcats=Pee.

Eventually, the amount of time I was spending mopping the walls and floors of the cat room, combined with the smell that was making it into the house was more then I wanted to endure, so we began designing another enclosure for these two. It needed to be a step up in the world, since they were loosing the porch forever. Bart built them a cage about 10 feet from our house that connects to a large hillside exercise area that is rich with native plants, bushes and small trees and is quite lush and private. The exercise area is constructed of a fence 10 feet tall and atop that, the fence leans in at a 45-degree angle for about 18 inches. There is an electrified wire at the 8-foot height and another at the end of the recurved part of the fence. This seems to work fine for these two bobcats.

One leads to another. . .and another. . .

Today we have a total of seven very tame bottle-raised pet bobcats. I don't know how we ended up with such well-behaved bobcats. When I hear about naughty, mouthy bobcats, I shake my head and count my blessings. I know that one should fully expect to have to teach a bobcat "no bite", and you should have to spend countless hours protecting your belongings. So anyone reading this – do not expect your bobcat to act this way. We are just very lucky, I guess. And very, very grateful too!

Top: Lynn with Mariah
Middle: Buzz on a chair
Left: Darlin', Missy Woo and Wimpy's pet cat

My Dream Serval Enclosure

by Cathryn Freeman-Spohrer

Prior to getting our first Serval,my husband and myself wanted to make sure we had a strong,safe and enrichment filled cage. We wanted to make sure everything necessary for a Serval was in the enclosure and still left plenty of room.

Our first enclosure,which we still use, is actually an outside dog kennel made of heavy duty caging wire. It measures 10' x 8' x 6'. We finished it off with flooring and a roof enabling us to use it all year. Along with that,white plastic roll shades that keep out sun,rain or snow attached to outside of enclosure.

The State and USDA was happy but I wasn't! So…

So after over a year in the making,we now have a new enclosure and 2 extra Servals that seemed to have appeared! I guess I wasn't happy with the old enclosure. It is nice but for my Servals, I wanted the best!

Since my Servals are part of my family, I wanted the new enclosure built to enable my Servals to come in and out of the house at will.

We started at the bedroom window on the back of our house which faces wooded area.From there,we made a "tunnel"(2x3x2) from window to new enclosure. The tunnel was constructed of pywood and enclosed with metal roofing on all sides to keep out rain and snow. Also at window entrance and enclosure entrance, we have put heavy duty ½" thick flaps to keep out weather, bugs and cold from coming in the house.

Once Servals are through tunnel and inside enclosure, they come onto a platform, on which each side is a plank stairway (with wooden treads made for grasp) going to a den house (each 4 x 4 enclosed) on either side. Also from platform they can jump to the floor of enclosure or go to another platform stairway and reach first catwalk at 4' high all around the inside perimeter of enclosure. Going to another plank straiway,they can also access another catwalk 8' high, again around the inside perimeter of enclosure. At this point, my Servals have two more dens, the same size as the first two.

In the middle of the enclosure another plank straiway that will lead my Servals to all dens and catwalks. Dens have been equipped with large dog heating pads that can be used for wintertime.

The front of the enclosure on the floor,we installed 4 kitchen sinks. These will be used for a variety of things. Fillable with water, eatable grass or other favorites for Servals.

The floor is made of pressure treated wood (safe) 1/8 " apart,then this covered with Marlite. This is the final floor, which I have put some indoor/outdoor carpet around in many areas. So all is washable daily, and water drains outside of enclosure due to slight angle of enclosure flooring. Also around floor is large Serval-safe hanging ball, hard plastic kiddie pool and two very large lamb's wool pillow beds for them to nap on.

The roof is done covered with wire, then metal roofing, angled slightly for snow to slide off.

The perimeter fence 8' high with wiring crossing over to the enclosure and the bottom wire attached to railroad ties on the ground.

The total enclosure unit is 12' x 12' x 12'.

Along with the enclosure, I have put up a fence bordering the woods, to which I have added bird food hangers and plants. Servals just love watching the birds!

Materials used include:
4x4 posts in cement to have enclosure 3' above ground
pressure treated wood for floor (all wood pressure treated)
Marlite for floor
The sides are 4x4's surrounded by 16 guage wire used for all sides, top and perimeter fence
2x6 planks used for stairways
plywood for dens
metal roofing for tunnel and roof

On order right now, I have an awning company making special design canvas roll down,which will go on all sides, which will enable to keep out sun, rain or snow. These will roll up and down.

Clockwise from left: Tigger and Darlin' at the Culvers', a different Tigger vs. Tigger at Terri Solina's, Terri's Tigger's face, Susan Watts visiting with Bobby Bean's baby bobcat

THE TEN COMMANDMENTS FOR ANIMAL OWNERS

1. My life is likely to last 10 to 20 years. Know that any separation from you will be very painful.

2. Give me time to understand what you want of me.

3. Place your trust in me and let me trust in you— it is crucial for my well-being.

4. Don't be angry with me for long, and don't lock me up for long. You have your work, your friends, your entertainment. I have only you.

5. Talk to me. Even if I don't understand your words, I understand your voice when it's speaking to me.

6. Be aware that however you treat me, I'll never forget it.

7. Before you hit me, remember nature gave me weapons that I could easily injure you with, but I choose not to hurt you.

8. Before you scold me for being uncooperative or irritable ask yourself if something might be bothering me. Perhaps I'm not getting the right food, I've been out in the sun too long, or my heart may be getting old and weak.

9. Take care of me when I grow old. You too will grow old.

10. Go with me on difficult journeys. Never say, "I can't bear to watch it" or, "Let it happen in my absence." Everything is easier for ME if you are there. Remember, I LOVE YOU.

Protect Yourself and Your Cats from summertime pests

Use Bounce Fabric Softener Sheets...Best thing ever used in Louisiana...just wipe on & go...Great for babies.

Bob, a fisherman, takes one vitamin B-1 tablet a day April through October. He said it works. He was right. Hasn't had a mosquito bite in 33 years. Try it. Every one he has talked into trying it works on them. Vitimin B-1 (Thiamine Hydrochloride 100 mg.)

If you eat bananas, the mosquitoes like you, - something about the banana oil as your body processes it. Stop eating bananas for the summer and the mosquitoes will be much less interested.

This is going to floor you, but one of the best insect repellents someone found (who is in the woods every day), is Vick's Vaporub.

Plant marigolds around the yard, the flowers give off a smell that bugs do not like, so plant some in that garden also to help ward off bugs without using insecticides. Citronella, lemon grass, cedar and wax myrtle plants also naturally repel insects.

"Tough guy" Marines who spend a great deal of time "camping out" say that the very best mosquito repellant you can use is Avon Skin-So-Soft bath oil mixed about half and half with alcohol.

One of the best natural insect repellants that I've discovered is made from the clear real vanilla. This is the pure vanilla that is sold in Mexico. It works great for mosquitoes and ticks, don't know about other insects.

When all else fails—get a frog.