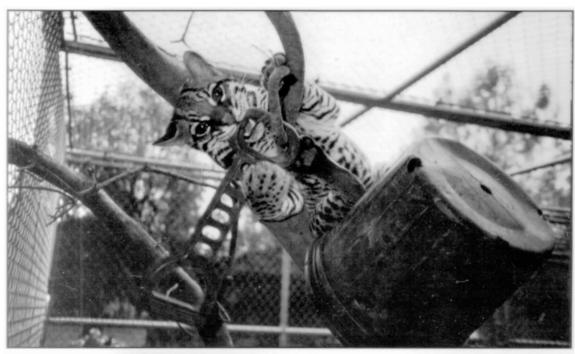
# ENDANGERED SPECIES CONSERVATION FEDERATION, INC.









# Endangered Species Conservation Federation, Inc.

This Newsletter is published bimonthly by the LIOC Endangered Species Conservation Federation, Inc. We are a nonprofit (Federal I.D. 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. LIOC ESCF, 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 LIOC. 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 LIOC should contact the Term Director in charge of Member Services.

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# A Special Thank You to

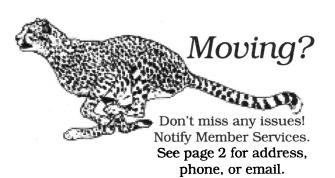
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for contributions to this newsletter. This is YOUR newsletter. ALL contributions—new or old, long or short, technical or humorous, personal story, article, or advertisement—are welcome and needed. I'll be happy to assist with writing and/or editing. Calls, emails, or faxes are welcome.

Marge Maxwell, Editor

# Visit Our Website! <a href="http://www.lioc.org">http://www.lioc.org</a>

Informational contributions may be sent to George Stowers, Vice President. Email: gstowers@twcny.rr.com. Please send computer readable text files. (Email is great, will accept ASCII text files on disk. See page 2 for address.)



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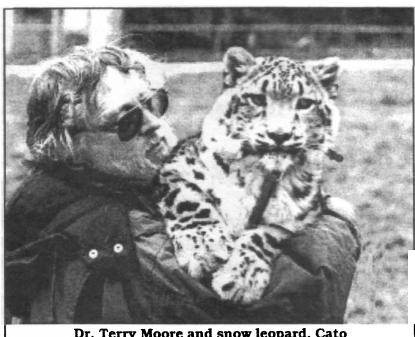
# The Cat Survival Trust-**England and Argentina**

By Kelly Jean Buckley

Located 30 miles north of London, England is the Cat Survival Trust Facility, operated by LIOC members Terry & Judith Moore. They currently have many exotic felines. There are 9 bobcats, 5 caracal, 1 fishing cat, 8 geoffroy, 3 jungle cats, 2 leopard cats, 4 euro lynx, 2 ocelots, 1 serval, and 6 snow leopards. Included in this population, born this year, are and 1 male and 2 female snow leopards, and 2 female caracals.

In 1992, The Cat Survival Trust, a pioneering environmental charity in the field of forest protection, purchased 10,000 acres of rainforest in north east Argentina, in order to protect endangered cats. In doing so, it simultaneously protects five million trees, billions of insects and hundreds of thousands of plants, mammals, birds, reptiles, and fish in the same piece of land. The province of Misiones is a narrow thumb of land projecting northwards from the body of Argentina into a gap between Paraguay and Brazil. It's bounded on the west by the river Parana and on the east and north by the rivers Uruguay and Pepiri Guacu.

Of special interest to the Cat Survival Trust are the five species of cats which live in the park. They are Jaguarundi, ocelot, margay, tigrina, and puma. Jaguars used to be in the area, but disappeared about 90 years ago. Initial work in the park has revealed 4



Dr. Terry Moore and snow leopard, Cato

species of orchid which appear to be new to science, 2 previously unknown edible fruits, and 1 species of bird never before found in Argentina. Over 50 plants in the area are considered by local people to have medicinal properties.

Recent major climatic catastrophes such as floods, forest fires, and droughts are on the increase all over the world. More forests are being cleared, with only a few people benefiting from the destruction by way of having no other means to earn income. The real problem facing the protection of the environment in the past has been it's inability to be self-sustaining. That's about to change...

This will require:

- Better education and knowledge of the earth
- A desire to improve health, happiness and standard of living for local people
- Conservation projects to become profitable
- Conservation projects to provide

 Conservation projects to provide sustainable employment

The solution:

- Protect the remaining forests of the world
- Allow damaged forests to regenerate
- Plant masses of new forest, particularly along the banks of rivers and streams.
- Enable people, through education, to understand the importance of protecting the earth

In a project, approved by the Argentine Government, this forest reserve is to provide the first of a sustainable tourist driven nature reserves.

The United World Ltd, The Earth, and The Cat Survival Trust will help this process by creating a series of new nature reserves, helping to protect as much of the remaining forests as possible. Cat Survival Trust has met with a new sponsor who will assist them in purchasing an additional 310,000 acres, which will create 10 sites in 7 countries. A web site will be created for these nature reserves to provide visitors with facilities to book eco tourist vacations. Through the web site, bookings can be made from all countries around the world. This will ensure there is no peak period as each country has different holiday periods.

On an adjoining piece of land to each reserve site, a small 72 room hotel is to be constructed. This will provide accommodation for the resident staff of the hotel, plus 52 rooms for eco-tourists. Using the Canadian 'Terra-Dome' style of construction, used world-wide, it is fast to construct and inexpensive to build and maintain. The hotels will be constructed in hollows with views across part of the reserves. Once constructed, they will be covered with earth. This will ensure that it has little environmental impact and will require very little energy for internal temperature control. There will also be

a terra dome accommodation and operation buildings for the park rangers. The reserves will have rehab and release facilities set up for native animals in need. Similar hotels will be constructed at each reserve site. Cat Survival Trust's sponsor is providing \$36,500,000 for this project and each hotel/reserve will generate enough profit to run the reserve and purchase a new hotel/reserve every 8 years.

The Key:

- The hotel will have many benefits for the local people.
- Lifetime sustainable labor will be created for local produce
- producers, drivers, hotel maintenance staff, nature reserve staff, gardeners and producers of local crafts. (Cutting down local forest only provide employment for a couple of years and then the environment collapses and forces the local people to move away to look for more work.)
- Local businesses will see increases in tourist generated business.
- Local employment will enable the local people to pay local taxes providing the means for local government to provide better local community services.
- Some profits from the eco-travel operation will be allocated to the government to run the reserves to improve protection levels.

How will revenue be generated in these hotels? Eco tourism will generate vacation fees, restaurant sales, craft sales, local tour fees, and donations from visitors. Through a variety of innovative ideas, additional revenue can be generated through plant cutting and seed sales, medicinal preparation production, and sales of the right to have ones ashes spread in the reserve.

For the first time, conservation will be profit making and once the first few operations are up and next year the company will be floated on the stock exchange.

Locations: There are a number of locations already offered to Cat Survival Trust in Argentina. Three have been selected for initial development. The site in Misiones is a 4,069 acre reserve to the west of the Urugai-One Provincial Park. The site in Chaco has 4,070 acres of scrub forest in wetland habitat. The site in Tilcara, Salta, is a 243,000 acre reserve, with a variety of rainforest types on the slopes of an extinct volcano. Total land to be protected in Argentina for this project is 252,899 acres. Full support has been offered for all current and future proposals by the Government departments in Argentina, and access to all Argentine National and Provincial Parks agreed for organized tours. In view of the assistance provided by the Cat Survival Trust in the past for environmental work in Argentina, all proposed tourist developments have already been approved.

There will be another location near Buenos Aires of 1,760 acres which is located close to San Vincente, which is within easy reach of an International airport. This site is a mixture of scrub forest wetland habitat and pampas. This site is suitable for easy connections to other parts of the country by internal flights. Access to all of the proposed locations is good. All four hotel locations are linked by existing road networks.

The objective of this project is to demonstrate how natural habitat can be protected using commercial principles. While the proposed areas to be purchased could be used for commercial logging, with a minimum of 1 mature hardwood tree from every acre of forest, worth a minimum of \$537 USD, commercial logging of tropical forest is an unsustainable use of such land. Protection of natural habitat using ecotourism helps to provide lifetime employment for local population, stabilize

world climate, and bring foreign currency into economically underprivileged areas. Tourists using these facilities will have access to existing State run parks for guided tours, and will have access for video study.

This information is a shortened version of the business plan which is 200 pages in detail. A good way to support this program is to visit these habitat reserves and enjoy the hotel accommodations. They should be up and running within 2 years. Terry Moore will be traveling to Argentina this November to oversee the beginning construction of the first site and he will keep us posted on the progress.

# (Continued from Page 7)

mundane tidbits can be invaluable when taken as a whole with bits and pieces contributed by others. It's the total picture that counts and your cat can be a part of the greater whole.

Sparks registration forms can be requested from Member Services. Please take the time to fill one out and submit it, its important.

Below are the cats that have so far been registered:

Bobcat	57
Cougar	46
Serval	
Caracal	16
Leopard	13
Ocelot	
Tiger	
Canadian Lynx	
Lion	
Chaus	
Snow Leopard	
Geoffroy	
Leopard Cat	
Oncilla	
Fishing Cat	
Cheetah	
Clouded Leopard	
Pallas Cat	

# SPARKS PARTICIPATION FALLING SHORT! (What's Your Excuse?)

by Shirley Wagner

We recently mailed out a registration form and asked all LIOC members to participate in registering their cats with the SPARKS database. Provisions were made to allow anonymous registration should you so desire. 17 members have registered a total of 238 cat representing 18 species. Those species are shown below.

At convention, we asked why those present hadn't registered their cats. The most often response was that they felt their participation was unnecessary as they only had a pet animal that was in some cases neutered. What possible benefit would be derived by participating?

LIOC's Code of Conduct states: "Private ownership of a wild feline is a privilege that carries with it an obligation to ensure that the health and safety of the animal, the animal's species and the public are not significantly or unnecessarily threatened and whenever practical enhanced by my actions. So? What does that have to do with SPARKS?

The more we learn about these animals the more the species is enhanced. Ironically, I was talking with an AZA Studbook keeper about the finer points of the SPARKS program and my role as LIOC's Studbook Keeper. It was stated "of course if someone reports a 10 year old ocelot as the mother of a litter, you'd want to question it." Somewhat taken aback, I foolishly asked why? "Because they don't live that long"

Whoa!! In LIOC, twenty is old, but

even then many live beyond this This somewhat venerable age. astonished the person and they questioned why this great disparity between zoo animals and those held privately. We can only surmise that perhaps it's because we're in closer contact with our animals and notice slight deviations, the first indicators of illness, well before our zoo counterparts. Whatever the case we have two things illustrated here - the private sector's ability to maintain longer-lived animals and 2) the insufficiency of data the scientific community has access to.

So even one, lone, neutered animal can, by being entered into the SPARKS database contributes to the knowledge of the animals and enhance our ability to care for them. Thinking a 10 year old cat is at the end of it's life cycle has perhaps contributed to the withholding of procedures that might enable that cat to live another 10 years as ours do. We do, after all, take into account the age and longevity of an individual when making decisions on whether to treat a medical condition aggressively or simply provide "comfort care". Long-range studies of mortality rates (ages, sexes, reproductive status, cause of death, etc) are invaluable in contributing to our overall knowledge and will enable us to better care for these animals in the future.

The age at which a cat reproduces, how many kittens they produce throughout their life span, and other (Continued on Page 6)

# Florida Amends Class I and Class II Facility Requirements

Contributed by Shirley Wagner

The state of Florida has recently amended it's permit requirements for the possession of all Class I carnivores and certain Class II felines, namely, cougars, cheetahs, clouded leopards. These changes became effective July 1, 2000.

Florida defines Class I carnivores as dangerous species (i.e., lions, tigers, snow leopards, jaguars, leopards, bears) that may not be kept as personal pets and may only be possessed for exhibition or other bona-fide uses under Chapter 372.921, F.S.

Class II carnivores are potentially dangerous (i.e., Cougars, Servals, European and Canadian lynx, Bobcats, Cheetahs, Caracals, African golden cats, Temminck's golden cats, Fishing cats, Ocelots, Clouded leopards) and may only be possessed for exhibition or sale and by experienced private individuals who can qualify to possess them for personal use.

Class III wildlife includes all wildlife not listed as I or II.

For Class I carnivores, applicants must demonstrate one year of practical experience consisting of 1000 hours. For Class II carnivores, they must either have 1000 hours of experience, or 100 hours and pass a written exam.

The G & F changes affect the minimum acreage requirements of the facility, create a mandatory buffer zone between cages and neighboring properties and increase the height and distance from cages of perimeter fencing rules.

All facilities licensed after July 1,

2000, must meet these additional requirements as a condition of licensure.

- (a) Require a minimum 35-foot buffer zone between the cages and adjacent property.
- (b) Require a minimum lot size for all Class I carnivores consisting of five (5) acres
- (c) Require a minimum lot size for the following Class II feline species: cougars, clouded leopards and cheetahs, consisting of two and one half (2 1/2) acres.
- (d) Require an 8 foot tall perimeter fencing surrounding the animal facility, which must be a minimum of 35 feet away from cages. This perimeter fencing must be 9 gauge chain link or equivalent for Class I animals and 11 gauge for selected Class II felines.
- (e) Allow facilities permitted as of July 1, 2000, to continue to operate in the same location even if there is a transfer of ownership.

The effect of this ruling is that all currently licensed "properties" can continue to remain state approved Class I or Class II facilities, even if the owner sells them to someone else. This will increase the selling value of a small property to the buying public that is qualified to possess a permitted feline. The downside is that the seller of an approved property will now have to buy either a minimum of 5 acres or 2 1/2 acres to keep their Class I or certain Class II felines, or they will have to find another Florida "state approved" facility up for sale.

The biggest hardship will be on the

single pet cougar owner, who wishes to relocate. They will now find themselves looking at either purchasing 2 1/2 acres of land or a limited number of already "state approved" facilities that might be for sale. And faced with these two choices, expense, very limited, the end result could be an increase over the next few years in the number of cougars loosing their homes. Let's hope not.

Game and Fish officer Major Hill expressed to me by phone that these changes were an attempt to head off zoning restrictions being proposed by various cities and counties. Florida G & F is very supportive of responsible, private ownership of wildlife and they hope that by addressing this issue in their rules, they will help reduce public nuisance complaints while preserving the right to own animals in Florida.

# Alliance for the Conservation of Exotic Felines, Cascade branch of the LIOC Meeting minutes for 6/17/00

This meeting was held at the home of Kim and Dave Germain - oddly enough, things came up so they couldn't attend, so they very graciously gave us the use of the house without supervision! The attendance was rather small this month - probably due to the absolutely beautiful weather we had (Clear, Sunny, in the We did get a fair amount accomplished though. Sherry Frazier was appointed/volunteered to organize the calendar effort. A schedule was put in place for the first few milestones. The mockup of the membership cards was reviewed by those present, and given the OK. Hopefully I will get membership

cards out with this newsletter. We found another supplier for screen printed jackets, and have decided to go with them. The jackets will have a large version of our logo on the back, and a small one on the front left. There are 3 styles of jacket available. 1 - Nylon windbreaker with kasha lining, \$18, 2 - Nylon Satin windbreaker, kasha lining, \$25, and 3 - Nylon Satin windbreaker, quilt lining, \$29.

You can get an idea of what they will look like by going to <a href="http://www.CasaDelGato.Com/ACEF/Jacket">http://www.CasaDelGato.Com/ACEF/Jacket</a>. They are all available in Black, Kelly, Red, Navy, or Royal. Please place your orders soon.

After the meeting, Jeanne attempted to show us the process she has to go through to clean her cougar cages. The cougars decided that the weather was just to nice to bother listening though, so they decided not to cooperate - mainly by just lying there and refusing to move. (Well, more like flopped out in the sunlight, and looked way too comfortable to bother getting up...)

The July meeting is a Picnic/Barn Raising party at Linda Holzinger's (keeper of Mariah the wonderful Lynx) on the 22nd (Saturday). Come and have fun! Even if you don't think you can help, we will appreciate the moral support, and could use a cheering section. If you CAN help, PLEASE, PLEASE, do so! In all cases, it would be most helpful if you could tell us in advance if you will be coming, and how many people. (Also, it would be helpful if you could bring tools, ladders, etc...)

John Lussmyer Secretary/Treasurer mailto:ACEF@ACEF.org
Alliance for the Conservation of Exotic Felines, Cascade branch of the LIOC. see http://www.ACEF.org/

# Legal Update

By Lynn Culver LIOC Legal Affairs Director

# Canadian Lynx

In the March 24, 2000 issue of the United States Federal Register, under the Final Rules section, the Canadian lynx was upgraded from no listing at all, to the status of "threatened" in the contiguous lower 48 states.

In a phone conversation with Mike Carpenter of the US Fish and Wildlife Service this morning, I was told this change in status will not affect the rules governing the international import or export of any captive-born lynx. Further, there will be no requirement for any CBW or other permits, for the interstate commerce of captive-born lynx. And facilities engaged in the raising of lynx in captivity for the purpose of pelt production are also exempt from any rule changes.

# Tigers

In October of 1998, generic tigers were removed from the requirement for a Captive Bred Wildlife permit when these animals are involved in interstate commerce for captive breeding purposes. Persons wishing to purchase generic tigers for breeding purposes across state lines are no longer required to apply for a Captive Bred Wildlife permit from the US Fish and Wildlife Service. But tigers purchased across state lines for any other purpose, such as educational uses, exhibition uses, personal collection, ARE required to apply for an Interstate Commerce Permit from the US F & W Service. This is different from a CBW permit.

To engage in Interstate commerce of sub-species pure tigers for the

purposes of captive breeding, one will still be required to have a CBW permit issued by the US Dept of Interior's Fish and Wildlife Service. To be considered a subspecies pure tiger, one must provide breeding records or other documentation leading back to original founders taken out of the wild, or blood test results which support sub-species purity. Interstate commerce of sub-species pure tigers for reasons other than breeding will require the same Interstate Commerce Permit as a generic tiger.

Mike Carpenter of the US Fish and Wildlife Service, informed me that they will not approve any interstate commerce permits for the purposes of "companion animal" or enhancement of personal collections. Only applications for bonafide tiger education/exhibition or research, with supporting documentation of such activity, will be considered for issuance of an Interstate Commerce Permit.



# The Good Ol' Days?

With all the new anti-exotic laws these days, one might wish for "the good ol' days" when such things didn't exist. But then I see things like this ad (you must check if out online) was from: Teen Confessions #3?, Charlton Comics, 1960s: http://www.steveconley.com/pages/minidog.htm

In 1960, could anyone really send in 20 coupons and get a live primate in the mail? If so, we've certainly gone a long way from "everything goes", to "nothing's OK".

Companies did indeed offer things in return for coupons but these were not easy to get. To earn the coupons or points needed to get a premium you had to take a product, usually cases of boxed greeting cards, on consignment, sell them all, and send the proceeds to the company which would award you the points or coupon. Selling enough to get anything beyond a cheap trinket was a real task.

Small monkeys were often advertised in those days but parents were a strong deterrent. The monkeys had a really horrible reputation in those days and nobody wanted them around if they were old enough to run a household. Raccoons, skunks, cougars, strange birds, and pet deer were common but seldom monkeys. But it was many a kid's fantasy to have one when they weren't dreaming of being an astronaut or a ballerina, other things they grew out of.

If you check the ads in old Popular Science and Mechanics Illustrated magazines of the time, you will find more. The country was more rural back then. Places that are busy cities now were farmland or sparsely populated suburbs back then. Getting another animal like chinchillas, rabbits, exotic dogs (Chihuahuas were often advertised sitting in a tea cup), wasn't a big deal if you already had horses, cows, and sheep all about.

The animal premium offers dried up around '63 or so because they annoyed parents who would forbid the kids from getting the cards or such in the first place if they thought there was such a possibility and the companies died out as the '60s ran into the '70s. Falling comic circulation and a lack of kids willing to pound the pavement when they could earn more at McDonald's proved too much for them.

Adapted from FELL-L list

# LIOC Caging and Handling Guidelines

This booklet includes 34 pages of practical tips and guidelines for proper caging and handling of exotic cats. It also includes diagrams on construction of proper equipment for any size feline, including squeeze cages, collars, leashes, and much, much more.

Send \$5.00 (US) plus \$1.25 postage to:

LIOC 3730 Belle Isle Lane Mobile, AL 36619

# Premium Cat Food VS. Vegetarian Diet

By Ron Eldrige, BVSc

Destructive cat diet myths abound and most of what has been written about feline nutrition is either inaccurate, overly technical, or totally useless on any practical level. With this in mind, we can see why someone would want to place their cat on a vegetarian diet thinking it will be good for the animal's health.

Cats are obligate carnivores (meat eaters.) Putting a cat on a completely all plant diet would be a death sentence for the animal. Cats cannot be vegetarians and thrive. Felines have short intestines and humans have long ones. Therefore, cats are unable to utilize vegetable protein effectively.

Only the high-quality protein source from lean muscle meat (beef, lamb, or chicken) should be fed to cats. Proteins are the building blocks needed by the cat for normal growth and development. Protein is also needed to repair/replace animal tissue, promote and sustain a highpowered immune system, fuel for the very active feline metabolism and developing muscle mass. If proteins are blocks, amino acids are the sand that makes up these blocks. Because cats cannot store excess protein they must replenish their supply through daily dietary intake. Protein requirements for cats are much higher than those for humans. Humans can survive on an all-vegetable diet. Cats cannot.

Fats are composed of fatty acids. The ones of prime importance for your cat are

linoleic and arachidonic. These unsaturated fatty acids are called essential because they cannot be manufactured by the cat's body and must be obtained through diet. Linoleic can come from vegetable sources, but arachidonic acid must be obtained from animal fat. It's OK to feed your cat an occasional raw vegetable, but remember, your cat's primary diet must have an ample supply of protein and fat. Cats need three grams per pound of body weight, kittens need more, 8-9 grams per pound of body weight.

Fat to a cat is like ice cream to a human. They love it! A cat's diet can consist of up to 65 percent fat. This type of fat can only come from meat. This the kind of saturated fat that doctors tell us humans not to eat, but for the obligate carnivores, it's a must to live healthier and more vigorous lives.

In conclusion, the implementation of an all vegetarian diet for your cat can only lead to a very poor health picture for your cat at best and most likely its eventual demise.

# June 9-16, 2001 Visit CAT SURVIVAL TRUST (Private wild-feline facility) for Free Brochure Contact Kelly Jean Buckley at: 602-788-8864 or email to: kellyjean@maranathatours.com

# Shambala Bill: What's Your Opinion?

I wanted to write a few lines to clarify how I feel about private ownership and the Shambala Bill.

I came to this arena because I wanted to start an advocacy group for sanctuaries. It was through the desire to prevent sanctuaries from being banned that I first learned of so many wonderful private owners that became great friends of mine. I would never want these people to be hurt, or to see them forced to give up their animals. I never want special interest groups or bureaucrats to break that vital and beautiful bond between human and cougar, human and tiger, human and wolf...or a thousand other such links that cement our different worlds together with mutual love and respect. I do not believe it is the place of government to tell us whom we may love or not love.

True, it is not natural for species to make such loving relationships outside their own kind. But it was not natural to spread oil and powdered rock on the ceiling of the Sistine Chapel and make it look like God creating Adam. It was not natural to get musical notes from a pipe of wood or a strand of steel. Maybe it was unnatural, but aren't you glad someone did?

For this reason I am fundamentally opposed to the Shambala Bill. It presumes to make the government the supreme judge of who we may love, and who is worthy to love, but I feel only God can know the heart. God is my Animal Welfare Act, and if I do what is wrong to

defenseless animals I will have to answer to Him. Government is too large. It reaches into too many places in our lives. It was beautifully stated in our own Declaration of Independence what government should be, and I quote from memory—so stirred was I by the entire quote that I learned more than my high school government class required....

"We hold these truths to be self-evident that all men are created equal. That they are endowed by their Creator with certain INALIENABLE (can't be denied) rights, which among these are life, liberty, and the pursuit of happiness. That it is to secure these rights that governments are instituted among men, deriving their just powers from the consent of the governed. And when any form of government threatens to ABRIDGE (limit) these rights, it is the right of the people to alter or abolish it."

You see, the purpose of government is to secure our rights. It says so in one of the canon documents of our democratic faith. We are falling into a socialistic mentality, relying on the government to ensure our wellbeing.

John Burkitt, Program Director Cougar Hill Sanctuary Assoc.



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# Honey, Did Ya'll Hear That Southern Lion Dialect?

By LEE BOWMAN Scripps Howard News Service July 19, 2000

Lions have regional accents different enough that a Simba from South Africa sounds like a Bubba to lions in Tanzania, an Ohio researcher suspects after spending several years listening to and recording the king of beasts' roar.

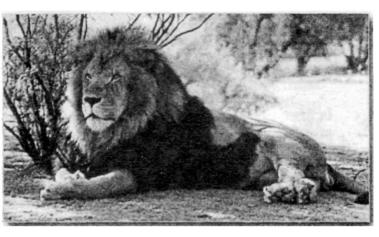
Jon Grinnell, an assistant professor of biology at the College of Wooster, has preliminary data that shows the structure of lion roars differs by region somewhat like accents in people.

"The South African roars tend to be given at a different pace than the Tanzanians. They speak a little slower, just like people do in the States," Grinnell said.

Using digital audio equipment to break down and analyze various roars, Grinnell has mapped a "sentence" spoken by lions in various situations, such as when they're starting a group chorus to warn off invaders.

"Lions roar together to indicate to eavesdroppers that this is a group and that, therefore, it wouldn't be wise for any listeners to consider moving in on the territory," he explains.

"What I have called a lion's sentence consists of three parts: preludes or moans, the roar elements themselves, and then a series of grunts. Lions have a lot of flexibility in how many of these grunts they put into a sentence. The lion who starts a group chorus tends to include more grunts at the end of the sequence than the lions who join in."



But there's also a cadence to the elements of the roar that differs from region to region.

Grinnell's field experiments involve playing recorded roars over loudspeakers and then observing the lion's reaction. And he has been able to show through analysis that the structure of roars he has recorded of South African lions is different in quantifiable, though subtle, ways from those he has studied in Tanzania in East Africa.

He started work on lion vocalization while still a graduate student, examining how lions cooperated within a pride. He found that male lions in a "coalition" worked together because each individual benefited from keeping rival males away from their cubs and females.

Pride-owning males keep out other males by patrolling and marking their territory each night, letting any intruder know who's in charge of the area with a series of loud roars. Grinnell found that when he played the roar of a strange lion on a loudspeaker, the male lions would aggressively search for the speaker.

"Males make better study subjects than females, simply because they tend to roar more and are more likely to get pride," Grinnell said. "Predators are hard to do vocalization studies with, because they're usually solitary and spread out, but lions are possible because they're social animals with relatively high densities."

Another experiment indicated that lions still recognized the roar of a former companion that had been removed from their territory two years before.

Lions' voices can travel up to five miles in optimum conditions, making it possible that other types of information might be spread by roars other than simply telling interlopers to stay away.

The biologist has several possible explanations for the differences in lion dialect.

"It could be they're genetically slightly different and that their vocal behavior is that much different between East Africa and South Africa, or it may be that the environment is slightly different. South African parks are more hilly and brushy than East African, and it could be the roars are different to permit the signals to carry better.

"Or this could be something that the lions learn from generation to generation. I've done work in three different parks in South Africa, with two different populations, and found the roaring pretty consistent there."

The real objective of his research isn't to be able to diagram lion sentences. It is to understand how vocalizations reflect social spatial organization of the big cats -in order to help African wildlife managers better understand the kind of space the animals need when being reintroduced to a park, for instance.

"When you're reintroducing populations to relatively small areas, you want to know pretty well how many to put in. You want as many as possible, but you don't want them killing each other and depleting prey and habitat," Grinnell said.

# Midwest Exotic Feline Educational Society Meeting Minutes



Submitted by Harold Epperson

On July 15th, MEFES held its quarterly meeting at the home of Dennis & Cheri Fecker with 17 members and 5 guests in attendance. It was combined with a pitch-in lunch, held in their backyard near the pool. The guests included former member Robert Miller; Nikki Martin's security officer, Mark Durham, and her assistant Karen Podella; Cheri's mother, Dawn Minyard and the Fecker's friend Mike Luedeman. also present were Hush; 5-week old cougar cubs Tobey and Cheyenne from Rob Craig and the 6 week old Siberian lynx kitten, Sundance, of Glenn Yoder and Deb Collier. Special recognition to Nikki Martin and her entourage for traveling from Wisconsin to the meeting.

The meeting was called to order with Bill Johnson presiding, in lieu of Carol Siegley, who was moving to a different residence.

A motion was made by Harold Epperson to accept the minutes of the April meeting as printed in the newsletter. Seconded by Bob Turner. Motion passed. The Treasurer's report was read by Peggy Epperson showing a balance of \$855.80 and \$38.40 in petty cash. In addition, \$100.09 is available for deposit and

expenditures resulting from the husbandry course are to be paid. Motion to accept the report was made by Cheri Fecker and seconded by Bob Turner. Motion passed.

Cheri Fecker has volunteered to become the new editor of our newsletter and she is going to need everyone's support. Please mail/fax any pertinent articles and other information to her at your convenience. Cheri deserves our congratulations and gratitude.

Discussion of the MEFES logo was continued and four different examples were presented. The membership will pursue the issue further at the October meeting.

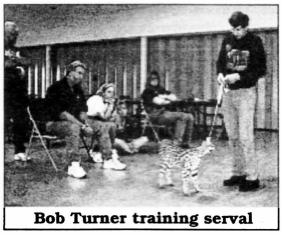
Volunteers who worked at Rob Craig's were recognized for their hard work and a special thank you was extended to the following: Mike and Cindy Cote, Jose and Denise Flores, Aaron and Sarah Geist, Steve and Cheryl Hahn, and Bob Turner.

Open-house at Nikki Martin's facility in Wisconsin was scheduled for July 22nd.

A motion was made by Cheri Fecker to offer one-year's free membership in MEFES to the member who signs up the most new members. Seconded by Peggy Epperson. Motion Passed. Recognition was given to Monte Francis for his unpaid contributions as our photographer. If you don't want your picture taken watch out, because he's GOOD, Very Good!!!

Consideration to print a brochure, similar to the one distributed by Mee's Zoo, to be included with our membership application, was presented. No motion to accept was made.

Our October 21st meeting will be held at the home of Glenn Yoder and Deb Collier in Albion, Indiana. Directions are printed in this newsletter. The USDA publications left over from the April meeting were distributed to those wanting them. Copies of the reports are still available upon request. A motion to close the meeting was made by Mike Cote and seconded by Bob Turner. Motion passed.



# Songs of Creation

God at first the sun created, Then each night constellation; From the sweat of His own forehead Oxen were His next creation.

Wild beasts He created later,
Lions with their paws so furious;
In the image of the lion
Made He kittens small and curious...





# Catanatomy

By Tom Morrisey

When your veterinarian talks about 'carpal pads,' do you think the doctor means something that goes under a rug? Does the 'nictitating membrane' sound like something they make cigarette filters from?

Actually, both of these odd-sounding things are parts of the creature who may be sleeping near you at this very moment. Cat owners have their own term for these and various other feline features. But it helps to know the textbook term as well.

For one thing, when veterinary students

learn all about cats, they acquire a completely different vocabulary in the process. And they look at things differently. To for instance, the ear is something that's mostly on the outside of your cat's head. To someone trained in medicine, the ear is mostly inside; what's outside is called something else. Most of the names taught in feline anatomy classes are terms associated with interior bones, organs and tissuesparts you generally won't need to know the names of unless you're wondering what makes all those odd gurgling sounds when Kitty sneaks up onto your

pillow at 3 a.m.

There are, however, some terms you can use to "find your way" around the cat when you're describing an ailment to your veterinarian on the telephone, or just making party conversation with another cat person.

If your feline friend is typical, his face and forepaws most often attract your attention. From good-morning licks on your nose to good-natured swipes at your dangling necktie, the average cat's face and paws are virtually impossible to ignore. Here's a basic tour of those parts that have become familiar to you— even if the names are new.

EYES: Mysterious and expressive, the eyes are the most distinctive feature. Most of the visible parts of the cat's eye are the IRIS (A), the curving, clear CORNEA before it, and the distinctive PUPIL (B), which contracts to a slit, rather than the round shape humans

have. Look into the pupil with the light just right and you'll see the TAPETUM, reflective cells which lie under the RETINA. These bounce

light back to the front of the eye like a mirror at the base of an astronomer's telescope, and give the cat a "second chance" in very dim light (so he can pounce on your toes while you're groping to the bathroom in the middle of the night). The white of the eye, known as the SCLERA (C), is only marginally visible, except when the eyelids are open wider than normal, as is the case when

your veterinarian examines your cat's eyes.

Speaking of eyelids, when your cat's eyes are being examined, you'll probably notice the NICTITATING MEMBRANE (D) (there it is!). This feature, often referred to by cat owners as the "third eyelid", is a folded membrane that the cat uses to cover much of its cornea whenever something comes near the eye.

**TONGUE:** Look quickly while Kitty's in mid-yawn and you may notice

that the tongue has three different kinds of "taste buds" on it. Those the around perimeter of the tongue are slightly mushroom-shaped are called and so FUNGIFOPM (as in fungus or mushrooms) PAPILLAE (A). The fungiform papillae are just what they look like tastebuds. By contrast, the buds in the center, which are hooked like the business side of a Velcro fastener, have little to do with taste and are used mostly for grooming; these buds are called FILIFORM PAPILLAE (B). Finally, there are a few cup-shaped buds, the VALLATE PAPILLAE (C), at the back. These also contain tastebuds.

Closely related to taste is the JACOBSON'S ORGAN, a special, tiny structure located behind the front teeth in the roof of the mouth. If Kitty will sit still while you open his mouth, you can see two tiny nostril-like holes that lead to the Jacobson's organ. This structure allows the cat to employ a special feline sixth-sense, which is best described as the ability to "taste" smells. Imagine enjoying the taste of your favorite chocolate chip ice cream with none of the calories and you get the picture. While your feline pal might not sit still while

you look for the Jacobson's organ, you can tell when the cat is using it. Kitty will adopt a behavior known as the FLEHMEN REPONSE, a lip-curling procedure that looks like a cross between a guard dog grimnacing and a wine steward sampling the bouquet of a 1959 Chateau Lafite-Rothchild.

NOSE: Regular smelling is, of course, done through the nose, the twitchy, leathery outer part of which is known as the PLMM NASEL (D). A split runs down through the planum nasel, eventually separating the cat's upper lip into two parts, and this is called the PHILTRUM (E). The philtrum may be the reason why, back to the dawn of history, there is no record whatsoever of a cat with the ability to whistle.

**EARS:** Open a can, or rustle a package of food, and your cat will no doubt be all ears.

The part that sticks up radar-like is the PINNA (A). Peer down at the base of the pinna and you'll see the convoluted opening of the

EXTMIAL AUDITORY CANAL (B). This makes a turn after an inch or so. Further around the corner of the external auditory canal, and pretty much out of sight, is the TYMPANIC E, better known as the eardrum. Behind this lies the rest of a delicate mechanism that can pick up the sound of a refrigerator door opening from three rooms away.

**PAW**: If your companion is typical, by this point there is a front paw coming over the top of this article, trying to get your attention back. You can take advantage of this and do a brief examination of Kitty's combination hand, foot, landing gear, weapon, hockey stick and litterbox rake.

The toes are, like your fingers and

toes, formally known as DIGITS. Interestingly enough, what you probably know as the "fifth tow" -the thumb-like one on the side is actually the first digit, and the rest of the digits are numbered in order from it, one through five. Kitty's claws are growing from a tiny bone, called the DISTAL PHALANX, which hinges on the bone behind it and can, by means of attached ligaments. sheathe or unsheathe the claws, allowing the owner to go from pussycat mode panther. The "toe pads" since they are on the digits, are called DIGITAL PADS (A) (share that one with your computer literate friends), and the "palm pad" being located under the metacarpal bones is actually the METACARPAL PAD (B). The toe-palm comparison sort of falls apart when you get to the CARPAL PAD (C), which, although it is an area that corresponds roughly to the heal of your hand, is so high up on the leg that it does not touch the ground when the cat is at rest. This -pad comes into play when the

cat is landing after a jump, bounding over uneven terrain or making a leap for some flitting target. Contrary to the way it sounds, the carpal pad is NOT found under the rug - unless Kitty is going after an errant catnip mouse.

So, the next time you're late in getting up to serve breakfast, you'll know that it's the PLANUM NASALE being pressed colding against your forehead to wake you up, the FILIFORM PAPILLAE rasping over your eyebrows if you try to pretend you're still asleep, and (once you're up) the DIGITAL PADS slapping at the cupboard, to remind you where you put the cat food. But at least one thing's still sure, and that's the term for how you and Kitty feel about having one another around.

After all, there is no scientific term for SATISFACTION.

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# **Texas Cat Country**

By Mike Tewes

Sitting quietly and perfectly still, I let the mosquitoes feast on my arms and neck. It's 3 a.m. and stillness is everywhere; stars-provide the only light. Although I've been awake for 24 hours, I feel no fatigue. I am afraid to move, even to breathe, for fear of being detected by the oncoming predator.

This is the moment I've been waiting for all night. Using radio-telemetry, I have determined that an extremely rare and beautiful ocelot is about to cross the dirt road where I am waiting.

My colleagues and I have been studying ocelots and other cats in Texas for the past nine years. Typically, long periods of boring field research are abruptly interrupted by a few moments of excitement. One such moment is approaching.

Tick-tick. My radio receiver tells me the ocelot is just a few feet away. Slowly I raise my arm, turn on my spotlight, and point the light beam into the brush. I see a beautifully spotted ocelot standing on a mesquite limb running parallel to the ground. The cat walks across this convenient bridge, three feet above the dense grass, and jumps down to the edge of the road.

Casually the ocelot strolls across the road less than 10 steps away. Stopping in the middle of the road, the cat looks away from me, and studies the feline shadow cast by my spotlight. Apparently deciding there is no threat, the ocelot continues onward. Finally, it disappears into the brush on the other side of the road. I am not sure the cat ever knew I was standing so close.

This encounter occurred in 1983, yet I remember the details as if it happened yesterday. Why? Because our wild cats are special.

Wild cats represent the crown jewels of the animal kingdom, and Texas has the best collection of such gems in the U.S. Four different species of cats reside in Texas: the cougar, bobcat, ocelot and jaguarundi. The only cat in North America that is absent from our state is the snow-loving lynx of the northern wilderness.

Before we lost the jaguar and margay, six wild cats embellished the Texas landscape. These two cats have vanished and will probably never appear again in the wilds of Texas.

There are 37 species of wild cats in the world. Amazing, right? You probably have only heard of a few of the larger and more glamorous cats, such as the lion, tiger, leopard, or cheetah. Few people know about the fishing cat found in the swamps, or the sand cat that lives on the deserts of North Africa, or the small Andean cat native to the mountains of South America.

Nonetheless, cats are similar in many ways. One similarity among felines is that the males are larger than females. Also, most cat species maintain some type of territory that excludes other members of their species.

Wild cats share many of the same behavioral traits you see in a typical housecat: the indifference a tabby cat often exhibits to its surroundings, and the male housecat's habit of scentmarking its territory. And most cats share similar play and hunting traits, behaviors often encountered in the typical house cat. Differences also exist among the cats of Texas. Larger cats, such as the mountain lion, usually require more extensive territories for survival than the smaller cats, such as the bobcat. Some cats are habitat generalists, which means they occupy a variety of habitats. Bobcats fall into this category because they use most of the plant communities in Texas. In contrast, ocelots are specialists since they require a narrow range of habitats, primarily ones with an extremely dense brush layer.

The cats of Texas are viewed from a variety of perspectives ranging from good to bad. A person who has suffered personal or economic loss often holds a particular cat in contempt. Other people place a positive value on the cats, appreciating the economic, aesthetic or ecological value of these felines.

Overall, most of us know little about the Predators. Consequently, we began the Feline Research Program at the Caesar Kleberg Wildlife Research Institute of Texas A&I University. Since 1981, we have been studying the rich diversity of cats found in our state. The purpose of this research program is to discover better ways to manage and conserve our crown jewels. Let me tell you their story-a Texas cat tale.

# MOUNTAIN LION

Familiar aliases of the mountain lion include cougar, puma and panther. These are all the same cat. You have probably seen a mountain lion in television commercials representing automobiles or on Walt Disney movies.

Back in the 1960's pioneering research by Dr. Maurice Hornocker of Idaho revealed that mountain lions have a complex social system of territories. Territorial boundaries are maintained by scrapes, which are small piles of leaves, grass and branches that are scraped together and urinated upon. This scent-

marking informs intruders that a resident lion is present and capable of defending that piece of land. Mountain lions require several square miles for their territories.

An adult mountain lion weighs from 120-180 pounds, with the males larger than the females. The diet of a mountain lion consists primarily of white-tailed deer, feral hogs, javelina and other medium-sized mammals.

Mountain lions are confined primarily to the mountain ranges of west Texas and many of the larger ranches in the brush country of south Texas. Biologists cannot give an accurate population in Texas, but it is believed to be 300 to 500 animals. Population estimates for most cat species are difficult because cats are generally secretive, nocturnal and wide-ranging.

We especially need an in-depth study of the mountain lions that occur in the brushlands of Texas. Hunters and livestock managers need to better understand the impact of mountain lions on the hunting and livestock industries. And outdoor enthusiasts hope to find ways to increase their chance of seeing one of these big cats.

# **BOBCAT**

The bobcat is the most common wild feline in Texas and in North America. Considerably smaller than the mountain lion, bobcats are closer to a medium-sized dog, usually weighing about 20 to 25 pounds. Contrary to its name, the bobcat does not have a "bobbed" tail. Although shorter than other felines', the bobcat's tail measures from 6 to 8 inches an length.

We recently studied commercial trapping data from Texas and estimate the population ranges from 140,000 to 280,000. In fact, Texas has about 20 percent of the entire population of bobcats located in the U.S. Commercial harvest provides considerable income to

trappers.

The bobcat's diet is primarily rabbits and rodents. However, they sometimes eat white-tailed deer and bobwhite, quail, a habit that doesn't endear them to hunters.

However, other hunters and landowners are glad to share a small portion of their game in return for an occasional glimpse of a bobcat running down a dirt road or crossing a sendero by a deer blind in the early morning. They also appreciate the cat's value in controlling rabbit and rodent populations.

Of the cats that live in Texas, the bobcat is the most flexible, capable of living in most types of habitats. And if there is enough brush cover along drainage and other corridors, bobcats often enter city limits.

Unlike the adaptable bobcat, the ocelot and jaguarundi occur only in a few locations in the southern part of the state. Both are extremely rare and threatened with statewide extinction and the only populations of ocelot and jaguarundi in the U.S. occur in Texas. Consequently, both cats are protected by the federal Endangered Species Act, as well as similar state laws.

# OCELOT

The ocelot's yellow fur is adorned with black spots, bars and blotches, and black rings encircle its long tail, giving it the nickname "leopard cat."

Landon Lockett is meticulously searching for accounts of early Texas and he occasionally finds reports of "leopard cats" in central and east Texas during the 1800's. One of the first museum specimens of the ocelot came from Louisiana. But today, the ocelot's distribution is restricted to only two or three locations in the south Texas brush country. The primary population occurs

in some of the fragments of habitat remaining in the Rio Grande Valley. Our nine years of ocelot research have focused on this region.

An adult ocelot weighs from 16 to 25 pounds, similar to the bobcat. However, ocelots have a more slender, sinuous stature whereas bobcats appear more stout and robust. During our studies, we have frequently found both cats using the same tract of land.

The ocelot prefers to dine on rabbits and rodents, as does the bobcat. Quail are less Arrant to the ocelot, because few quail inhabit the same dense stands of mixed-brush that the cats select.

The ocelot population in Texas is very small, possibly no more than 80 to 120 individuals. This scarcity may be the result of several factors, the most important of which is the ocelot's dependence on extremely dense brush for long-term survival.

The spotted coat of the ocelot provides excellent camouflage against the sundappled ground under the brush canopy. Also, this dense brush provides a fortress against possible enemies such as coyotes and humans.

Fertile soils that were deposited on the Rio Grande delta near Brownsville can support this luxurious growth of dense shrub communities. The problem for the cats is that this same fertile soil is ideal for citrus, vegetables, sugar cane and a variety of other crops produced in the lower Rio Grande Valley. Unless vigorous conservation measures are taken, the ocelot may join the list of species extinct in the U.S.

# **JAGUARUNDI**

Ugly-that's the impression some people develop upon their first view of the jaguarundi. I prefer to think of the jaguarundi as "interesting".

The head of the jaguarundi bears

little resemblance to a cat. The ears are short, rounded and widely spaced. The jaguarundi's gait is similar to that of a weasel. This explains the jaguarundi's nickname of 'weasel cat' or 'otter cat'.

The jaguarundi has two color phases: a rusty brown and a gray or black. Interestingly, both color phases can occur in the same litter Prior to this discovery, naturalists thought each color phase represented a different species.

Jaguarundis range over many areas of South and Central America. Similar to the ocelot, the northern limit of the range is south Texas.

These cats eat rabbits and rodents as well as various birds. In parts of Latin America, the jaguarundi preys on chickens and can be a serious problem to poultry producers.

We believe the jaguarundi is the rarest cat in Texas. A road-killed jaguarundi near Brownsville in 1986 represented the first documented case in about 15 years. This records suggests this feline may still reside in our state.

Over several years, we have received hundreds of reports of jaguarundis, black leopards and black panthers from many areas of Texas. Most of the ranches that we have visited over the years also reported black cats. However, there has never been a confirmed occurrence of a jaguarundi outside the Rio Grande Valley. We believe many of these black cat sightings are black feral housecats that flourish in the countryside.

Further, many jaguarundi "sightings" occur in the evening or early morning when light conditions are poor. A backlighted raccoon can be easily mistaken for a jaguarundi, especially when the sighting lasts only a few seconds. I know because it has happened to me.

We are beginning a field study of the jaguarundi in the northeast of Mexico. Jaguarundi are more common in this region and studying them will enable biologists to better understand the requirements for a viable population. These results can then be used to assist conservation efforts for them in Texas.

Information is urgently needed because the remaining population of jaguarundis in Texas may be zero to 15 individuals. Sadly, the jaguarundi will probably vanish from our state before we learn its most basic behavioral and ecological patterns.

# **MARGAY**

The margay looks like a smaller version of the ocelot. The spotting pattern on its fur is similar and the tail also has black rings. With a little practice, an observer can distinguish between the two cats by examining the relative size of the body and tail. The margay has a body that is shorter than its tail; the ocelot's tail is shorter than its body.

Very little is known about the biology of the margay in the wild; we are not completely sure it was a bona fide resident of Texas. Its occurrence here is based on a single report by Colonel Coleman in 1857 from Eagle Pass. In those days, officials at the point of entry at the Mexican border often recorded specimens. This margay specimen may have originated in Mexico. Today, no margays are found in Texas.

Margays in many regions of Central and South America, but they are apparently uncommon in most areas. The reason for this low population density is unknown.

The margay is reported to spend more time in trees than the ocelot or jaguarundi. Little is known about its diet preferences. In fact, much of our understanding of the "tropical cats" is based on anecdotes passed from one writer to another. Few facts based on modern field research are available.

# **JAGUAR**

The jaguar is the largest cat in the Western Hemisphere, sometimes weighing over 200 pounds. The jaguar's yellow fur is decorated with black rosettes, similar to the African leopard. One distinguishing feature is the black spot in the center of the jaguar's rosettes, which is lacking in the leopard. Also similar to the leopard, some jaguars have a black color phase.

These powerful beasts no longer roam parts of Texas, although historical records of jaguar come from south, central and east Texas during the 1300s. The last documented jaguar occurred in south Texas in the early 1950s.

Some jaguars prey on livestock and can have a local impact on cattle. During one study in the Central American country of Belize, researchers found that injured jaguars were the primary culprits for killing cattle. Researchers speculated that the injured cats were impaired or unable to capture their more elusive natural prey. However, another interpretation is those jaguars that sought cattle were the ones most likely to be shot and injured.

In the early days, jaguars were often the target of many livestock producers since the predators caused significant losses. Predator control activities probably contributed to the eventual extinction of the jaguar from Texas as did loss of habitat.

The jaguar requires several square miles for its territory and has a low reproduction potential. These two factors make even a moderate decline in population difficult to reverse.

Although the other cats we have

discussed are little or no direct threat to humans, the jaguar has been known to attack humans. But these events are rare and usually occur under abnormal conditions. Wild cats generally fear humans and avoid them.

Texas is fortunate to be home to a diversity of wild cats. They represent a variety of sizes, colors and ecological patterns. Our cats also vary in population size from the common bobcat, to the rare and endangered ocelot and jaguarundi to the extinct jaguar.

The future management of and wellbeing of Texas cats will depend on the cooperative efforts of many people and agencies. The U.S. Fish & Wildlife Service and the Texas Parks and Wildlife Department are primarily responsible for the conservation of these cats, and conservation organizations and universities provide critical assistance to the overall effort.

The final success of cat observation efforts in Texas will not be determined by agencies, but by you. Your support can be manifested in many way. Abide by the laws and regulations pertaining to the cats. Support sporting and conservation groups that endorse programs for reasonable cat conservation, there are many. You may even wish to donate to these important efforts. The crown jewels of the animal kingdom should be appreciated by everyone.

Dr. Michael Tewes is an associate research scientist for the Caesar Cleberg Wildlife Research Institute and coordinator of the Feline Research Program.

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