

Eastern Cougar Foundation
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Eastern Cougar Foundation



*A non-profit, science-based, volunteer-run conservation organization
dedicated to recovery of cougars (mountain lions) in wild areas of eastern and central North America.*

June 2007

“Puma concolor canadensis”

**Notes from the 3rd Midwestern-Eastern Puma Conference
Trent University, Peterborough, Ontario**

May 23-26, 2007

There is no such subspecies, but this issue of the newsletter is focused on the evolving story of the puma in eastern Canada. The conference started off with drumming, chanting, storytelling, and a welcome from the Chief of the Hiawatha First Nation, who live on Rice Lake not far from Peterborough. When I read the program before the ceremony began, this item seemed strange, but then I thought about how the First Nation people had been harassed, decimated, and stripped of their land and their culture. Now they are recovering. We hope that the puma will also recover and regain its rightful place in eastern and central North America.

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Fewer people were present than in the 2004 Eastern Cougar Conference in Morgantown, West Virginia, so the speakers had plenty of time for their presentations and to answer questions, and we got to know each other outside the formal meetings. We thank Stuart Kenn and the other members of the Ontario Puma Foundation (OPF) for making this gathering possible.

Dr. Ronald Nowak, a pioneer in the conservation of the Florida panther and the Louisiana black bear and a world expert on the classification of North American wolves and coyotes, was given a special award, as was Dr. Jay Tischendorf for his long-term contribution to the study and conservation of pumas, and Helen McGinnis, for helping with the conference.



Most of the material in this newsletter is derived from presentations and conversations at the conference. The OPF will be setting up a Conference Memories section in their website, www.ontariopuma.ca. It will include abstracts of all the talks as well as photos of the people who were there. Refer to the abstracts for additional information. Thanks to Le Duing Lang, Marc Gauthier and Linda Sweanor for reviewing relevant articles.

Photos: Lower left: Tracey Etwell, Membership Chair of OPF, and Ron Nowak. Above right, Stuart Kenn.

Eight Confirmations in Québec since 1992—Three South American and Three North American.

Le Duing Lang reported that since 1992, three dead cougars have been reported in Québec—the Lake Abitibi cougar, shot in 1992; a cougar hit by a truck in the region of Estrie, not far from New Hampshire border, in 1996, and another hit by a vehicle in the Laurentides Provincial Reserve in 2002; Intrigued by these confirmations, Marc Gauthier designed hair poles with a pheromone lure to locate free-ranging cougars in Québec and New Brunswick. The mtDNA of hair samples with follicles was analyzed. Five hair samples from hair poles in Québec were positively identified as cougar. Combined with the three other dead cougar reports, there are eight confirmations of pumas in Québec. Sequencing analyses show that three cougars were of North American origin, three were South American, and that the origin of the other two is undetermined due to a lack of tissue (hair) material.

Ms. Lang did the analyses for her Masters thesis at the University of Montreal. The results will probably be published. Nathalie Tessier, project coordinator of the Laboratoire d'écologie moléculaire et d'évolution in the same university, is involved in an ongoing research project to determine if DNA from bones and teeth of historic cougars from the East can be distinguished from other North American cougars.

New Brunswick Remote Camera Update

Anne-Sophie Bertrand gave us an update on her hair pole project in Bay of Fundy National Park in New Brunswick. She and co-workers set out Gauthier's hair poles and lure in the park. Hair collected on two different poles in 2003 was later confirmed as cougar by DNA analysis. Further DNA work has shown that one of the cougars was of North American ancestry, the other, South American. Because of the high cost of Gauthier pheromone lure, Bertrand later used the urine of estrous female cougars as a lure. This scent brought in curious moose, bears and coyotes, but no further cougar hair was captured. Her research has been published in IUCN's *Cat News* No. 45 (2006).



Caught by a remote camera, a curious moose checks out a Gauthier hair pole in Bay of Fundy National Park. The wooden poles support a two-strand barbed wire fence added to snag hair with follicles of any cougar that attempted to go under or through the fence. Photo © Anne-Sophie Bertrand.

ECF News

Jim Solley is our new webmaster. With his help, we are gradually making changes and additions. Visit www.easterncougar.org to see what's new. Jim is the person who assembled the CD ROM of the Proceedings of the Eastern Cougar Conference 2004. He has also done a great deal of computer-related work for the West Virginia Highlands Conservancy and the West Virginia Wilderness Coalition. He lives outside of Reading, Pennsylvania.

Chris Spatz is the new contact person for our report hotline, which has a link on the home page of our website.

Kerry Gyekis has made seven PowerPoint presentations so far this year in Pennsylvania and New York. He's scheduled to give talks at Black Moshannon State Park on June 30th, Sinnemahoning State Park on July 21st, and on October 4th at Beltsville State Park. For details on times and places, contact Kerry at gyekis@epix.net or call him at 570-353-6682.

Marc Gauthier—Pheromones and Hair Poles

By Helen McGinnis

If I had to name the one person who has made the greatest contribution to the documentation of cougars in eastern North America outside of Florida, it would be Dr.

Gauthier, a wildlife biologist in Québec who teaches at Université de Sherbrooke in Sherbrooke. He is also affiliated with a company, Envirotel 3000 Inc.



Gauthier first became interested in cougars in Quebec in 1997, when a taxidermist contacted him to say that a truck driver had hit a cougar with his rig near East Hereford in April 1996. Gauthier wanted to know if the origin of the cat could be determined—was it a former captive or a true eastern cougar? That curiosity inspired him to produce a pheromone lure that would attract cougars and induce them to rub against a pad that would pull off hairs for visual and DNA analysis, but would not induce the same behavior in other animals, especially bobcats and lynx. With the help of the inhabitants of Granby Zoo in Granby, Québec, he succeeded in developing suitable a blend. The cougar who tested the potential lures was a male who had lived by himself for years. He had never made a sound before, but he reacted to one of Gauthier’s test lures by mewing for hours. Gauthier designed his “hair pole” to disseminate the scent while protecting it from the elements.

The male cougar at Granby Zoo checks out a Gauthier hair pole. Photograph courtesy of Marc Gauthier and Envirotel.

Gauthier’s hair poles are made of PVC pipe 15 cm in diameter and about 5 feet high. Large holes are drilled in the sides of the pipe to allow the scent to disperse. The pheromone lure, either in a wick (in the summer) or imbedded in a plaster core (in the winter) is hung from the cap inside the upper end of the pole. It is replenished monthly.

Gauthier had planned to test his lure in the West, but before making arrangements, he set out some poles on the Gaspé Peninsula. In the summer of 2002, hairs caught on one of the poles were confirmed as cougar by Dr. Virginia Strocher at Bishop’s University.



Gauthier at the Ontario puma conference.

Starting in July 2001, Gauthier has set out as many as 50 hair poles in relatively remote areas of Québec. By October 2006, about 600 pole months had been accumulated, and five cougar confirmations had been documented by DNA analysis. Other poles were set out in New Brunswick in Bay of Fundy National Park by Anne-Sophie Bertrand and her co-workers. In 2003, they collected hair resulting in two confirmations. Because of the high cost of Gauthier's lure (\$1000 for a year's supply for one pole), Bertrand stopped using it and substituted the urine of estrous female cougars. She also added remote cameras overlooking the poles. There have been no further confirmations in New Brunswick, but she has captured bears, coyotes and moose on film.

Hair shafts alone are often insufficient to confirm species by DNA analysis, because the DNA is easier to extract from hair follicles ("roots"). The rubbing pads on Gauthier's poles were not collecting hair with follicles, so two-strand barbed wire enclosures were added. Simultaneously, the Université de Montréal's Laboratoire d'écologie moléculaire et d'évolution developed an efficient technique to extract enough DNA from hair shafts to determine cougar "subspecies."

Gauthier explained to me that urine by itself, even if it's from a female in heat, contains no pheromones. Pheromones are added by the anal glands as it is voided. The type of pheromone varies depending on the message that the animal's body "wants" to send to others of the same species. Furthermore, the compound produced by the glands is not enough. In contrast to pheromones produced by female moths, which can be synthesized in a laboratory and used to bring in males from long distances, pheromones produced by mammals must generally interact with specific bacteria to produce the attractive scent. He says that his pheromone lure was designed to attract only cougars, although we can never know how other species may react in the wild. For example, he found that old plaster lures may attract ungulates because of its calcium carbonate content.

None of Gauthier's hair poles have been set out in the United States because of the high cost of the lure. However, he has donated one pole and a three-month supply of lure to ECF. Judy Tipton will set it out in Land Between the Lakes.

Gauthier is now developing a pheromone lure for wolverines.

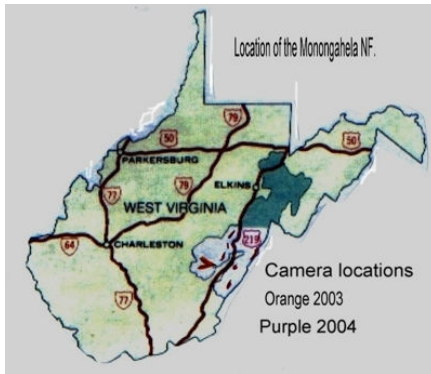


Status of Five-Year Review: On June 12th, Mark McCollough, the endangered species specialist in the US Fish & Wildlife Service Maine Field Office who is in charge of the review of the status of the eastern cougar, *Puma concolor cougar*, emailed people who had submitted comments on the review. He said,

"Thanks to many of you who have been providing information for the U.S. Fish and Wildlife Service's 5-year status review for the eastern cougar. This month we are finishing our information gathering phase and information filing. There are still a few states and provinces who we hope will submit information.

"I hope to start writing in July. Our goal is to have an initial draft by the end of summer. I understand the 5-year status review is being developed for the Florida panther as well."

Final Report on Remote Camera Search for Cougars in the Monongahela National Forest of West Virginia, 2003-2004

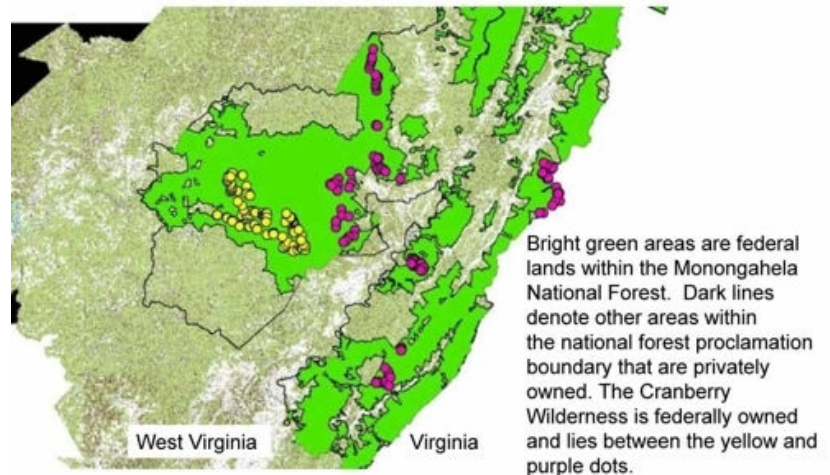


In 2002 the Eastern Cougar Foundation submitted grant proposals for remote cameras to two separate foundations—Summerlee and Norcross. Both applications were accepted. The funds were used to purchase 20 PhotoScout cameras, film, processing, and travel and lodging for Todd Lester. Early in 2003, a meeting to discuss protocol was held in Beckley, WV, with representatives of the US Forest Service, West Virginia Division of Natural Resources, and the US Fish and Wildlife Service to discuss protocol. ECF Board members Dr. Marcella Kelly and Dr. David Maehr also attended. As soon as the snow cleared in April, Todd set up the 20 cameras in the southern Monongahela National Forest in the Cranberry Backcountry. The

cameras were placed systematically by constructing a 5 km² grid over the landscape and putting a camera within each grid cell. They were placed on game trails and human trails without scent or visual lures. After a month, the cameras were moved to new locations. To prevent theft, they were removed in September prior to the onset of the hunting seasons. The same plan was followed in 2004, but the cameras were set out in other locations in the southern Mon.

Altogether, the cameras captured 919 animals in 2003 and 687 in 2004. Although two “mystery animals” that might have been cougars were documented, not enough of them could be seen to be certain. Multiplying the number of days that each camera was set out by the number of operational days per camera gave the number of trap nights--a total of 5410 in 2003 and 2004 combined. The assumed area surveyed by the cameras was estimated by drawing a 1500 meter radius circle around each camera location. White-tailed deer were the most common species recorded, followed by black bears, coyotes, bobcats and raccoons.

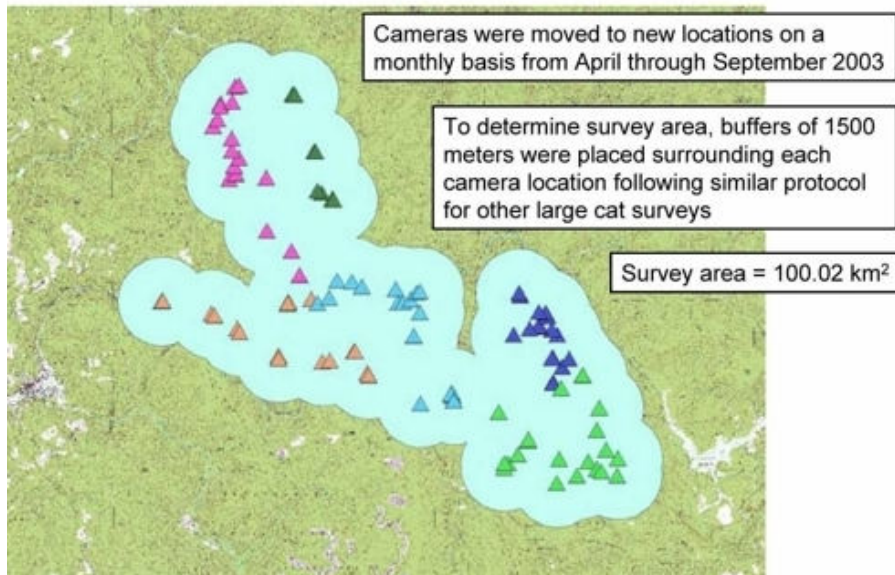
Camera Stations – within Monongahela National Forest



Dr. Kelly used calculations developed by Chris Carbone and co-authors based on 37 remote camera surveys for tigers in southeast Asia, to determine if a population of elusive, solitary animals is present in an area surveyed by trail cameras.* One thousand days should have been sufficient to determine that a population is not present. However, this method would not rule out the possibility of animals dispersing into an area or “passing through.”

To learn more, read the abstract **Search for Cougars with Remote Cameras in the Southern Monongahela National Forest** and the pdf document derived from the PowerPoint presentation given at the conference in the “News from the Field” section of ECF’s website, www.easterncougar.org.

2003 Camera Stations



*Carbone, C., Christie, S., Coulson, T., Franklin, N., Ginsberg, J., Griffiths, M., Holden, J., Kawanishi, K., Kinnaid, M., Laidlaw, R., Lynam, A., Macdonald, D.W., Martyr, D., McDougal, C., Nath, L., O'Brien, T., Seidensticker, J., Smith, D., Sunquist, M., Tilson, R. and Wan Shahrudin W.N. (2001) The use of photographic rates to estimate densities of tigers and other cryptic mammals. *Animal Conservation* 4: 75-79 Can be downloaded from <http://www.zoo.cam.ac.uk/ioz/people/carbone.htm>



Land Between the Lakes Remote Camera Project

In late December 2006 Judy Tipton and Dana Hurt, in cooperation with the US Forest Service, set out all 18 of ECF's PhotoScout cameras in selected hunting zones of this national recreation area, which is in western Kentucky and Tennessee. The cameras were set out on game trails. Canine Call and cougar urine, both commercially available scents used by trappers, were used as a lure to bring the big cats into camera range. Despite all precautions, human thieves stole three of the cameras.

In late February, she and Dana added ten inexpensive digital remote cameras. Dr. David Maehr, who is with the University of Kentucky and a member of ECF's Board of Directors, loaned the cameras to them. No cougars had been documented as of late May, and the cameras were temporarily removed from the field for battery changes. Judy did find and photograph wild boar tracks—providing evidence that feral hogs now inhabit LBL.



A coyote in its sparse summer coat.

Feral hog track.



DNA Confirmation of Cougar on Ontario's Niagara Peninsula

By Stuart Kenn, President, Ontario Puma Foundation

In March 2004, Anne Yagi, Ministry of Natural Resources (MNR), Niagara Region invited the Ontario Puma Foundation (OPF) out to the Wainfleet Bog, outside of Port Colborne, Ontario because they had identified a carnivore kill site and she was not convinced it was coyote. Ms. Yagi then wanted to set up a hair trap to hopefully obtain some DNA samples. The hair trap with urine drip was built in cooperation and under the direction of the OPF. On follow up visits, the MNR collected some hair samples and photographed some scat. She sent me some photographs and at a later date she retrieved "the sample" and several others in the area. These samples were handed off to me for analysis. The OPF and the MNR both received several purported sightings of pumas around this area for a couple of years prior to our visit.

A few months later Dr. Frank Mallory, Professor of Zoology, Laurentian University in Sudbury, Ontario possessed several samples of hair or scat that he was sending in for analysis. Working in collaboration with Dr. Mallory I sent the sample to him. With his kind assistance we were able to get our sample analyzed, as the OPF did not have any funding at this time. Dr. Mallory sent the samples to Dr. Bradley White, Wildlife DNA Forensic Laboratory, Trent University, Peterborough, Ontario.



Stuart Kenn with deer remains at Wainfleet Bog.

In the fall of 2006 the results were sent back to Dr. Mallory. He contacted me to report that the scat from the Wainfleet Bog tested positive for puma. In May 2007, I announced the results of our field research to the delegates at the 3rd Midwestern-Eastern Puma Conference during the OPF's presentation. Dr. Mallory went into further details of the DNA analysis in his presentation of "The Cougar in Ontario: Myth or Reality." [See abstracts of the conference.]

[Anne Yagi and Stuart Kenn investigated an abandoned quarry site outside Niagara Falls in May 2004. They found a tree with long deep scratches, an apparent den smelling strongly of cat urine, the remains of a skunk, and scratches on the rocks nearby. Ms. Yagi found tracks of at least three different animals in the mud south of the den location. They may include those of an adult puma and a puma kitten, according to Dr. Fred Scott of Acadia University. One track is definitely a dog. This evidence may be presented in a future issue of this newsletter.]

These investigations are two good examples of the OPF, the MNR, two universities, and several other professional experts that have cooperated together to determine the presence of a puma in the Wainfleet Bog and possibly another in an abandoned quarry near Niagara Falls. For any recovery strategy and management plan to take place for any species, a cooperative plan should identify, if possible, population densities or the distribution of the species by establishing individual ranges. Establishing current ranges will assist biologists by identifying significant habitat, wildlife corridors, and the overall health of the species. The OPF has worked closely with land owners, farmers, livestock owners, hunters, trappers, naturalists, biologists, zoologists, universities, police departments, and government agencies to develop the first ever Recovery Strategy and Management Plan for this endangered species.

The Cougars Dance

by
Dr. Tom Huhnerkoch
April 2007

He's an Indicator, a Keystone guide, Earth's Sentinel with reasons,
The Ghost Cat can live anywhere, He thrives throughout all seasons.

Blue baby's eyes, spotted coats to hide, a run, a jump, a prance,
Pure predator, God's greatest gifts, this is The Cougars Dance.

Robeless, the Judge ruled with Nature, conserve, protect, defend,
Laws were broken, the Rules twisted, false numbers to means the end.

His demise completely calculated, nothing happens here by chance,
Politics hidden within "management", this is The Cougars Dance.

Ten dollars bought His death sentence, He was deemed a public threat,
Those in power seek His extinction, they have not succeeded yet.

Stone like and mute He stands, a victim of unproved rants,
Folklore fueled by lies and hate, this is The Cougars Dance.

His faultless life drains slowly, from His all seeing golden eyes,
His hot blood cools rapidly, beneath God's azure skies.

His hide, His head, His guiding tail exemplified His stance,
Perfect life has gone too quickly, this was The Cougars Dance.

Dr. Tom is a nurse and veterinarian in Lead in the Black Hills of South Dakota.

Wild male at elk carcass, photographed by Scott Weins in the Black Hills of South Dakota, June 2, 2007.



Cougar Management Guidelines and Implementation and Refinement Program

Presented at the Ontario conference by Linda Sweanor

COUGAR
MANAGEMENT GUIDELINES FIRST EDITION



With her husband Ken Logan, Sweanor is co-author of the seminal cougar book, *Desert Puma: Evolutionary Ecology and Conservation of an Enduring Carnivore*. She now works with Beringia South, a non-profit science and education organization headquartered in Kelly, Wyoming. Logan is one of the 13 authors in the Cougar Management Working Group, which in 2005 produced the *Cougar Management Guidelines* for wildlife managers. The CMGs emphasize the use of adaptive management (i.e., learning-based management approaches) and research in developing defensible cougar management programs. The book stresses that “management should include: an adaptive management approach, elements that protect and maintain viable cougar populations, habitat protection for cougars and

their prey, consideration of diverse stakeholder values, regulated hunting, and integration with the conservation of other wildlife species.

State agencies in western states commonly view sport hunting as a means of providing recreational hunting opportunities and a method of reducing cougar populations to lessen depredation on livestock and/or predation on deer and elk. Some of these agencies feel that the CMGs are being “crammed down their throats.” They are working on a revision.

Copies of this important book can be purchased online at the “gift shop” of the Mountain Lion Foundation, <http://www.mountainlion.org> or directly from the publisher at www.orders@opalcreekpress.com.

Join the Eastern Cougar Foundation.
Dues are \$15.00 per year; \$5.00 for students.

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The next issue of the newsletter is scheduled for October.

www.easterncougar.org

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