

## MARCELLA J. KELLY

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### EDUCATION

B.S. 1991 University of California, Davis. Wildlife and Fisheries Biology  
Ph.D. 2000 University of California, Davis. Ecology. Advisor: Dr. Tim Caro

### PROFESSIONAL EMPLOYMENT

2001 – 2007 Assistant Professor, Department of Fisheries and Wildlife Sciences  
Virginia Polytechnic Institute and State University, Blacksburg, VA.  
2007 – Present Associate Professor, Department of Fisheries and Wildlife Sciences  
Virginia Polytechnic Institute and State University, Blacksburg, VA.  
1999 – 2001 Adjunct Professor, Biology Department  
San Francisco State University, San Francisco, CA.

### TEACHING EXPERIENCE

Undergraduate courses:

Population Dynamics and Estimation (Virginia Tech), 2003 - present  
Wildlife Field Techniques (Virginia Tech), 2001-present  
Tropical Ecology and Conservation – Wildlands Studies (SFSU, UCSB), 1998 - 2008  
Wildlife Ecology (U.C. Davis), 2000  
Rainforest to Reef: Resource Management in Belize; Study Abroad (Virginia Tech), 2008  
Teaching Assistant for 15 courses while a graduate student at U.C. Davis, 1993-2000

Graduate Courses:

Carnivore Conservation Seminar (Virginia Tech), 2001  
Advanced Topics in Applied Population Ecology (Virginia Tech), 2003- present

### RESEARCH SUPPORT (SELECTED)

- 2007-2008 National Science Foundation (NSF) Facilities Improvement Grant – Las Cuevas Research Center \$150,000.
- 2006-2008: Using remote acoustic detectors to predict bat species occurrence across the landscape for 14 bat species in Virginia. \$74,500.
- 2006-present. Tiger Conservation in Sumatra. Use of remote cameras and sign survey to estimate tiger density and site occupancy across 4 habitat types in Sumatra. World Wildlife Fund, \$24,500.
- 2004-2006: Horseshoe crab population modeling. National Marine Fisheries Service, \$62,000.
- 2003-2006: An evaluation of Quality Deer Management: Population Reconstruction, morphological measures, and the use of remote camera to estimate deer density. Deer Hunters Association, \$95,652.
- 2003-present: Remote camera reliability for wildlife study. Acorn Alcinda Foundation, \$49,000.
- 2002-2004: Small mammal abundance and community composition across a harvested landscape. MeadWestvaco, \$32,000.
- 2001-2002. ASPIRES, Virginia Tech. The Center Woods Wildlife Research and Training Center. \$36,000 plus matching funds. Total \$66,000.
- 2000-present: The use of remote cameras for monitoring jaguars in Western Belize, Central America. Wildlife Conservation Society, Philadelphia Zoo, \$53,000

## **OTHER RESEARCH EXPERIENCE**

2008: Research and Capacity Building. Collaboration with Wildlife Conservation Society, Madagascar Program to build a camera trapping program for Masoala and for extension to other area of Madagascar for biodiversity survey with particular emphasis on rare mammals.

2008: Scientific Advisor for wildlife projects for the Institute of Forestry (IOF), Pokhara and Hetauda campuses, University of Tribhuvan, Nepal. Development of internal capacity for wildlife sciences to build a Center of Excellence at the IOF.

2004-2006: Research and Capacity Building. Collaboration with the Carnivore Center of the Tanzanian Wildlife Research Institute (TAWIRI), and the Zoological Society of London (ZSL), Advisor for a country-wide, remote camera survey protocol for 35 species of carnivores.

2000: Researcher, University of California, Davis. Endangered Stephen's kangaroo rat population densities and habitat requirements in Riverside County, Southern California.

1999 - present: Long-term monitoring project examining diversity and abundance of neotropical rainforest mammals at Las Cuevas Research Station, Belize, San Francisco State University.

1996 - 1997: Researcher: Institute of Zoology, Zoological Society of London, England. Collaborated with Dr. Sarah Durant to conduct a population viability analysis for cheetahs.

1993 – 2000: Dissertation research. The use of photographic identification of Serengeti cheetahs to determine population demography, viability, effective population size.

1990-1991: Research Assistant: analysis of data on tail flagging in white-tailed deer.

1989: Research Assistant, Bodega Marine Laboratory, Dr. A. Peter Klimley. Using ultrasonic telemetry to track the movements and behavior of scalloped hammerhead sharks.

## **REFERREED PUBLICATIONS** (\*graduate, \*\* undergraduate students under my direction)

Kelly, M.J. 2008. Design, evaluate, refine: camera trap studies for elusive species *Animal Conservation* 11: 182–184.

\*Dillon, A. and M.J. Kelly. 2008. Ocelot home range, overlap and density: comparing radio telemetry with camera trapping. *Journal of Zoology (London)* 275: 391-398.

Kelly, M.J.; Noss, A.J.; Arispe L., R.; Di Bitetti, M.; De Angelo, C.D.; Paviolo, A.; Di Blanco, Y.E.; and L. Maffei. 2008. Estimating puma densities from remote cameras across 3 study sites: Bolivia, Argentina, and Belize. *Journal of Mammalogy* 89: 408-418.

Kelly M. J. and E.L. Holub\*\*2008. Camera trapping carnivores: Trap success among camera types and across species, and habitat selection by species on salt pond mountain, Giles Co., VA. *Northeastern Naturalist* 15:249-262.

\*Laver, P.N. and M.J. Kelly. 2008. A critical review of home range studies. *Journal of Wildlife Management*.72: 290-298.

\*Dillon, A.G. and M.J. Kelly. 2007. Ocelot activity, trap success, and density in Belize: the impact of trap spacing and animal movement on density estimates. *Oryx* 41: 469-477.

Kelt, D.A.; Hafner, M.S.; Danielson, B.; Van Vuren, D. and M.J. Kelly. 2007. On the threat of hantavirus pulmonary syndrome to field biologists working with small mammals. *Emerging Infectious Diseases*. 13: 1285-1287.

- \*Kaminski, J.A; Davis, M.L.; Kelly, M.J. and P.D. Keyser. 2007. Disturbance Effects on Small Mammal Communities in a Managed Appalachian Forest. *American Midland Naturalist*. 157: 385–397.
- \*Batts, G .K.; Lafon, N. W.; Kelly, M.J. and M. R. Vaughan. 2006. A modified approach to rocket netting white-tailed deer using a remote video. *Proceedings of the Southeastern Association of Fish and Wildlife Agencies* 60: 77–82
- Davis, M; Berkson, J, and M. Kelly. 2006. Delaware Bay Horseshoe Crab (*Limulus polyphemus*) Population Assessment Using a Surplus Production Model. *Fisheries Bulletin* 104: 215-225.
- Noss, A.J.; Kelly, M.J.; \*\*Camblos, H.B. and D.I. Rumiz. 2006. Pumas y Jaguares Simpátricos: Datos de Trampas-Cámara en Bolivia y Belize. *MEMORIAS*: 229-237
- Silver, S.C.; Ostro, L.E.T.; Marsh, L.K.; Maffei, L.; Noss, A.J.; Kelly, M.J.; Wallace, R.B.; Gomez, H. and G. Ayala. 2004. The use of camera traps for estimating jaguar abundance and density using capture/recapture analysis. *Oryx* 38: 148-154.
- Durant, S.M.; Kelly, M.J. and T.M. Caro. 2004. Factors affecting life and death in Serengeti cheetahs: Environment, Age and Sociality. *Behavioral Ecology* 15: 11-22
- Kelly, M.J. 2003. Jaguar monitoring in Western Belize. *Caribbean Geography* 13: 19-32.
- Kelly, M.J. and T.M. Caro. 2003. Low density of small mammals at Las Cuevas, Belize. *Mammalian Biology* 68:1-15
- Maehr, D.S.; Kelly, M.J.; Bolgiano, C.; Lester, T. and H. McGinnis. 2003. Eastern Cougar recovery is linked to Florida panther: Cardoza and Langlois revisited. *Wildlife Society Bulletin* 31: 849-853.
- Kelly, M.J. 2001. Conservation consequences of lineage loss, reproductive variance, and heritable fertility in Serengeti cheetahs. *Conservation Biology*. 15: 137-147.
- Kelly , M.J. 2001. Computer aided photograph matching in studies employing individual identification: An example from Serengeti cheetahs. *Journal of Mammalogy*. 82: 440-449.
- Caro, T.; Brock, R.E. and M.J. Kelly 2001. Diversity of mammals in the Bladen Nature Reserve, Belize, and factors affecting their trapping success. *Mammalian Biology*.66: 90-101.
- Caro, T.; Kelly, M.J.; Bol, N. and S. Matola. 2001. Inventorying mammals at multiple sites: the Maya Mountains of Belize. *Journal of Mammalogy*. 82: 43-50.
- Kelly, M.J. and S.M. Durant. 2000. Viability of the Serengeti cheetah population. *Conservation Biology* 14: 786-797.
- Gros, P.M.; Kelly, M.J. and T.M. Caro. 1996. Estimating carnivore densities for conservation purposes. Indirect ecological methods compared to long term field studies. *Oikos* 77: 197-206.
- Kelly, M.J.; Laurenson, M.K.; FitzGibbon, C. D.; Collins, D. A.; Durant, S.M.; Frame, G.W.; Bertram, B.C.R. and T.M. Caro. 1998. Long-term demography of the Serengeti cheetah population: the first 25 years. *Journal of Zoology, London* 244: 473-488.
- Caro, T.M.; Lombardo, L.; Goldzien, A.W. and M. Kelly. 1995. Tail-flagging and other anti-predator signals in white-tailed deer: new data and synthesis. *Behavioral Ecology* 6:442-450.

#### **BOOK CHAPTERS**

- Maffei, L; Noss, A. J.; Silver, S. and M.J. Kelly. In Press. Remote Camera survey design and data analysis for jaguars. In: *Camera Traps in Animal Ecology: Methods and Analysis*. A.F. O'Connell, Jr. editor. Springer-Verlag.
- Kelly, M. J. and S. Silver. In Press. The Suitability of the Jaguar (*Panthera onca*) for Reintroduction (what we know, what we need to know).
- Mills L.S. and M.J. Kelly. Under Review. Non-invasive sampling for Carnivore Conservation. In: *Research Techniques in Animal Ecology*. L. Boitani and R. Powell, editors.
- Caro, T. and M.J. Kelly. 2001. Cheetahs and their mating system. Pages 512-532 in *Model systems in behavioral ecology*. L.A. Dugatkin editor. Princeton University Press.

## **PAPERS IN REVIEW**

Berkson, J.B.; Hudy, S.; McMullin, S.; Murphy, B.; Prager, M.; Kelly, M.J. and N. Thompson  
Improving the Quality of Incoming Stock Assessment Graduate Students. Fisheries.

\*Laver, P.N.; Kelly, M.J.; Caro, T.M. and S.M. Durant. Under Review. Moss or rolling stone?  
Home range in a "migratory" carnivore. Journal of Wildlife Management.

\*Laver, P.N.; Kelly, M.J. Caro, T. and S.M. Durant. Under Review. Moving in Social circles:  
Philopatry and interaction in Serengeti cheetah. Behavioral Ecology.

\*\*Thompson, S.; Stuart, H.S.; Swenson J. and M.J. Kelly. Under Review. Evaluation of remote  
camera effectiveness for wildlife studies. Southeastern Naturalist

## **DIVERSITY CONTRIBUTIONS**

McNair Scholar's program, Concord College, WV. Guest speaker for seminar series, 2003

McNair Scholar's program, Virginia Tech. Mentor for summer research program 2002.

Girls in Science, UC Davis. Speaker and workshop leader for Junior High girls, March 2000.

## **HONORS AND AWARDS**

- March 2008-College of Natural Resources, Curriculum Club Award for Excellence in Teaching.
- August 2006-FiW, Curriculum Club Award for Excellence in Teaching.
- March 2005-College of Natural Resources, Curriculum Club Award for Excellence in Teaching
- May 2003- Graduate Student Appreciation award; Virginia Tech.
- June 2001- Merton-Love Award for best Ph.D. dissertation in Ecology. UC Davis.
- June 2001- Finalist for Best Student Paper. Society for Conservation Biology, Missoula, MT.
- June 1998- Campus-wide award for Outstanding Graduate Student Teaching
- June 1997- Jastro-Shields Research Award for outstanding graduate student research
- Fall 1997- Spring 1998 - Ecology Block Grant Fellowship for outstanding research proposal.

## **PROFESSIONAL MEMBERSHIPS**

American Society of Mammalogists, American Association of Zoos and Aquariums, Eastern  
Cougar Advisory Board, IUCN cat specialist group, Sigma Xi, Society for Conservation Biology,  
The Wildlife Society, Wild Felid Research and Management Association