For Immediate Release, June 8, 2009
Contact: Zara McDonald (415) 250-0425; zara@felidaefund.org

Bay Area Scientists Track Mountain Lion Kittens in the Santa Cruz Mountains

SANTA CRUZ, *California* — On Saturday (June 6th), biologists from University of California, Santa Cruz (UCSC) and conservationists from Felidae Conservation Fund hiked into dense undergrowth in a remote area of the Santa Cruz Mountains, one hour South of San Francisco. Guided by GPS points they found the den location when the mom was out hunting. Three 6-pound kittens, approximately 6 weeks old were ear-tagged and fitted with tiny expandable VHF transmitters that they will wear for close to a year. Project scientists will then replace the transmitters with GPS/Accelerometer collars and continue to track the three siblings as adult mountain lions.

The Bay Area Puma Project, a pioneering study of mountain lions in the Santa Cruz Mountains, passed a new milestone Saturday when project scientists fitted three puma kittens with tiny VHF collars at a mountain lion den. The data from the kittens, combined with that of seven adult pumas already being monitored, will generate unprecedented insights into the biology and behavior of the region's top predator.

Late last fall, researchers analyzing GPS data noticed that Female-2 (F2) and Male-3 (M3) were together repeatedly over several days. Three months later, when biologists found F2 consistently in the same spot, scientists predicted that she had a den. Female mountain lions spend most of their lives pregnant or raising young, and outside of this they live a solitary life.

A mountain lion den isn't something a casual hiker or even a serious naturalist is likely to come across during an afternoon hike in the woods. They're exceptionally well hidden, and that's intentional. Female mountain lions take great care to hide their kittens in the least accessible and most secretive places possible, so that the kittens will be safe from dangerous predators when she leaves the den to hunt for food. This makes the work of a biologist seeking a den especially difficult.

For the past year researchers at the University of California, Santa Cruz, in collaboration with Felidae Conservation Fund and the California Department of Fish and Game, have been tracking mountain lions (also known as pumas) in the Santa Cruz Mountains with GPS/Accelerometer collars. Data collected from the Bay Area Puma Project will shed new light on the implications of increasing habitat fragmentation and loss of movement

corridors on puma populations. Greater understanding of puma behavior is critically needed as development pressures contribute to more frequent encounters between humans and mountain lions.

The kitten collars will provide important information on dispersal when the kittens reach adolescence. This picture is critical to understanding, and ultimately reconciling, the growing tension between expanding human development and the habitat requirements of pumas, which have one of the largest home ranges of any land animal.

"Given the real factors that influence human and puma encounters, we're developing a combination of pioneering scientific research, and compelling education and public outreach, to provide a new model for human-puma coexistence" said project partner Zara McDonald, executive director of Felidae Conservation Fund, a Marin County-based nonprofit dedicated to the protection of all wild cat species and their habitats.

Ecologist Chris Wilmers, assistant professor of environmental studies at UCSC and the Principal Investigator on the project, elaborated. "We're trying to learn as much as possible about mountain lions -- where they live, what their range and dietary needs are, how they move from place to place, and how to minimize conflict with humans," said Wilmers. "If we want the mountain lion to survive, given all the development occurring in the area, we need to answer these questions."

The Bay Area Puma Project is seeking those answers using novel technology developed at UCSC -- a small accelerometer on the collars that records fine-grained data on behavior and movement -- to link both habitat and physiology data and answer questions that have so far evaded scientists. McDonald and Wilmers plan to expand the current three-year study to include the Diablo Range east of San Francisco, as well as the North Bay region. The combined GPS/accelerometer technology will be adaptable to the study of other species as well.

Of course the kittens are too small to be wearing accelerometer collars anytime soon. They'll have to wait a year before they can be fitted with full size collars like the one their mom is wearing.

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Note to journalists: **Chris Wilmers** may be reached by contacting Jennifer McNulty in the UCSC Public Information Office at (831) 459-2495 or jmcnulty@ucsc.edu; **Zara McDonald** may be reached at (415) 250-0425 or bapp@felidaefund.org.

About the **Felidae Conservation Fund**: Formed in 2006, the fund is a 501c3 nonprofit organization dedicated to the long-term survival of wild cat species and the ecosystems they support, with the goal of fostering a world where wild cats thrive in co-existence with people and the environment. Activities include building partnerships with scientific research projects, conducting compelling outreach symposiums, and educating adults and children to ensure the survival of wild cats for future generations.