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Preliminary DNA Analysis Completed on California Wolverine

ALBANY, Calif.—Preliminary results from DNA analysis of wolverine scat samples collected on the Tahoe National Forest do not match those of historic California wolverine populations, according to U.S. Forest Service scientists.

Geneticists with the agency's Rocky Mountain Research Station recently began analyzing samples, when wildlife biologists with the Tahoe National Forest and California Department of Fish and Game began sending hair and scat samples they collected from wolverine detection sites on the national forest to a lab in Missoula, Mont.

The interagency effort began in March after an Oregon State University graduate student working on a cooperative project with the U.S. Forest Service's Pacific Southwest Research Station photographed a wolverine, an animal whose presence has not been confirmed in California since the 1920s.

DNA analysis is critical to scientists working to determine if the animal first photographed on February 28 and in later detection work is a wolverine that dispersed from outside of California, escaped from captivity or is part of a historic remnant population.

Key findings from the preliminary analysis indicate the animal in the photographs is a male wolverine that is not a descendent of the last known Southern Sierra Nevada population, said Bill Zielinski, a Forest Service scientist with the Pacific Southwest Research Station and an expert at detecting wolverine, marten and fisher. It also does not genetically match populations in Washington, he said.

U.S. populations are found largely in the Northern Cascades in Washington, and Northern Rockies in Montana, Wyoming and Idaho. The nearest known resident population is about 600 miles northeast of the Tahoe National Forest in Idaho's Sawtooth Range.

Scientists determined the sample is a haplotype A, which is a genetic type that is found throughout the Rocky Mountains, Alaska and Canada, according to Michael Schwartz, conservation genetics team leader at the Rocky Mountain Research Station. He said haplotype A is not found in historic California samples or in the Cascade Range.

Additional analysis of the wolverine DNA to pinpoint this animal's origin will be conducted by the Rocky Mountain Research Station and independent labs, Schwartz said.

"We can exclude the Washington and the Southern Sierra Nevada populations from haplotype A, but more information about the population of origin will be investigated through additional genetic analysis," Zielinski said.

Genetic samples for historic California wolverine populations were gathered from museum pieces, fur pelts and scientific specimens, he said.

The Rocky Mountain Research Station's Conservation Genetics Program works with universities, state agencies, tribes and private groups to answer state-of-the-art questions in wildlife genetics. Its website can be found at:

<http://www.fs.fed.us/rm/wildlife/genetics/index.php>

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