Vulnerability Assessment Case Study: Southern Sierra Nevada Fisher

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Location/Scale: California – Southern Sierra Nevada

Background:

The Southern Sierra Nevada population of Fisher (*martes pennant*) has recently become the topic of much discussion, as it appears there are fewer than 500 individuals in the population and that they have perhaps been separated from other Fisher populations for thousands of years, making them a distinct population of conservation concern. Thus a working group has been established to create a conservation strategy for the Southern Sierra Fisher, including recommended land management strategies, landscape conservation, and future directions. On April 3, 2004, the US Fish and Wildlife Service (USFWS) followed its positive initial finding with a determination that listing the west coast distinct population of the fisher is "warranted, but precluded by higher priority listing actions." The USFWS is slated to propose it for protection (or determine it does not qualify) in 2014 and finalize the decision in 2015 if warranted. A majority of the species habitat in the southern Sierra Nevada is on Forest Service managed lands. As part of Forest Plan Revision, the southern Sierra Nevada national forests would like to take a strategic approach to fisher conservation.

Scale/focus:

The first step is to identify the most important habitat areas needed for long term conservation. The approach is to establish priority emphasis areas that encompass resting and denning habitat. Once identified, the Forest Service can then determine fuels treatments compatible with fisher conservation within these areas. This will be accomplished through data collection, analysis, modeling, and review of habitat maps and pre- and post-treatment habitat characteristics. The largest challenge for the Forest Service is to weigh the short term effects of fuels treatments on fisher habitat vs. the long term benefit of providing a more resilient forest to threats like catastrophic wildfire.

Objectives and Questions:

Determine the following. Given climate change and other stressors, what habitat locations are most important to protect and conserve through fuels treatments? What areas are better left without treatment? At what scale? Ultimately, what types of treatment and with what restrictions (spatial and temporal)? And, what population and/or habitat metrics are most effective to assess sustainability given realistic budgets?

The Fisher select late seral forest habitat with multiple age and stage classes present. Given climate change and other stressors, especially changes in fire regimes and anthropogenic development, what conservation efforts and landscape planning should be included in the Fisher conservation strategy? How can we take an all lands approach under uncertain future conditions to make the conservation strategy effective? How can we promote both anthropogenic and wildlife uses of forest habitat given potential future conditions under climate change scenarios?

Status:

Region 5 of the Forest Service is regularly engaged in discussions with researchers and other state and federal agencies to improve their habitat management. Currently, an interdisciplinary team from the three southern Sierra Nevada forests has been created for Forest Plan Revision. The team is in the beginning stages of developing a fisher conservation strategy.