

## Summary of Southern Sierra Nevada Fisher Conservation Assessment – January 2015

### **The Fisher Population is small and at risk – in the southern sierra there are a few hundred individuals.**

The southern Sierra Nevada fisher population is well-studied by a variety of monitoring and research studies, which together reveal that the population is small (at most a few hundred individuals), stable (neither expanding nor contracting in recent years), and at risk of further reduction or extirpation. (Paraphrased) **Page 1**

### **The fisher population is primarily south of the Merced River – and it is not expanding north.**

The breeding fisher population is currently restricted to forested areas south of the Merced River. **Page 4** The southern Sierra Nevada population is not expanding geographically, despite the apparent existence of suitable, unoccupied habitat north of the Merced River. **Page 9** In study areas in Sierra National Forest, at the northern end of occupied fisher habitat, fisher detections are concentrated between 4,000 - 7,000 feet. **Page 7**

### **Fishers require a mature forest and large trees for both habitat and habitat for their prey species.**

Fishers in the assessment area eat a high proportion of large prey (>200 g [7 oz]), especially western gray squirrels (*Sciurus griseus*) and Douglas squirrels (*Tamiasciurus douglasii*)—species typically associated with mature forest conditions—as well as California ground squirrels (*Otospermophilus beecheyi*)—which are associated with early seral vegetation communities. **Page 23** In the Sierra Nevada, fishers occur primarily in dense, mature mixed-conifer and ponderosa pine forests at elevations that support the greatest above-ground forest biomass (many large trees) and do not accumulate as much deep and persistent snow as higher elevations. **Page 26** As with previous models and on-ground habitat assessments, the variables indicate that fishers are closely associated with forests at intermediate elevations with moderate climate conditions that support many large trees within stands having dense, green canopies. **Page 27** Logging practices that remove the largest trees significantly reduce fisher resting and denning structures, likely the most limiting habitat elements for fishers (Weir and Corbould 2010; Weir et al. 2012; Aubry et al. 2013; Schwartz et al. 2013). **Page 64**

### **Conservation actions require that fishers can obtain food (prey) cover (tree habitat), mates (suitable grounds for dispersal), and connected blocks of habitat to maintain a healthy population.**

Conservation and management actions must consider all 4 scales to ensure that individuals can obtain all their life requisites (e.g., food, cover, mates) within their home ranges, and home ranges must be distributed in relatively contiguous and connected blocks of habitat to maintain a healthy, interbreeding population. **Page 26**

### **Logging, mining, and grazing have had an adverse impact on fisher habitat. Fire is considered the current greatest threat.**

Historically, logging coupled with grazing and hydraulic mining had major adverse effects on fisher habitat in the Sierra Nevada (Lofroth et al. 2010). Currently, large, severe wildfires, in concert with drought, climate change, and insect outbreaks, are generally considered the largest threat to fisher habitat (Scheller et al. 2011; Lawler et al. 2012). **Page 57**

### **Marijuana grow sites should be removed, where they are known to exist, to prevent rodenticide poisoning.**

Detecting and cleaning up trespass marijuana grow sites should be a high priority. Manage vegetation to maximize integrity of female home ranges and potential denning habitat while restoring resilient forest conditions. **Page 50**

### **Fire management and effective mimicking of the natural range and variation of fire will be beneficial to the fisher, but thinning followed by prescribed fire negatively affects fisher habitat.**

Fire is a natural ecological process, and fires within the natural range of variation are generally considered beneficial to fisher habitat, especially over the long term, because they recruit essential habitat elements (e.g., snags, den cavities), increase abundance of some fisher prey species, and contribute to habitat resiliency. **Page 57**

Truex and Zielinski (2013) found that predicted (modeled) fisher resting habitat is affected negatively by mechanical thinning followed by prescribed fire, although the duration of these effects is unknown. **Page 74**