

released into the wild, and sometimes the captures have resulted in mortality. Mortality of captured individuals likely has differing impacts on the ability of local populations to persist depending on the size of the local population and when the trapping occurs in the population cycle. Lynx persist throughout their range despite the incidental catch that presumably has occurred throughout the past, probably at higher levels than presently. Although we are concerned about the mortality of lynx that are incidentally captured, we have no information to indicate that the loss of these individuals has negatively affected the overall ability of lynx in the contiguous United States to persist. We recognize that individuals may be lost, which could affect small, local populations.

Based on the information described in this section, we conclude that legal, lynx-targeted harvesting does not occur and therefore is not a factor threatening the contiguous United States lynx population. The threat to lynx populations from illegal harvesting, if any, and incidental catch by trapping, snaring, or hunting is low.

Factor C. Disease or Predation

Mountain lions (*Puma concolor*) and fisher (*Martes pennanti*) have been documented to prey on lynx (Squires and Ruggiero 2001, G. Matula, in litt. 2003) but there is no information to suggest that these natural events are threatening lynx populations. Plague has been documented in the Colorado reintroduced population, but its overall impact is unknown at this time (T. Shenk, Colorado Division of Wildlife, pers. comm 2003). As in the final rule, we conclude that disease and predation are not factors threatening lynx.

Factor D. Inadequacy of Existing Regulatory Mechanisms

The final rule (1) outlined regulatory protections that States and Tribes within the range of the lynx have in place to provide protection to the species, (2) described how lynx is protected under the Convention on International Trade in Endangered Species (CITES), and (3) identified efforts on private lands to provide for the conservation of the species. These protections and efforts will not be reiterated here.

Timber harvest activities on non-Federal lands are guided by State or Tribal forest practice rules whose requirements vary (e.g., Maine Forest Practices Act 1989); however, not all States or Tribes have forest practice rules.

The final rule discussed the fact that a substantial amount of lynx habitat in the contiguous United States is found on Federal lands, primarily National Forest and BLM lands. The final rule thoroughly described the purposes and analyses of the LCAS and the biological assessment of National Forest and BLM Land Management Plans (U.S. Forest Service and Bureau of Land Management 1999, Ruediger *et al.* 2000). At that time, we found that Federal land management plans did not adequately address risks to lynx and, as identified in the LCAS, that plans allowed actions that cumulatively could result in significant detrimental effects to lynx in the contiguous United States. As a result, we concluded in the final rule that the lack of Federal Land Management Plan guidance for conservation of lynx, and the potential for Plans to allow or direct actions that adversely affect lynx, were a significant threat to the contiguous United States lynx population.

As described in the final rule, the LCAS was developed to provide a consistent and effective approach to conserving lynx on Federal lands in the contiguous United States (Ruediger *et al.* 2000). The overall goals of the LCAS were to recommend lynx conservation measures, provide a basis for reviewing the adequacy with regard to lynx conservation of Forest Service and BLM land and resource management plans, and facilitate conferencing and consultation under section 7 of the Act, should the lynx be listed. The LCAS identifies an inclusive list of 17 potential risk factors for lynx or lynx habitat that may be addressed under programs, practices, and activities within the authority and jurisdiction of Federal land management agencies. For example, these risk factors include programs or practices that result in habitat conversion, habitat fragmentation, or obstruction to lynx movement; roads or winter recreation trails that facilitate access to historical lynx habitat by competitors; and fire suppression, which changes the vegetation mosaic maintained by natural disturbance processes. The risks identified in the LCAS are based on effects to either individual lynx, populations, both, or lynx habitat. Therefore, not all of the risks identified in the LCAS threaten lynx populations in the United States. For example, one risk factor identified for the Southern Rockies Region is accidental death from vehicle collisions. While this may result in the death of individual lynx, it is not considered to be a threat to lynx populations.

With the listing of the lynx in 2000, Federal agencies across the contiguous United States range of the lynx were required to consult with the Service on actions that may affect lynx. The LCAS assists Federal agencies in planning activities and projects in ways that benefit lynx or avoid adverse impacts to lynx or lynx habitat (Ruediger *et al.* 2000). The LCAS addresses potential risks including timber harvest and fire management. The LCAS ensures the appropriate mosaic of habitat is provided for lynx on Federal lands. For instance, both early successional forests and older forests with understory are important for lynx foraging habitat. The LCAS recommends that while timber harvest can result in early successional forests, harvest be limited to provide adequate amounts of older timber stands. Also, the LCAS recommends that no pre-commercial thinning occur in lynx habitat and no increase in designated or groomed snowmobile routes in lynx habitat. If projects are designed that fail to meet these or other recommendations, the biologists using the LCAS would arrive at an adverse effects determination for lynx. On National Forest lands such projects then would be deferred until Forest Plans are amended to conserve lynx.

A Conservation Agreement between the U.S. Forest Service and the Service (U.S. Forest Service and U.S. Fish and Wildlife Service in litt. 2000) and a similar Agreement between the BLM and the Service (Bureau of Land Management and U.S. Fish and Wildlife Service in litt. 2000) committed the U.S. Forest Service and BLM to use the LCAS in determining the effects of actions on lynx. The U.S. Forest Service further committed to deferring any actions not involving third parties that would adversely affect lynx, until such time as the Forest Plans were amended or revised to adequately conserve lynx. A programmatic biological opinion analyzed and confirmed the adequacy of the LCAS and its conservation measures to conserve lynx and concluded that Forest and BLM land management plans as implemented in accordance with the Conservation Agreements would not jeopardize the continued existence of lynx (U.S. Fish and Wildlife Service 2000). Currently, the ongoing adherence to the Conservation Agreements, the LCAS, and the programmatic biological opinion alleviates the effects of Federal land management activities identified in the final rule. However, amendment of National Forest and BLM land management plans to conserve lynx will be the strongest mechanism in ensuring lynx and lynx habitat are conserved on