

and being struck by vehicles were important causes of mortality of fishers in northern California and the southern Sierra Nevada. The threat posed by predation may be exacerbated by small population size (*see* discussion of factor E, below).

Regarding factor D, the petitioners present information to support their assertion that the West Coast population of the fisher is threatened by the inadequacy of existing regulatory mechanisms. Because the petition predates the SNFPA, which was adopted in January of 2001, information for the Sierra Nevada presented in the petition was based on a draft Environmental Impact Statement for the SNFPA. According to the FEIS (USDA Forest Service 2000), the SNFPA would generally improve upon previous management for fishers on the involved National Forest lands, although it represents some risk to fisher habitat. The FEIS provided separate predictions of outcomes for the fisher environment and for fisher populations on National Forests in the Sierra Nevada after 50 years under a range of management alternatives. For the alternative adopted by the SNFPA, the predicted outcome for the environment of the fisher on the National Forests was as follows: "Suitable environments are either broadly distributed or of high abundance across the range of the species; however, there are temporary gaps where suitable environments are absent or only present in low abundance. Disjunct areas of suitable habitat are typically large enough and close enough to permit dispersal and interaction among subpopulations across the species' range." The predicted population outcome was slightly worse: "Suitable environments are frequently distributed as patches or they exist at low abundance, or both. Gaps, where suitable environments are either absent or present in low abundance, are large enough that some subpopulations are isolated, limiting opportunity for species interactions. In most of the species' range, subpopulations have the opportunity to interact as a metapopulation; however, some subpopulations are so disjunct or of such low density that they are essentially isolated from other populations" (USDA Forest Service 2000). The Forest Service is proposing changes to the SNFPA and recently issued a draft supplemental EIS for public review and comment (68 FR 35406); thus, the potential effects of the SNFPA will have to be reevaluated based on any changes that are adopted as a result of the final supplemental EIS.

For the National Forests and BLM lands in Washington, Oregon, and northern California covered by the Northwest Forest Plan, the report of the Forest Ecosystem Management Assessment Team (FEMAT) projected a 63 percent future likelihood for achieving an outcome in which habitat for the fisher is of sufficient quality, distribution, and abundance to allow the species population to stabilize, well distributed across Federal lands in the NWFP area (FEMAT 1993). The analysis for the NWFP acknowledged that population sizes of the fisher in the Pacific Northwest are quite low in portions of its range, "causing some uncertainty that populations will recover even if habitat conditions are sufficient to support well-distributed, stable populations" (USDA and USDI 1994). Some aspects of the NWFP (*e.g.*, the Aquatic Conservation Strategy and the "survey and manage guidelines") are presently undergoing changes, which may result in changes in Forest Service and BLM management of habitat used by the fisher.

As described above (*see* discussion of factor A), a substantial portion of the range of the fisher in Washington, Oregon, and California is on private land. Timber harvest on such lands is carried out in accordance with State regulations. Although these State regulations address various aspects of timber harvest on private lands, they do not contain specific provisions to protect fishers or fisher habitat. The State regulations do, however, address retention of large trees, canopy closure, and riparian areas. The extent to which the State regulations on timber harvest affect fragmentation of fisher habitat is unclear.

Under section 10 of the Act, a non-Federal entity with a habitat conservation plan (HCP) that meets certain requirements may receive authorization from us to "take" federally listed species. Several HCPs in California, Oregon, and Washington contain conservation strategies that protect habitat for the northern spotted owl (*Strix occidentalis caurina*) or marbled murrelet (*Brachyramphus marmoratus*) and may provide some benefit to fishers or have fisher-specific protection measures. The petitioners assert that protections provided by the Federal listing of the northern spotted owl do not necessarily translate to protections for fishers on Federal lands or on private lands, and that there has been little or no analysis of the adequacy of the HCPs with regard to the fisher. According to Lewis and Stinson (1998), fishers require larger areas and are more sensitive to habitat

fragmentation than the owl. Protections provided by the Federal listing of the marbled murrelet may provide habitat for fishers on low-elevation private lands, but the extent to which this occurs has not been determined.

The petition asserts there are few to no specific State regulations to protect the fisher on State lands in California and Oregon. In Oregon, the fisher is designated a protected nongame species and is listed as a "Sensitive Species—Critical Category." In California, the fisher is classified as a furbearing mammal that is protected from commercial harvest and it is a "Species of Special Concern." Our evaluation indicates that these designations in Oregon and California do provide some protection to the fisher in the form of voluntary conservation efforts and fines for illegal trapping. In the case of California, the fisher and its habitat also may receive consideration under the California Environmental Quality Act. The fisher is listed by the State of Washington as endangered, which provides additional protections in the form of more stringent fines for poaching and a process for environmental analysis of projects affecting the species.

The management plans for California's and Oregon's State Forests do not appear to contain specific measures addressing the fisher. The State Forests in California and Oregon consist of small, widely scattered parcels or larger areas of highly fragmented forest habitat, and they generally are not managed to maintain late-successional habitat characteristics. The State lands in Washington are managed by the Washington Department of Natural Resources (WDNR). Because these lands generally occur at lower elevations than National Forest lands in the State, a higher proportion is within the elevational range preferred by the fisher (Aubry and Houston 1992; WDNR 1997). More than half of all WDNR forest lands are under 60 years in age and less than 10 percent are more than 50 years of age, indicating the State's management of these lands does not result in retaining late-successional forests (WDNR 1997) that are typically considered to provide fisher habitat.

The petition mentions tribal lands but only presents information concerning a forest management plan for a relatively small tribal area in northern California where fishers are known to occur. Very little of the available information in our files addresses management of the fisher or its habitat on Native American lands, and further analysis would be needed to determine the adequacy of existing