

segment under consideration for listing may be recognized as a DPS: (1) the population segment's discreteness from the remainder of the species to which it belongs; and (2) the significance of the population segment to the species to which it belongs. Our evaluation of significance is made in light of Congressional guidance that the authority to list DPSs be used "sparingly" while encouraging the conservation of genetic diversity. If we determine that a population segment meets the discreteness and significance standards, then the level of threat to that population segment is evaluated based on the five listing factors established by the Act to determine whether listing the DPS as either threatened or endangered is warranted.

Under our DPS policy, a population segment of a vertebrate species may be considered discrete if it satisfies either one of the following two conditions: (1) it is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors (quantitative measures of genetic or morphological discontinuity may provide evidence of this separation); or (2) it is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the Act.

Substantial information is presented in the petition and other documents in our files indicating the West Coast population may be markedly separated from other populations of the fisher. Physical barriers that result in separation from fisher populations that occur in the Rocky Mountains and the eastern United States include major highways, major rivers, urban and rural nonforested areas, agricultural development, and other areas such as the Okanogan Valley in Washington. Along the West Coast, the Oregon Cascade Range population is described as being separated from the population in British Columbia by more than 400 mi (650 km) (Aubry and Lewis in press 2003), and fishers in the southern Sierra Nevada are approximately 260 mi (420 km) from those in northern California (Zielinski *et al.* 1995). Quantitative measures of genetic discontinuity also indicate there may be a marked separation of the West Coast population from other populations of the taxon. Genetic studies indicate the historical continuity in fisher distribution that once provided for genetic interchange among populations no longer exists in the western United States (Aubry and

Lewis in press 2003). Genetic analyses also indicate that native populations of the fisher in California and the reintroduced population in the southern Cascade Mountains of Oregon have become isolated from the main body of the species, probably due to extirpation of the fisher in Washington and northern Oregon (Drew *et al.* 2003). The West Coast population also may be markedly separated from other populations as a result of ecological factors, as they use forest types that differ in species composition, tree size, and habitat structure as compared to those used by fishers in the northeastern United States, eastern Canada, and the Great Lakes region (Buskirk and Powell 1994; Powell and Zielinski 1994). However, the extent to which such ecological factors may result in a marked separation of the West Coast population from populations in the Rocky Mountains or British Columbia is less clear.

Information in the petition and in our files pertaining to the second criterion for discreteness suggests the West Coast population of the fisher may be delimited by the international governmental boundary between the United States and Canada with regard to differences in control of exploitation, management of habitat, conservation status, and regulatory mechanisms that may be significant with respect to section 4(a)(1)(D) of the Act. For example, commercial harvest of the fisher is allowed in British Columbia, but trapping the species has been prohibited for decades in Washington, Oregon, and California (Lewis and Stinson 1998). Also, Canada has no overarching forest practices laws governing management of its national lands. In contrast, in the United States, lands within the National Forest System, including the wildlife habitat occurring there, are considered under the National Forest Management Act of 1976, as amended (16 U.S.C. 1600), and associated planning regulations. Therefore, the petition and other documents in our files present substantial information indicating that the West Coast population of the fisher may meet one or both of the conditions for discreteness under our DPS Policy.

Our DPS policy states that our consideration of a population segment's biological and ecological significance may include, but is not limited to, the following: (1) Persistence of the discrete population segment in an ecological setting unusual or unique for the taxon; (2) evidence that loss of the discrete population segment would result in a significant gap in the range of the taxon; (3) evidence that the population

segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historical range; and (4) evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics.

Fishers in the West Coast population persist in an ecological setting that may be unusual in comparison to the rest of the taxon, with a different climate, topography, and habitat than are found in the majority of its range. The potential loss of the West Coast population could result in a significant gap in the range of the species by eliminating the southwest portion of its range. Also, the populations in the southern Sierra Nevada and northern California/southern Oregon appear to be the only extant native populations of the fisher remaining in the West Coast States (Truex *et al.* 1998; Aubry *et al.* in press 2003; Drew *et al.* 2003), and based on our review of maps provided by Lewis and Stinson (1998), these are two of only seven or eight remaining areas occupied by fishers in the United States. Loss of the West Coast population could result in the loss of a significant genetic entity, since they have been described as being genetically distinct from fishers in the remainder of North America (Drew *et al.* 2003). Based on our review of the petition and other documents in our files, there is substantial scientific information indicating that the West Coast population of the fisher may have significance to the remainder of the taxon.

Because the petition and other documents present substantial information the West Coast population of the fisher may be both discrete and significant, it may constitute a valid DPS and thus may be a listable entity under the Act.

Conservation Status

Under our DPS policy, if a vertebrate population segment is discrete and significant (*i.e.*, it is a distinct population segment) we will base its evaluation for endangered or threatened status on the Act's definition of those terms and a review of the factors enumerated in section 4(a). Under section 4(a) of the Act, we may list a species, subspecies, or vertebrate DPS on the basis of any of five factors, as follows: "(A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; (E) other natural or