Executive Summary:
Delmarva Peninsula Fox Squirrel Five-Year Review

The Delmarva Peninsula fox squirrel (*Sciurus niger cinereus*), generally called the Delmarva fox squirrel (DFS), was listed as federally endangered in 1967 because of concerns about a reduction in distribution to only 10% of its historic range. Three recovery plans have been written for this subspecies, with the most recent completed in 1993. This 5-year status review summarizes information obtained since 1993, evaluates the biological status of this subspecies, and conducts an assessment of the five listing factors to determine the appropriate classification of this subspecies under the Endangered Species Act of 1973, as amended (ESA).

The current range of the Delmarva fox squirrel extends beyond the boundaries delineated in the 1993 Recovery Plan, and the squirrel is now considered likely to occur across approximately 25% of the Delmarva Peninsula. This range expansion reflects the discovery of new or previously unknown populations as well as the establishment of 11 populations through translocations conducted to benefit recovery; these additional populations are located within the historic range but outside the areas where DFS were previously known to occur. Interviews with landowners at 101 sites, conducted in 1971 and repeated in 2001, also indicate that DFS populations are persisting and that there has been a small increase in the number of occupied sites within the range delineated in 1993. In sum, new records of DFS have documented 25,000 acres of additional occupied habitat, including sightings that fill in gaps within the previous range and approximately 11,000 acres of occupied habitat outside the 1993 range boundary.

Further understanding of the distribution of this subspecies was gained through a population viability analysis (PVA), which enabled delineation of DFS subpopulations and analysis of persistence probabilities. Subpopulations occupy patches of habitat with sufficient connectivity to allow frequent dispersal and interbreeding. Probability of subpopulation persistence was based on minimum size requirements; the likelihood of persistence also considered anticipated threats, which are categorized under the five factors used in listing species as threatened or endangered under the ESA. These factors cover habitat-related impacts, overutilization, disease or predation, inadequate regulatory mechanisms, and other types of stressors.

None of the five factors assessed is now considered severe or pervasive enough (either individually or synergistically) to pose a danger of extinction to this subspecies; thus, the squirrel no longer appears to be endangered. However, available timber harvest data suggest a net loss of mature forest habitat in the southern counties, which, in combination with loss of small populations in the northern counties from development, pose a likelihood that the squirrel could once again become endangered. It is important to note, however, that the timber harvest data available at the time of this review are insufficient to accurately assess the landscape-level impact of this activity on DFS habitat. Better information is needed both on availability of mature forest habitat and on timber harvest rates, and we are currently in the process of obtaining and analyzing this information. If forthcoming analysis shows that timber harvest is sustainable across the squirrel's range and that the acreage of mature forest is sufficiently abundant and extensive enough to support viable subpopulations, ongoing concerns about the threat of timber harvest will be dispelled. This, in conjunction with an improved understanding of DFS distribution, persistence of subpopulations, and the expansion of the squirrel's range since the time of listing, could allow delisting. Nonetheless, given our uncertainty about the outcome of these analyses and the harvest data currently available, there remains some likelihood that the DFS could again become an endangered species, and on this basis the recommendation of this review is to reclassify the DFS as a threatened species.