

research than have been noted in recent years by himself or Dr. Fritz Knopf. Consequently, while our use of historic numbers to show a declining trend at the Pawnee National Grassland can be challenged, Dr. Graul and Dr. Knopf both agree that a significant decline has been evident since the late 1960s. We have revised the appropriate section of the final determination.

*Comment 20:* The present and future change in winter habitat in California is a significant range-wide threat to mountain plovers.

*Response 20:* As described in this final decision, we do not believe the anticipated conversions of cultivated and noncultivated habitats in California will have an immediate significant impact on wintering mountain plovers throughout California. We discussed this issue with Dr. Fritz Knopf for preparation of this final determination (F. Knopf, pers. comm. 2003). Dr. Knopf agreed that winter habitat does not appear to be limited, but acknowledged that habitat quality may not be similar among all cultivated and noncultivated lands. Mountain plovers are opportunistic foragers while they occupy winter habitat, and have the ability to seek suitable habitats available over a wide area. Knopf and Rupert (1995) determined that mountain plovers prefer noncultivated sites to cultivated lands, and others have observed that mountain plovers appear to select unique characteristics (E. Marquis-Brong, BLM, in litt. 1999). However, given that cultivated habitat is pervasive throughout the Imperial and Central Valleys, we do not believe the current rate of conversion represents an imminent threat to mountain plovers.

*Comment 21:* Mountain plover numbers are very dynamic, and their current abundance merely reflects a normal fluctuation.

*Response 21:* We agree that mountain plover abundance at local breeding areas can fluctuate annually based on local environmental conditions.

*Comment 22:* Population fluctuations due to climatic events should be considered temporary and not a justification for listing.

*Response 22:* The Service must consider all factors, natural or human-caused, that may contribute to a species' survival and recovery. We agree that climatic events may affect localized populations, either positively or negatively, on a temporary basis. Presently, it is believed that climatic events on the Pawnee National Grassland have negatively influenced mountain plover abundance there.

*Comment 23:* The BBS data are not reliable. The 2002 proposed rule stated

that new BBS information was available, but new BBS information could not be found.

*Response 23:* The 1999 proposed rule cited literature published by Dr. Fritz Knopf, which used published BBS trend analyses reporting the mountain plover declining throughout its range, and declining more rapidly than other grassland endemic birds. His conclusions were based on the BBS data for the periods from 1966 to 1993. The 1999 proposed rule also cited an analysis by Dr. John Sauer with the USGS-BRD, showing that for the period 1966 to 1996, the BBS trend analysis yielded a statistically significant estimated annual rate of decline of 2.7 percent. Because of the numerous comments we received on the 1999 proposed rule regarding the BBS data, we requested a review of the data by the USGS-BRD, which is the Federal agency responsible for administering the BBS program.

According to Sauer (in litt. 1999), the survey-wide trend analysis lacked statistical confidence due to the wide variability in mountain plovers reported from individual routes in each of the years from 1967 to 1998. We concluded that, although the BBS is the only long-term trend information available in the breeding range, it is not a statistically reliable indicator of mountain plover population trends.

*Comment 24:* A commenter criticized the 30-year-old National Wildlife Refuge records because of a lack of information, the variability in observer experience, and inconsistency in survey routes followed.

*Response 24:* In 1992, we received a report from the Kern National Wildlife Refuge that consolidated mountain plover observations and discussed their historic and current status on the Kern and Pixley National Wildlife Refuges in California (J. Engler, Service, in litt. 1992). The report included observation records from 1961 to 1991, and lacked data for many years during that period. The records of mountain plover sightings from the refuges were collected during inventories for waterfowl, which included observations of migrating shorebirds and other species. It is common for annual waterfowl surveys to be conducted by different people, given staff turnover and personnel availability. However, refuge biologists are thoroughly trained in bird identification, and, more importantly, because the mountain plover was known as a regular resident of these refuges, we are confident that the biologists completing the survey were able to correctly identify mountain plovers when encountered. We agree

that the refuge data provide an approximate estimate rather than a precise number of mountain plovers wintering on the refuge.

*Comment 25:* The CBC data are unreliable because count circles are not always the same over time, errors have been published by American Birds, the number of individuals reported could be wrong, and the wrong species can be reported.

*Response 25:* We agree that CBC numbers fluctuate greatly from year to year based on observer variability, survey, intensity, and the spatial and temporal distribution of mountain plovers. We contacted Mr. Geoff LeBaron of the National Audubon Society, who is in charge of the CBC surveys and is responsible for analyzing the data; he is familiar with the suggested limitations (G. LeBaron, National Audubon Society, pers. comm. 1999). Mr. LeBaron agreed that some count circle centers may change over time, due to encroachment of development within the count circle and, therefore, may not be completely "static" over the entire period of record. However, he did not believe this seriously compromises the quality of the data for the geographic area over the long term. He also agreed that the other limitations cited by the commenter can occur when field data are being evaluated for species that occupy similar habitats, or are similar taxonomically. However, because the mountain plover is unique in these respects and, therefore, unlikely to be confused with any other species by experienced observers, he does not believe any of these limitations apply to the mountain plover. The Anadarko Petroleum Corporation retained Dr. Mark Boyce to analyze the CBC data (M. Boyce, University of Alberta, in litt. 2003). Dr. Boyce's analysis did not refute the conclusions of Dr. John Sauer with USGS-BRD (in litt. 2000). We have revised the section in this final determination to report additional information regarding the CBC.

*Comment 26:* Population trends of the mountain plover at the Pawnee National Grassland are indicative of the total population trend.

*Response 26:* There is no scientific evidence to support the claim that the precipitous decline documented at the Pawnee National Grassland has influenced the total mountain plover population.

*Comment 27:* The mountain plover's short lifespan makes the species vulnerable to decline.

*Response 27:* There is no scientific evidence to support the commenter's claim that the mountain plover's risk of