

80 percent as a result of sylvatic plague (J. Grensten, pers. comm. 1998). Mountain plover numbers along prairie dog transects in these colonies declined from 80 in 1991 to 7 in 1999, but have slowly increased since 1996 as prairie dog abundance has increased (S. Dinsmore, in litt. 2000a).

Prairie dog shooting is popular throughout the breeding range of the mountain plover, and intense, persistent shooting of black-tailed prairie dogs has been shown to reduce prairie dog abundance, and perhaps prevent or retard recovery of colonies low in abundance due to sylvatic plague or poisoning (Vosburgh and Irby 1998; Knowles and Vosburgh 2001; L. Hanebury, pers. comm. 2003). We believe prairie dog shooting will continue to occur in areas occupied by mountain plovers. While it has the potential to degrade or prevent recovery of habitat and impact mountain plover breeding success, we believe those instances are localized and infrequent.

New information made available this year from many State and Federal agencies indicates the quantity of occupied black-tailed prairie dog habitat has increased in the last several decades (Luce 2003). Given the above summary of prairie dog habitat abundance, distribution, and threats and the subsequent impact on the mountain plover, we believe modification of prairie dog habitat is not a substantial threat to the mountain plover.

#### Oil, Gas, and Mineral Development in Mountain Plover Breeding Habitat

The development of oil, gas, coalbed methane, and other mineral resources commonly occurs throughout the breeding range of the mountain plover. Expedited oil and gas development is a national priority, and a new interagency task force has been assembled to assist Federal agencies in their efforts to expedite review and completion of energy-related projects on Federal lands (Executive Order 13212). However, we were able to find little documentation that this mineral resource development poses a current or future threat to mountain plovers.

Numerous current BLM planning documents detail the number of wells, roads, and other facilities required to accommodate development of these mineral resources. A summary of these planning documents for Wyoming shows at least 10 authorized or proposed active natural gas and coalbed methane projects in known or potential mountain plover nesting habitat (e.g., Continental Divide/Wamsutter II Natural Gas Project, Seminoe Road Coal Bed Methane (CBM); Powder River

Basin CBM) (P. Deibert, Service, in litt. 2003). Full build-out of these projects would result in over 50,000 individual wells, impacting up to 63,000 ha (155,000 ac), and creating nearly 32,000 km (20,000 mi) of new roads and 37,000 km (23,000 mi) of new pipelines (P. Deibert, in litt. 2002). Of these statistics, development of the Powder River Basin CBM alone will include nearly 40,000 wells and 27,000 km (17,000 mi) of new roads, affecting about 48,000 ha (118,000 ac) of lands (P. Deibert, Service, in litt. 2003). The Powder River Basin CBM project covers much of the black-tailed prairie dog habitat in Wyoming (K. Henke, pers. comm. 2003). In addition, there are about 14,000 coalbed methane wells proposed for the Powder River Basin in Montana (P. Deibert, in litt. 2003). Numerous other projects (e.g., Bighorn Basin bentonite mine, Carbon Basin coal) are proposed or ongoing in Wyoming in areas occupied by mountain plovers (P. Deibert, in litt. 2003). In Wyoming, over 12,000 coalbed methane wells were drilled by 2001, and the current development schedule established will result in nearly 40,000 additional wells by 2011.

Another example of increased energy development is Phase I of the SeaWest Wind Power Project in Wyoming. This wind farm is now operational and has disturbed 30 ha (70 ac) on the Foote Creek Rim Mesa, but final build-out calls for 667 to 1,000 wind turbines, that would permanently occupy 208 ha (515 ac) when complete.

The development of oil, gas, and other energy resources requires construction of individual project pads, access roads, travel corridors, pipelines, power lines, and other facilities (Brockway 1992). The degree of impact on mountain plovers from these activities depends on project size, density, frequency of maintenance and operation, and proximity to mountain plovers. However, the actual impact of this development on mountain plovers is unknown.

Energy development has the potential to modify specific nesting, brood rearing, and foraging habitat characteristics, such as vegetation height, proportion of bare ground, prey density, and predator regimes (S. Dinsmore, Mississippi State University, in litt. 2003). Mountain plovers nest on nearly level ground and often near roads, adults and chicks often feed on or near roads, and roads may be used as travel corridors by mountain plovers, all of which make plovers susceptible to being killed by vehicles (McCafferty 1930, Laun 1957, Godbey 1992, Knowles and Knowles 2001), although

we have no evidence that this has had an impact on mountain plover population levels.

Energy development also results in soil disturbance, and because the mountain plover has been described as a "disturbed prairie" species (Knopf and Miller 1994), this disturbance could be inferred as benign or even beneficial to the species. The BLM has standards for revegetation of disturbed sites, and for control of invasive weed species along roads, well pads, and other disturbed sites. In the Powder River Basin of Wyoming, anticipated problems with invasive species induced by coalbed methane mining have not materialized to any significant extent (J. Carroll, pers. comm. 2003).

About 150 ha (370 ac) of mountain plover habitat at the Antelope Coal Mine in Converse County, Wyoming, have been affected by mining disturbance since 1982 (P. Deibert, pers. comm. 1999b). Mountain plover inventories conducted from 1982 to 2001 have documented the presence of mountain plovers and broods within and contiguous to the mine permit area. Although the number of broods on the mine permit area has declined since 1993, broods are still reported adjacent to the mine permit area (Thunderbird Wildlife Consulting, Inc. 2003). In Montana, a mountain plover nesting area near the Pryor Mountains in Carbon County was recently lost to bentonite mining (C. Knowles pers. comm. 2003). As many as 51 mountain plovers likely occurred on the Foote Creek Rim wind power project in Carbon County in southeastern Wyoming in 1994. The population there has now declined to about 26 (Johnson *et al.* 2000, Young and Erickson 2003). While we do not believe that mineral resource and wind farm development can be considered beneficial to mountain plovers, their combined impacts do not appear to pose a major threat.

Our consideration of energy development as a listing factor in the proposed rules contributing to the potential decline of the mountain plover was based on the magnitude of anticipated development, as well as on information that existing projects have resulted, or are likely to result, in the modification of habitat required by nesting mountain plovers, and on enhanced opportunities for avian and terrestrial predators. However, because coalbed methane development, although widespread, has not been demonstrated to be detrimental to mountain plovers and because other types of energy development are more limited, we believe the current and anticipated mineral resource development in the