

addition, some comments expressed concern regarding why this form of grazing is treated differently than the effects of livestock grazing and what management actions we may undertake to address these grazing effects.

*Our Response:* The available information suggests that the shrub steppe habitats of the Columbia Basin evolved in the absence of substantial grazing pressure from large native herbivores since the latest period of glaciation, roughly 12,000 years BP (Mack and Thompson 1982; Daubenmire 1988; Lyman and Wolverton 2002). Deer and elk are also primarily browsing, as opposed to grazing, animals. In addition, the ecological effects of grazing by various livestock (e.g., cattle, horses, sheep) are not typically considered to be comparable to those of native herbivores (Lyman and Wolverton 2002). In relatively large, well distributed pygmy rabbit populations, we would not expect grazing by native herbivores to represent a significant threat to their long-term security.

Historically, central Washington supported extensive livestock grazing operations throughout the shrub steppe habitats potentially used by the Columbia Basin pygmy rabbit (Daubenmire 1988; WDFW 1995a). Excessive livestock grazing pressure can have significant impacts on the shrub steppe ecosystems found throughout the historic range of the Columbia Basin pygmy rabbit (Fleischner 1994), and these impacts may be exacerbated in the Columbia Basin (see above response). Contemporary grazing levels are much reduced from historic levels; however, large livestock operations continue within the shrub steppe habitats of the Columbia Basin to the present. From 1986 to 1993, an average of roughly 280,000 cattle were being supported in the five central Washington counties that historically harbored the Columbia Basin pygmy rabbit (WDFW 1995b).

The available information suggests that the historic and seasonal use patterns and concentrations of native herbivores and their associated grazing effects within the Columbia Basin are considerably different from those of livestock operations. In addition, the available information does not indicate that natural levels of grazing by native herbivores, or their grazing patterns as they may have been altered by contemporary human activities, currently represent a risk to the Columbia Basin pygmy rabbit.

#### *Predation and Disease*

*Issue 9:* We received a number of questions and comments concerning our

interpretation of the available information addressing predation and disease and the potential effects they have on the Columbia Basin pygmy rabbit. In addition, several commenters raised issues and questions concerning our potential future management actions to address these threat factors.

*Our Response:* Information concerning the potential current and historic impacts from predation and disease on the Columbia Basin and other pygmy rabbit populations primarily comes from scientific literature, including peer-reviewed journal articles, doctoral dissertations, master's theses, and/or State natural resource agency reports and data. In addition, the past and current management efforts that the WDFW has undertaken to address these threat factors are presented in the preamble to the rule. The details of planned future Federal management actions to address these threat factors will be further defined as our recovery program is developed (see Captive Propagation and Recovery, below).

The available information suggests that in relatively large, well distributed pygmy rabbit populations, predation and disease are not likely to represent a significant threat to their long-term security. However, due to the extremely small size and localized occurrence of the Columbia Basin pygmy rabbit, the available information suggests that human-altered predation and/or disease patterns, and even natural levels of predation and disease, may significantly impair conservation efforts for the remaining wild and captive portions of this population segment.

#### *Captive Propagation and Recovery*

*Issue 10:* We received a number of comments regarding the captive propagation program established by the WDFW and our potential management activities to address recovery of the Columbia Basin pygmy rabbit. These comments addressed a wide variety of issues and questions, including the health and breeding success of captive pygmy rabbits, impacts to pygmy rabbit populations associated with research or conservation efforts, other potential differences between the various pygmy rabbit populations (e.g., physiological, behavioral, morphological), the survival characteristics of captive bred versus wild individuals, habitat enhancement or restoration standards for mitigation efforts, Federal recovery policy for down-listing or delisting the Columbia Basin pygmy rabbit, and reintroduction protocols and potential release sites for the recovery program.

*Our Response:* The available information we have regarding the biology and ecology of the Columbia Basin pygmy rabbit, impacts to the populations, and mitigation efforts is referenced within the preamble to this final rule.

The WDFW's captive propagation program affords an opportunity to maintain a sufficient number of Columbia Basin pygmy rabbits in captivity until appropriate recovery measures are developed and implemented to ensure the population's survival in the wild. Ultimately, the goal of the captive propagation effort is to release captive-bred Columbia Basin pygmy rabbits back into suitable habitats within their historic range so that viable subpopulations can become re-established. However, the number and size of the wild subpopulations necessary for recovery pursuant to the Act have not yet been determined.

Listing the Columbia Basin pygmy rabbit as endangered will provide for the development of a recovery plan. Such a plan would bring together Federal, State, and local efforts for the conservation of the species to form a recovery planning team. During the Federal recovery planning process, a team develops a plan to establish a framework for agencies to coordinate recovery efforts and cooperate with each other in conservation efforts. A recovery plan will set recovery objectives and priorities, such as habitat enhancement and/or restoration efforts, reintroduction protocols, and potential release sites, assign responsibilities to achieve those goals and objectives, and estimate costs of various tasks necessary to achieve conservation and survival of this species. A recovery plan will also identify goals and objectives that need to be met in order to downlist or delist the species. The following comments may provide further clarification.

*Issue 11:* Concern was expressed regarding possible mixing of Columbia Basin pygmy rabbits being held in captivity with those from the Idaho population being used for the husbandry studies.

*Our Response:* There have been no instances of intermixing between the two source populations of captive pygmy rabbits. The WDFW, WSU, and Oregon Zoo implemented a number of appropriate measures to avoid the possibility of commingling of Columbia Basin and other pygmy rabbits being held in captivity. These, and additional measures, were also made conditions of the December 18, 2001, recovery permit we issued for the captive propagation program (see Previous Federal Action, above). These measures include