Captive Rearing of Idaho and Columbia Basin Pygmy Rabbits (*Brachylagus idahoensis*) to Support Reintroduction and Recovery Goals

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The Columbia Basin pygmy rabbit (*Brachylagus idahoensis*), the smallest lagomorph in North America and a sagebrush foraging specialist, was listed as endangered in 2003, by the U.S. Fish and Wildlife Service. Possibly fewer than 30 individuals of this distinct population segment are thought to survive in the wild. The Oregon Zoo and Washington State University have been working with Washington Department of Fish and Wildlife to develop husbandry techniques to breed pygmy rabbits in captivity for eventual reintroduction. Initially, Idaho pygmy rabbits were used as surrogates to develop captive-rearing and reintroduction techniques. Eight-foot round tanks filled with soil and planted with sagebrush created mini-habitats to foster natural breeding behavior. Pygmy rabbits are seasonal breeders (February-July) and adults are mutually antagonistic except during a brief period of courtship chasing and mating. Females dig natal burrows near the end of a 24-day gestation period and keep kits underground for about 14 days until emergence. Pygmy rabbits reproduce successfully in naturalized pens with soils deep enough for digging natal burrows, however, Idaho and Columbia Basin (CB) rabbits differ in reproductive performance and behavior in captivity. CB rabbits take longer to begin chasing behavior when introduced for mating, chase over a longer period, and demonstrate lower pregnancy rates. All Idaho females became pregnant, but only 50% of CB females did so. About 60% of individual male-female pairings resulted in pregnancies among Idaho females compared to 17% for CB females. Kit mortality exceeded 50% in captivity. Differences in reproductive behavior and fecundity may be related to inbreeding depression among the small Washington population, which may present problems for developing a successful reintroduction program, unless genetic introgression is used to conserve rare Washington alleles and improve reproductive performance.