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POPULATION CHANGES DURING A SKUNK RABIES EPIZOOTIC IN NORTHWESTERN WYOMING. Craig A. Ramey, USDA/APHIS, Denver Wildlife Research Center, Bldg. 16, Denver Federal Center, P.O. Box 25266, Denver, CO 80225-0266 and Kenneth Mills, University of Wyoming, Wyoming State Veterinary Laboratory, 1174 Snowy Range Road, Laramie, WY 82070.

Striped skunks (Mephitis mephitis) are the most important reservoir of rabies infection for both humans and domestic animals in the Great Plains. In February, 1989, rabies was confirmed in a striped skunk (index case) near Cowley, WY, along the Shoshone river system in an area previously rabies free. The Animal Damage Control (ADC) program of the U.S. Department of Agriculture's (USDA), Animal and Plant Health Inspection Service cooperated with state and local officials in a rabies monitoring and control program starting in 1990. The goal of the program was to address the public's concerns about human and domestic animals' health and safety. Skunks were captured in live traps in primarily agricultural habitat. Most of the skunks sampled were captured by professional USDA trappers; less than 5% of the sample was composed of traditional surveillance data - public referrals of suspiciously acting wildlife. The Wyoming State Veterinary Laboratory confirmed rabid striped skunks using immunofluorescent testing of brain tissues using standardized methods and procedures. Yearly analysis of the capture locations of rabid skunks produced a wave-like epizootic pattern of rabies spreading from the initial location in all directions in riparian and irrigated farming areas along the Shoshone river system and its tributaries. Grouping cases within the eight major sections of the river and its tributaries, indicated that all drainages except one seemed to be involved in the epizootic. The leading edge of the epizootic wave had reached nearly all areas investigated by 1991 (over 40 km/ yr), the crest of the wave moved at a slower speed of ~ 20 km/year. Skunk populations behind the wave seemed to be significantly decreased. This epizootic died out in 1993. Such wave-like patterns, when combined with public education campaigns and anti-rabies immunization programs for domestic pets, should provide significant information for planning future surveillance and/or control programs for rabid striped skunks.