
HIGH, WIDE AND HANDSOME – A REVIEW OF WILDLIFE AND AQUATIC CROSSING TECHNOLOGY OVER THE LAST DECADE (2001-2011)

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Ten years ago, at the 2001 International Conference on Ecology and Transportation in Keystone, Colorado, Ruediger (2001) presented a paper entitled High, Wide and Handsome: Designing More Effective Wildlife and Fish Crossings for Roads and Highways. At the time (2001), the paper provided a biologist's perspective of how wildlife and fish crossing should be designed. Since that time, hundreds of wildlife and aquatic crossings have been built, monitored and researched. The authors will explore how wildlife and aquatic organism crossing knowledge has evolved from 2001 to 2011. The authors will explore how monitoring and research information gained over the last decade on structure height and width requirements, bottom material, location and structure type has modified current wildlife and aquatic crossing design. Information on noise impacts, moisture content of soil, light, human activities and vegetation associations relative to structure designs will be updated. Also, use of structures by elk (*Cervus elaphus*), deer (*Odocoileus spp*), moose (*Alces alces*), antelope (*Antilocapra americana*), bighorn sheep (*Ovis canadensis*) and various carnivores will be discussed based on current knowledge. The information presented will help transportation agencies, wildlife agencies and land management agencies design crossing structures that are effective in reducing animal-vehicle collisions, improving habitat and population connectivity, and are cost-effective. The authors have been involved with over 100 major wildlife and aquatic highway crossings in North America, particularly in the Rocky Mountain States, and have extensive experience in structure location, design, costs and the interagency coordination required to implement effective highway mitigation.