

NATIONAL PUBLIC LANDS GRAZING CAMPAIGN

Livestock and Water

Livestock grazing has damaged 80 percent of the streams and riparian ecosystems in the arid West.¹

“Extensive field observations in the late 1980s suggest riparian areas throughout much of the West were in the worst condition in history.”²

Although they represent only 0.5 to 1 percent of the surface area of federally owned Western arid lands,³ riparian zones are critically important to over 75 percent of terrestrial species in southeastern Oregon and southeastern Wyoming, and 80 percent of wildlife in the Arizona and New Mexico.⁴

“Improvident grazing...has been the most potent desertification force, in terms of total acreage [affecting 225 million acres⁵ or 351,562 square miles], within the United States.”⁶

Nearly all surface waters in the West are fouled with livestock wastes that produce harmful waterborne bacteria and protozoa such as Giardia.⁷

Belsky, et al. reviewed grazing impacts on water quality and quantity...⁸

- **Water quality:** livestock deposit pathogenic bacteria into streams and increase nutrient content, water turbidity, and water temperatures, all of which harm cold water fish and other species.
- **Stream channel morphology:** grazing results in streambank downcutting that shrinks the channel, and reduces streambank stability and the number and quality of deep pools and stream meanders.
- **Hydrology (stream flow patterns):** grazing causes increased runoff, flood water velocity, number of flood events, and peak flow, while reducing (or *stopping*) summer flow and lowering the water table.
- **Riparian soils:** grazing exposes bare ground, compacts soil and causes erosion, while reducing water infiltration and soil fertility.
- **Streambank vegetation:** grazing reduces the cover, biomass, and productivity of herbaceous and woody vegetation, and impedes plant succession.
- **Instream vegetation:** grazing increases algal populations while causing declines in other, beneficial water plants.
- **Aquatic and riparian wildlife:** grazing reduces the diversity, abundance, and productivity of cold water fish, amphibians, reptiles and invertebrates and alters the composition and diversity of birds and mammals.

-
- ¹ Belsky, A. J., A. Matzke, S. Uselman. 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. *J. Soil & Water Conserv.* 54(1): 419 (citations omitted).
- ² Chaney, E., W. Elmore, W. S. Platts. 1993. Livestock grazing on western riparian areas. Northwest Resource Information Center. Eagle, ID: 5 (fourth printing; published by the Environmental Protection Agency).
- ³ U.S. Government Accounting Office. 1988. Public rangelands: some riparian areas restored by widespread improvement will be slow. RCED-88-105. Government Accounting Office. Washington, DC; Ohmart, R. D. 1996. Historical and present impacts of livestock grazing on fish and wildlife resources in western riparian habitats. Pages 245-279 *in* P. R. Krausman (ed.). *RANGELAND WILDLIFE*. Society for Range Management. Denver, CO.
- ⁴ Chaney, E., W. Elmore, W. S. Platts. 1993. Livestock grazing on western riparian areas. Northwest Resource Information Center. Eagle, ID: 2 (fourth printing; produced for the Environmental Protection Agency).
- ⁵ Chaney, E., W. Elmore, W. S. Platts. 1993. Livestock grazing on western riparian areas. Northwest Resource Information Center. Eagle, ID: 5 (fourth printing; produced for the Environmental Protection Agency).
- ⁶ Council on Environmental Quality. 1980. The global 2000 report to the president of the United States: entering the twenty-first century. Pergamon Press. New York, NY.
- ⁷ Suk, T., J. L. Riggs, B. C. Nelson. 1986. Water contamination with giardia in backcountry areas *in* Proc. of the National Wilderness Conference. Gen. Tech. Rep. INT-212. USDA-Forest Service, Intermountain Res. Stn. Ogden, UT: 237-239. Livestock grazing is the single largest contributor to non-point source pollution in New Mexico, accounting for approximately 15 percent of the water quality impairments statewide. Next on the list is urban runoff, accounting for 12 percent of stream water impairments in the state. About 11 percent of stream-quality problems are due to the loss of streamside habitat, such as shade-providing vegetation and plants that anchor soils, which is exacerbated by livestock grazing. J. Rankin. *Plan to take better care of water quality is earning accolades; conservationists disagree*. Albuquerque Journal (May 15, 2005).
- ⁸ Adapted from A. J. Belsky, A. Matzke, S. Uselman. 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. *J. Soil & Water Conserv.* 54(1): 419-431.