



WASHINGTON STATE
UNIVERSITY
EXTENSION



RIPARIAN GRAZING AND WATER QUALITY PROTECTION

BY THE NUMBERS

- 2011-12 Western Center for Risk Management Education grant: \$62,977.
- 2015 Western Sustainable Agriculture Research and Education mini-grant, professional development: \$2,500.
- Registration fees for workshops: \$3,100.
- 1 peer-reviewed journal article (Hudson, T.D., 2015).
- 9 educational videos.
- Over the last 5 years, Tip Hudson conducted more than 30 educational events with more than 1,000 individuals communicating water quality risk management principles and practices.

2015

ISSUE

Acute social and legal conflict over regulation of non-point source pollution related to livestock in Washington State strains proactive efforts to improve water quality. Stream impairment from poorly managed livestock grazing activities often is related more to impaired stream function, changes which occur over a long period of time, than to direct contributions of pollutants.

The environmental and legal concerns involved in water quality regulation threaten all three classic aspects of agricultural sustainability for livestock farmers: economic, environmental, and social. Solving the social dilemma and improving water quality through improved livestock management require addressing the drivers of water quality from a watershed scale and application of an education/outreach method that is palatable to landowners.

RESPONSE

Tipton Hudson, Kittitas County Extension director, acquired a grant from the Western Center for Risk Management Education in 2011, which funded a series of workshops conducted in partnership with the National Riparian Service Team to provide in-depth, in-field training on the relationships among livestock grazing practices, riparian condition, and water quality. Relationships established through these workshops spun off numerous local landowner meetings on specific management practices to improve upland and riparian condition and thereby improve water quality. The project also produced a [short film series on riparian grazing and water quality](#). Topics include: Water Quality Risks, Tools and Techniques, Ecosystem Interactions: Water Quality and the Plant/Soil Interface, Bacteria Ecology, Risks of Livestock Direct Access and Solutions, Risks of Complete Exclusion, Grazing Effects Evaluation, and Bacteria Research and Water Standards.

A regular meeting with a few conservation districts and key regulatory personnel about the social and environmental problems resulted in WSU Extension's creation of a water quality risk assessment for grazing areas, which characterized positive and negative conditions and practices and relied on risk management language that accurately reflected scientific reality with respect to non-point source pollution. The reality is that there is rarely a distinct per pollutant threshold that can be established for stream impairment, individual landowner practices couldn't be accurately correlated with instream pollutant levels even if a threshold were clear, and the only effective strategy to combat degraded water quality is to combat degraded stream condition through evaluating grazing management practices and riparian condition holistically. The solution, according to Dr. Sherman Swanson of University of Nevada-Reno, is to ensure one's management includes "more good than bad."



QUOTES

"The Washington Cattlemen's Association appreciates the technical assistance and expertise that Tip Hudson brings to the table. WSU Extension is playing an important role of both a scientific and technical nature, as well as a set of boots on the ground to help landowners and livestock producers address site-specific water quality issues of all sizes. The WCA is proud of the partnership we have with our Land Grant University" - Jack Field, Executive Vice President, Washington Cattlemen's Association

PARTNERS

Washington State Conservation Commission, Washington Cattlemen's Association, Washington Farm Bureau, and Washington Association of District Employees

PIs on RME grant: L. Hardesty, D. Nelson, F. Hendrix, J. Ullman, S. VanVleet (all WSU)

Non-WSU expertise to credit: National Riparian Service Team; Dr. John Buckhouse, Oregon State University prof. emeritus

IMPACTS

Hudson has served as technical advisor to a producer-led stewardship organization in the Palouse, the 5-Star Watershed Stewardship group, which was created to develop a non-regulatory, non-conflict approach to improving soil and water quality in the Pacific Northwest. Hudson has provided approximately 12 hours of instructional time to this group, and 25 producers have gained new knowledge in grazing planning and management, riparian grazing, and water quality risk assessment. At least 10 producers representing more than 25,000 acres have adopted new management practices to improve water quality and rangeland condition, including planned grazing, ecosystem monitoring, water quality monitoring, and riparian pastures.

Through outreach efforts, ranchers, regulators, and natural resource professionals in Washington State understand:

- Grazing management affects water quality directly based on abiotic site factors, vegetation conditions, and grazing variables.
- Riparian health drives water quality; water quality often lags improvement in riparian condition by 10-20 years. Grazing management affects riparian health and water quality, long-term.
- Certain conditions make stream fencing a desirable and effective option to improve water quality.
- Changed attitudes toward management-based solutions (non-infrastructure-dependent) shifted to allow for results-oriented grazing solutions.

The tenor of dialogue has become more cooperative. The content of dialogue and newly drafted regulatory guidance allow that well-managed livestock grazing in stream zones may be sustainable if done well. Solutions include:

- Helping farmers understand economic consequences of riparian degradation or improvement;
- Encouraging all parties to think in terms of risk assessment rather than violation or no violation, which applies to both site conditions and livestock management practices;
- Encouraging riparian function as the target of management and voluntary incentive programs; and
- Advocating withholding regulatory action except in the case of egregious pollution where significant quantities of pollution are visibly contaminating surface water.