

Agriculture and Water Quality Advisory Committee

Clean Water and Livestock Operations:
Assessing Risks to Water Quality
Meeting #8 (June 2015)



Clean Water and Livestock Operations: Assessing Risks to Water Quality

Livestock and Clean Water

This document provides information on livestock related water quality impacts to help landowners and producers make informed management decisions to protect water quality. Because Washington is geographically diverse, proper management practices can vary across the state. Therefore, this document can only provide general guidance.

Livestock production is an important industry in Washington State. It occurs in all areas of the state and contributes significantly to our state's economy and culture. Water resources, and the quality of state waters, are critical to our health and welfare, our environment, and our economy.

Washingtonians rely on clean water for drinking water, recreation, and the harvesting of fish and other food. Livestock production also depends on the state's water resources. Two primary statutes protect the quality of Washington's waters: the federal Clean Water Act and the state Water Pollution Control Act, both implemented by the Department of Ecology.

Many livestock operators use good management practices to protect water quality and pose no threat to Washington State waters. However, some livestock and manure handling practices pollute our surface and ground waters, in violation of state and federal law. The most concerning impacts are from the direct deposition of livestock manure into and near surface waters, the degradation of the riparian area by livestock, and mismanagement of livestock manure. Even a small number of livestock can deposit significant amounts of manure and associated pollutants when they have extended access to surface water. While livestock manure can be a valuable nutrient, it can also cause significant human health and environmental impacts if management practices do not limit it from reaching state waters.

Bacteria and pathogens in manure are not the only water quality problems that can be caused by livestock. Livestock may also denude and compact riparian area soils, and destabilize stream banks. These livestock impacts in turn, decrease infiltration rates, and increase runoff, sedimentation, and bank sloughing and retreat. A degraded riparian area also loses its natural ability to filter pollutants and stabilize the soil. Increasing overland flow encourages transport of pathogens and nutrients. This increased flow can also impact the structure of the stream by increasing stream velocity, sediment loading, and the erosive power of the stream. These impacts increase the distance that pollutants can be transported from pollution sources. The farther the pollutants travel, the more likely they will compound other pollution problems and impair water quality.