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REDUCING BACTERIA WITH BEST MANAGEMENT PRACTICES FOR LIVESTOCK: ACCESS CONTROL

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Description

Excluding livestock, people, or vehicles from restricted or environmentally sensitive areas.

Benefits to Producer

- Reduces herd health risks associated with livestock standing in muddy areas, such as foot disease and injuries due to unstable footing.
- Decreases herd injuries associated with cattle climbing steep and unstable stream banks.
- Improves water quality by reducing sediment, nutrient, bacterial, organic, and inorganic loading to the stream.
- Reduces stream bank destabilization and associated erosion due to trampling and overgrazing of banks.
- Allows for regeneration of riparian zone vegetation to act as a full or partial buffer.
- Greater distribution of grazing and utilization of forage.

Bacterial Removal Efficiency

- Access control is typically used in conjunction with other conservation practices including Fencing (NRCS Code 382) and Prescribed Grazing (NRCS Code 528). These practices have been shown to reduce concentrations of bacteria.

Other Benefits

- Decreased velocity of concentrated runoff which in turn increased infiltration potential with use of riprap.
- Prevented leg injuries that cattle may suffer on muddy banks, and eliminated the possibility that cows will calve by the water, where newborns are more likely to suffer hypothermia and death.
- Reduced sediment and nutrient yields from streams draining pastures.

This stream bank has been stabilized and protected from erosion by riprap. *Photo courtesy of the NRCS.*

- Reduced stream turbidity by 49% with use of fencing.
- Increased height and vigor of riparian vegetation with use of fencing.
- Reduced annual sediment concentration by more than 50% and decreased the amount of soil lost by 40% with use of fencing.
- Reduced total phosphorus levels 76% and sediment loads by 82% as a result of stream bank fencing.
- Increased fish production by 184% as a result of fencing.
- Increased ranch profits by 50% as a result of livestock exclusion.
- Reduced suspended sediment by 8% and nitrogen loads by 34% as a result of livestock exclusion.
- Runoff from a heavily grazed pasture (1.35 AUM/acre) was 1.4 times greater than from a moderately grazed pasture (2.42 AUM/acre), and 9 times greater than from a lightly grazed pasture (3.25 AUM/acre).
- Increased fish production by 184% where livestock use was light.
- Reduced soil compaction under light to moderate grazing intensities.

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- Increased infiltration, runoff attenuation, and soil moisture retention when appropriate rest periods are utilized.
- Enhanced herbaceous plant diversity.
- Control of noxious weeds as a result of prescribed grazing.

Estimated Installation Costs

- $5.01/acre to $18.03/acre depending on method of access control used.
- Cost information obtained from the Texas NRCS Electronic Field Office Technical Guide for Zone 4; costs may vary for other zones.
- Prices are estimates and can vary depending on location and economic conditions.

For Technical or Possible Financial Assistance

- Contact your local County Extension Agent, Soil and Water Conservation District (*https://www.tsswcb.texas.gov/swcds*) or the Natural Resources Conservation Service (*https://www.nrcs.usda.gov*).

Riprap installed on a stream bank helps control livestock access and minimize erosion. *Photo by Lynn Betts, NRCS.*

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