Cost-Share Programs for Limiting Stream Access

Because excluding livestock from streams reduces sediment loss from eroded banks and pollution from manure and urine, it significantly improves water quality downstream. Both the Natural Resources Conservation Service and the state agricultural best management practice cost-share programs can help cover expenses for fences built to specification.

In addition, if farmers plant stream buffers and install stream fencing, water quality is further improved, and projects could qualify for rental payments. More information on these programs can be obtained from your local NRCS and state Soil and Water Conservation District offices.

Keeping livestock out of streams has proven herd health benefits. It's also a clear sign to downstream neighbors and other community members of your ethics and environmental stewardship. Says Dave Johnson, a Washington County, Virginia dairyman, "The benefit to my public image is worth far more than any money received as cost-share."*

** Sources: Zeckoski, R., B. Benham, and C. Lunsford. 2007. Streamside livestock exclusion: a tool for increasing farm income and improving water quality. VCE number 442-766.*

Additional information courtesy of The Virginia Dairyman, "Clean water means healthier livestock," by Robert Whitescarver, USDA-NRCS

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ABOUT THE COVER:
Cattle benefit from off-stream water sources.
Photo: Top two: Libby Norris/CBF Staff; bottom: U.S. Department of Agriculture

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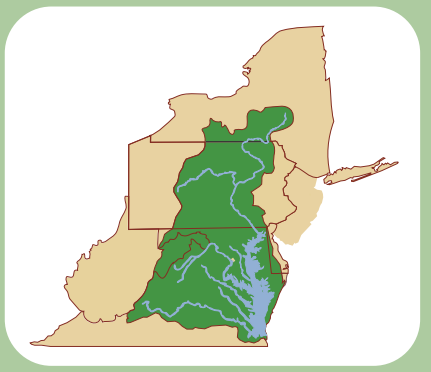

The Chesapeake Bay's 64,000-square-mile watershed covers parts of six states and is home to more than 17 million people.

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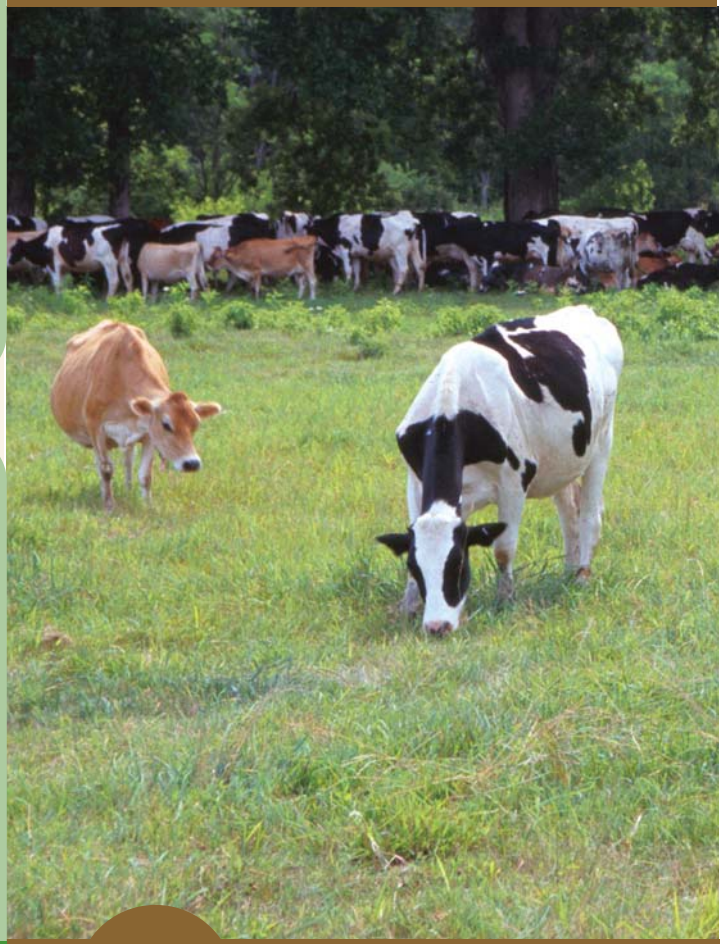
TIPS FOR KEEPING CATTLE HEALTHY THROUGH BETTER WATERING TECHNIQUES

HERD HEALTH



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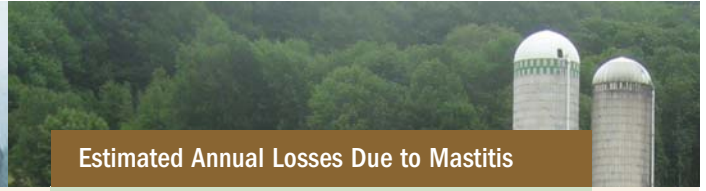
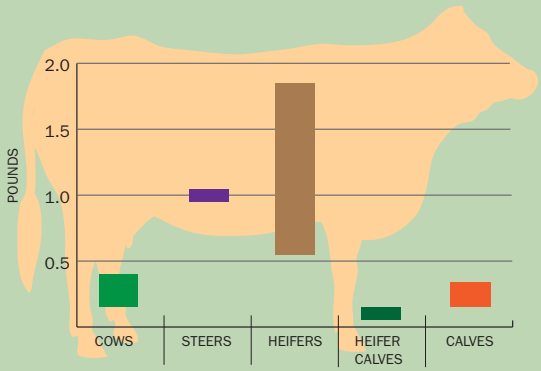


Clean Drinking Water: Better for Cattle, Better for Profits

Studies show that cattle would rather drink from clean, off-stream sources, such as water troughs, than from streams or stagnant ponds. And clean water is better for them. Better drinking water quality can translate directly to increased water consumption, which is a key component of milk and butterfat production, and an increased rate of weight gain.

After providing alternative water sources and restricting stream access, dairy farmers report increases in milk quality and production, and beef producers cite similar success.* "I've seen weight gain increases of five to 10 percent over nine to 10 months since removing my beef cattle from the stream and providing water from springs and wells," says Scott Campbell, a Virginia cattle farmer.

Weight Gains Through Cleaner Water



Studies have indicated that providing cleaner water to beef cattle resulted in the following increased rate of weight gains:*

- 0.2–0.4 lb/day for cows
- 1 lb/day for steers
- 0.6–1.8 lb/day for heifers
- 0.1 lb/day for heifer calves
- 0.2–0.3 lb/day for calves

Contaminated Water and Pastures Can Lead to Illness

Depending on outdoor temperatures and stage of lactation, a mature cow can drink from 10 to 30 gallons of water a day. If the main source of drinking water is from ponds, seeps, springs, rivers, or streams, and the animal is standing or lying in muddy, stagnant water, the cow's exposure to disease is increased.

Mastitis is the single most costly disease to the dairy industry. It causes decreased milk production and quality, increased treatment costs, shortened lactations, and, in some cases, animal death (see table at right). One type of mastitis, environmental, is most easily controlled by keeping animal surroundings as clean and dry as possible, to keep teats from coming in contact with manure, polluted water, and mud.
Johne's disease is transmitted by a bacterium excreted with manure, which has a considerable lifespan outdoors. Cattle drinking from streams where animals have defecated can cause cross-contamination from upstream herds or cycling within the herd.
Cryptosporidium is a parasite transferred from animal to animal from manure-contaminated water. Mature cows can often tolerate *Cryptosporidiosis*, but it can cause severe illness and death in calves.
Leptospirosis can cause mastitis, septicemia, kidney infection, and abortion. Infected animals contaminate water or pastures through urine, aborted fetuses, or infected uterine discharge.

Other concerns: The contagious bacteria that cause "foot rot," "hairy heel wart," and "strawberries" thrive in wet, muddy areas. Soft, wet hooves caused by standing in wet conditions are also more susceptible to infection. Other organisms transmitted through surface waters include bacteria and viruses that cause salmonella, jaundice, fever, red nose, bovine virus diarrhea, and tuberculosis. Anthrax can spread from contaminated pastures to surface waters after heavy rains. Also, parasites such as *coccidia species* and stomach worm larvae can thrive in slow and stagnant waters, causing diarrhea, abortions, and general ill health. Calves and fresh cows are especially vulnerable.

Estimated Annual Losses Due to Mastitis

Source of loss	Loss per cow
Reduced production	$121.00
Discarded milk	$10.45
Replacement cost	$41.73
Extra labor	$1.14
Treatment	$7.36
Veterinary services	$2.72

Total: $184.40 x 100 cow herd = $18,440.00

Source: Current Concepts of Bovine Mastitis,1996, The National Mastitis Council

Limiting Cattle Access to Streams

Keeping cattle out of wet areas can reduce the risk of these illnesses. It also reduces a producer's risk by preventing calving in wet areas or near unstable stream banks. Furthermore, it can reduce the danger of cattle exposed to cold and windy conditions. Preventing access to streams also reduces injury to cattle from steep banks and rocky stream bottoms, where animals can puncture hooves and develop abscesses by stepping on submerged stones.

Try these options to keep cattle healthy by keeping them out of streams:

Off-stream watering systems: Choose the best system for your needs based on the availability of an electric source, the water source, the required water volume, pasture layout, reliability, cost, and personal preference.
Stream fencing: Even fencing as simple as poly wire can be helpful for keeping cattle out of streams, especially if water and shade are provided.
Stream crossings: Hardened crossings allow cattle to cross the stream without injury to the herd or damage to the stream bank.
Buffer strips: Besides providing a barrier to streams, vegetation is a valuable buffer that filters pasture runoff, greatly reducing sediment and nutrient pollution in the water.
Livestock comfort: Salt blocks, scratching posts, dusters, windbreaks, shade, and other shelters, placed away from water sources and streams, lure animals away from wet, muddy conditions and stream banks.