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## TMDLs and the Shenandoah Valley's Agricultural Community: Balancing Costs and Benefits of Conservation

Nesha McRae

# TMDLs and the Shenandoah Valley's Agricultural Community:



## *Balancing Costs and Benefits of Conservation*

Nesha McRae

VA Dept. of Conservation and Recreation

# Total Maximum Daily Loads (TMDLs) in Virginia

- Targeted watershed restoration for impaired waters
- 3 step process
  - TMDL Study
  - Implementation Plan
  - Implementation
- Legal background
- Voluntary implementation



# TMDLs and Shenandoah Valley Farmers...like oil and water?

- The Valley's Farming Community:  
independent, steeped in tradition,  
many experiencing declining cash returns
- Total Maximum Daily Loads:  
a legally mandated process used by the  
government to clean up impaired  
waterways

# Finding Common Ground



- Public participation is critical
  - Strong sense of community = active participation
  - SCALE is important
- Soil and fertilizer are valuable resources



# What do we need from farmers?

- Livestock exclusion
- Stream buffers
- Soil conservation
  - Conservation tillage
  - Cover crops
- Prescribed grazing
- Manure storage



# How does this impact their bottom line?

- Economic benefits of some BMPs are clear
  - Rotational grazing
    - \$419M spent on feed in 2007
  - Cover crops: \$30/acre
- Others are more complex...
  - Loss of land in buffers vs. cost share payments and bank stabilization
  - Fence maintenance vs. improved herd health
  - Nutrient management and manure application





# Accounting for Costs and Benefits in Plan Development

- Community water quality goals versus TMDLs
- Cost effective BMPs
- Accounting for existing BMPs (including voluntary)
- Outreach recommendations
  - Peer to peer discussions
  - Farmer testimonials



# Accounting for Costs and Benefits in Implementation

- Funding projects
  - Staff
  - Cost share
- Increasing flexibility
  - Shenandoah RC&D Flexible Fencing
  - Changes to state cost share program
- Promoting economic benefits



# STREAMSIDE LIVESTOCK EXCLUSION:

A tool for increasing farm income and improving water quality

BY R. ZECKOSKI, B. BENHAM, C. LUNSFORD

“I have seen weight gain increases of 5-10% over 9-10 months since removing my beef cattle from the stream and providing water from springs and wells.”

**Scott Campbell**  
Augusta County

## Increased weight-gain translates into more money per head (Table 1).

Table 1. Example of increased revenue due to installing off-stream waterers<sup>35</sup>.

Typical calf sale weight	Additional weight gain due to off-stream waterer	Price	Increased revenue due to off-stream waterer
500 lb/calf	5 % or 25 lb	\$0.60 per lb	\$15 per calf

# What the Future Holds for TMDLs and Agriculture

- Marketing conservation to the consumer
- Ecosystems services
- Chesapeake Bay TMDL
  - VA estimated cost of full implementation > \$7B
  - Implementation of agricultural BMPs to remain voluntary
  - Potential for regulatory approach exists

