LIVESTOCK EXCLUSION CASE STUDY

Many farmers in Vermont are being squeezed by increasing urban development pressure. As bedroom communities encroach farm areas, community emphasis begin to change from agrarian needs to suburban needs, and the remaining farmers find themselves coming under closer and closer scrutiny. When this happen, even traditional farming practices - such as allowing cows to drink directly from a stream - becoming topics of concern. Fortunately, SCS and some community leaders are taking a proactive stance when these tensions arise. Since overtone's goal is the same - maintaining or improving water quality - some groups are beginning to work with farmers to reach this vision.

This case study is an example of such action. A Chittenden County farmer's pasture included 2900 feet of river frontage, where his cows had free access. Public concern arose downstream where visible water quality problems were evident. The town called in a State Water Quality Investigator to do an assessment. His report stated that high fecal coliform test results were due to direct and indirect discharges of animal waste from two farms into the river. The investigator suggested town officials talk to the farmers and include SCS to try to arrive at a reasonable solution.

The District Conservationist arranged for several meetings between the landowner and the local riverwatch organization, which resulted in a cooperative effort to fence the cows out of the stream. The riverwatch obtained grants through EPA 319 funds for a demonstration project, and Vermont Forest and Parks for fencing material and plant materials for streambank stabilization. They provided volunteer labor for fencing and planting. The farmer agreed to fence upkeep and to provide the electric fence unit. This is a successful example of how SCS can facilitate alliances for the conservation of natural resources.

CASE STUDY - *Ownership Information - Name: Chittenden County Farmer; Address: Chittenden County; State: Vermont; Business: Dairy Farmer (Acres: 108)*

BENCHMARK ACTION

1. Grazing pasture as one unit allowing cows to graze on streambanks and having full access to the Browns River.

BENCHMARK EFFECT

SOIL:

1. Streambank erosion due to cattle disturbance along entire length of pastured area of the river.
2. High sedimentation in river.

WATER:

1. Thermal modifications resulting from the removal of riparian vegetation and the destabilization of streambanks. Decreases shading on stream, impaired aquatic habitat

2. Downstream waterfalls and swimming areas of the Upper Browns River were found to have high levels sediment and coliform.

3. Townspeople expressed local concern regarding visible water quality problems directly resulting from cows in the stream.

AIR:

1. Local townspeople complained of strong odor in recreational swimming area directly below pasture during low water periods in river.

PLANT:

1. Cows were consuming riparian plant vegetation resulting in the denuding of the riverbank.

ANIMAL:

1. Trout and other cool water species of wildlife habitat is impaired due to lack of riparian woody vegetation.

2. Wildlife habitat destroyed as a result of denuded riverbank.

HUMAN:

1. Increasing tensions between the farmer and other members of the community who use the river as a resource.

CONSERVATION MEASURES ACTION

1. Livestock Exclusion
2. Fencing
3. Streambank and Shoreline Protection
4. Critical Area Planting

CONSERVATION MEASURE EFFECTS

1. 2900 feet of streambank, fencing and critical area planting cost: $800.00 (paid for by grant money obtained by the Mount Mansfield Riverwatch using volunteer labor)

2. Operation and maintenance on livestock exclusion fence annual cost: $120 (20 hours/yr @ $6.00/hr)

3. Land excluded from production: 1 acre annual cost: $30.00. (avg pasture rental rate = $30.00/cow/year. assumed unimproved pasture carries 1 cow/acre)

4. Streambank erosion is reduced.

5. Reduced sedimentation in the river.

6. Reduced potential for coliform contamination in stream.

7. Reestablished riparian woody vegetation will provide:
   a. thermal improvement of water resulting in better trout habitat
   b. streambank erosion reduction
   c. wildlife habitat

8. Reduced potential for strong odors in recreational swimming areas directly below pastured area.

9. Improved relationship between farmer and concerned citizens.

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   *Decrease shading on stream, impaired aquatic habitat
4. Downstream waterfalls and swimming areas of the Upper Browns River was found to have high levels sediment and coliform.
5. Townspeople expressed local concern regarding visible water quality problems directly resulting from cows in the stream.
6. Local townspeople complained of strong odor in recreational swimming area directly below pasture during low water periods in river.
7. Cows were consuming riparian plant vegetation resulting in the denuding of the riverbank.
8. Trout and other cool water species of wildlife habitat is impaired due to lack of riparian woody vegetation.
9. Wildlife habitat destroyed as a result of denuded riverbank.
10. Increasing tensions between the farmer and other members of the community who use the river as a resource.

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IMPACTS

1. $800 Paid by grant	(+)
2. $120 O&M Cost	(-)
3. 1 Acre out of production	(-)
4. $30 decrease in production	(-)
5. Streambank erosion is reduced.	(+)
6. Reduced sedimentation in the river.	(+)
7. Reduced potential for coliform contamination in stream	(+)
8. Reestablished riparian woody vegetation will provide:	
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10. Improved relationship between farmer and concerned citizens.	(+)