



Stewardship for Catoclin Creek Watershed

Clean Stream Water: What are the Public Benefits?

Are Clean Streams Waters Important? -

- The primary benefit of reducing pollution loads in Virginia streams to meet water quality standards is cleaner waters. The state believes this is so important that they are conducting pollution studies and developing plans to reduce pollution levels throughout the state. The studies are called Total Maximum Daily Load (TMDL) and the plans are called TMDL Implementation Plans (IPs).

How Will Citizens and the Community Benefit? –Benefits of clean water to citizens include:

- Improved public health,
- Conservation of natural resources (*e.g.*, soil and soil nutrients),
- Improved aquatic life,
- Improved riparian habitat,
- Reductions in the amount of flood damage,
- Improved recreational opportunities, and
- Greater direct economic opportunities (*e.g.*, improved agricultural production, tourism, etc.), and
- Ancillary economic benefit including enhanced real estate values for farms, homes, and businesses located near water bodies with good water quality.

How Will Costs Be Controlled? – In many instances water quality is impacted by several sources of pollution. TMDL IPs are designed to provide best management practices (BMPs) that allow multiple pollutant problems to be handled at the same time. For example, excluding livestock from streams is an important management practice to reduce fecal bacteria in a stream. Livestock are

excluded by fencing off the stream. Fencing also helps restore a riparian buffer of 25 to 35 feet by allowing grasses and trees to grow. A healthy riparian buffer also benefits the aquatic habitat and the aquatic life in the same stream. The vegetated buffers that are established reduce sediment and nutrient transport to the stream from upslope locations. If fences were only placed at the top of the stream bank without the riparian buffer, the additional benefit of reducing sediment and nutrient loadings from the upland would be lost.

What is the Public Health Benefit? --

The majority of TMDLs being developed in Virginia are to reduce fecal bacteria in streams. It is hard to gage the impact that reducing fecal bacteria contamination will have on public health, as most cases of waterborne infection are not reported or are falsely attributed to other sources. However, **the incidence of infection from pollutant sources, through contact with surface waters, should be reduced considerably, and this should be noted.**

Is There a Benefit for the Chesapeake Bay? --

On a larger scale, for watersheds located within the Chesapeake Bay watershed, reducing sediment and nutrients loads as a result of BMPs that are installed to improve benthic and bacteria water quality impairments will help obtain implementation goals in the Tributary Strategies.

What is the Economic Benefit to the Community? --

The main objective of

TMDL implementation is restoring water quality in our streams. Additional benefits will likely include continued economic vitality and strength. Healthy waters can improve economic opportunities for Virginians, and a healthy economic base can provide the resources and funding necessary to pursue restoration and enhancement activities. The agricultural, residential, or urban implementation actions recommended in the Implementation Plan (IP) will often provide economic benefits to the landowner, along with the expected environmental benefits. For example, exclusion of cattle from streams leads to the development of alternative (clean) water sources. This provides an opportunity for intensive pasture management and improved nutrient management. Additionally, money spent by landowners, government agencies, and non-profit organizations in the process of implementing the IP will stimulate the local economy.

What is the Economic Benefit to the Home Owner? -- Human waste can carry with it human viruses in addition to the bacterial and protozoan pathogens that all fecal matter can potentially carry. In terms of economic benefits to homeowners, an improved understanding of private sewage systems, including knowledge of what steps can be taken to keep them functioning properly and the need for regular maintenance, will give homeowners the tools needed for extending the life of their systems and reducing the overall cost of ownership. The average septic system will last 20-25 years if properly maintained. Proper maintenance includes; knowing the location of the system components and protecting them by not driving or parking on top of them, not planting trees where roots could damage the system, keeping hazardous chemicals out of the system, and pumping out the septic tank every three to five years. The cost of proper maintenance, as outlined here, is relatively inexpensive in comparison to repairing or replacing an entire system.

Why is Citizen Support for Clean Water Needed? -- Cleaner waters in Virginia will result in improved public health, conservation of natural resources, improved aquatic habitat, and greater economic opportunities for Virginians. These benefits add up to a better quality of life in the Commonwealth of Virginia; the recognition of these effects and their applicability in watersheds will help to ensure a successful implementation.

However, success of the TMDL implementation Plans depends on community support and voluntary actions by streamside property owners. Citizens need to take advantage of cost-sharing and tax incentive programs to restore stream buffers and exclude livestock from streams. Homeowners with improperly operating septic tank systems need to repair these systems.

How Do I get More Information? – Information is available from several sources about how Loudoun streams can benefit from improved pollution source management practices. Web sites of local organizations include:

- **Loudoun Watershed Watch** – www.loudounwatershedwatch.org
- **Loudoun Wildlife Conservancy** – www.loudounwildlife.org
- **Loudoun Soil and Water Conservation District** – www.vasswcd.org

Information in this fact sheet was taken from the DCR and DEQ, 2003, “Guidance Manual for Total Maximum Daily Load Implementation Plans.” This document is available on the DEQ website at www.deq.virginia.gov.

Funding to print this fact sheet is provided by a DEQ citizen stream monitoring grant