

A Healthy Environment is Worth Real Dollars

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Clean water. Healthy habitat. Thriving communities.

**Connecticut River
Conservancy**

We place a genuine and personal value on clean water, but that does not compute easily to a dollar value. Yet in the wider world, economic values drive decisions about our waters more so than do personal feelings. In our recent history, our operating theory about waste was “the solution to pollution is dilution” and that meant piping waste directly into our rivers made good economic sense. The economic value placed on rivers in that historic framework never considered the cost of the ecological values lost. So people could place a dollar value on cheap waste disposal, hydropower and transport but there was no calculation of the loss that occurred when our rivers smelled or were unsafe for human contact.

Things have come a long way from the dilution-is-the-solution days, but not that far. We as a country have made significant investments to reduce direct pipe discharges into our rivers but we have given short shrift to stormwater runoff. We have not invested in reducing this more dispersed and insidious form of pollution and when we do address stormwater, instead of addressing the problem as a shared societal responsibility fueled by our tax dollars as we did with direct pipe pollution, we tend to make cleaning up stormwater an individual responsibility. This change from our approach to addressing direct discharges has meant that the cleanup of stormwater-impaired waters is taking too long for some of us.

We built our roads, farms and businesses near water. Most of them were built in the dilution-is-the-solution days so the stormwater from these facilities was just expected to go into our rivers and that was that. We learned over time that approach impairs our waterways. It is time to change our outlook about the true cost of stormwater clean up and as we address stormwater pollution adopt the shared responsibility approach we used to cleanup direct discharges.

The Environmental Protection Agency offers some comparisons about the cost of cleaning up versus avoiding pollution that make a clear economic case for a healthy environment. If New York City found it necessary to construct a new drinking water facility to treat impaired water the cost estimate is 8-10 billion dollars. If NYC did watershed conservation on the same bodies of water and allowed the land to clean the sources of water, it would cost 1.5 billion dollars to protect their drinking water: A savings factor of five.

In the Chesapeake Bay an over abundance of nitrogen is severely damaging the ecosystem of the Bay. If nitrogen from stormwater runoff were treated by wastewater treatment facilities, the cost of removing excess nitrogen from stormwater is \$8.56/pound. It would cost just \$3.10/pound to remove the nitrogen if the watershed had healthy forest buffers in place to treat the same runoff: A savings factor of nearly three.

Last example, if we treat wastewater in a conventional wastewater treatment plant the cost of removal of the pathogens and nutrients from our waste stream is \$3.24 per 1000 gallons. If a wetland were to treat the same wastewater the cost would be as little as \$0.47 per 1000 gallons: A savings factor of nearly seven.

In many of the choices we make as a society, it is not so much a question of whether we should “build” a natural system by replanting a riparian buffer or creating a constructed wetland. The question most often comes down to, do we leave the natural system that already exists in place or remove it in the name of progress. Not only does leaving these natural systems in place reinforce our sense of place by retaining the natural landscape but also they offer ecosystem services that protect our waters cheaper than our engineered solutions. Clearly a win/win result.

For decades economists have tried to place a dollar value on ecosystem services. The examples given above, showing a clear economic advantage to natural systems in treating our waste and stormwater, are one method of computing economic value. The other approach is to determine the willingness of people to pay for ecosystem services. This is a more difficult approach and sometimes considered more subjective.

We can look at the current use programs in VT and NH as one test of the willingness of people to pay for ecosystem services. Land that remains in farming and/or active forestry can receive a property tax reduction for keeping the land undeveloped, open and working, in many instances increasing the protections for the environment. The rest of society picks up the cost of those protection services and by doing so has shown that we are willing to pay for ecosystem services.

The Connecticut River and all of our watersheds need stewards who think critically about ecosystem services not only in environmental terms but in economic terms as well.

David L. Deen, River Steward for the Connecticut River Watershed Council. CRC is celebrating 60 years as a protector of the Connecticut River.