Dynamic for Change: Recognizing the Importance of the Watershed

by Christine Todd Whitman

The days I spent fishing with my father along the small trout stream on our family farm in New Jersey are among my most cherished childhood memories. I learned about the water by watching it, splashing and fishing in it, and sharing stories with my family about the big one that got away. That's where my lifelong interest in water protection began.

It has been 36 years since the adoption of the Clean Water Act. The progress America has made since that time in cleaning its water is impressive. Gone are the days when rivers in the United States spontaneously combusted and garbage was more plentiful than seashells along our coasts. Still, much remains to be done.

Today, some 40 percent of America's waters are impaired. We can do better than that. I believe the answer to further improvement lies in adopting an holistic watershed approach. Restoring the health of the watershed will be crucial in our response to climate change.

The watershed approach is not a new idea. John Wesley Powell, the explorer of the Colorado River, suggested it in 1889 in a speech to the Montana Constitutional Convention:

> I want to present to you what I believe to be ultimately the political system which you have got to adopt in this country, and which the United States will be compelled sooner or later ultimately to recognize. I think each drainage basin in the arid land must ultimately become the practical unit of organization, and it would be wise if you could immediately adopt a county system which would be convenient with drainage basins.

A watershed is an area of land that drains to a single body of water. That makes sense. But did you know that all landmasses lie within, and every person lives on, a watershed? The image of the watershed is one of the most unifying of ecological features: picture a bowl or a funnel—depending on the type of watershed—in which all liquid that enters inevitably flows to a joint pool at the base.

There are so many reasons it is important for us to limit the pollution of our watersheds. Water is essential for survival; a clean, adequate supply is necessary to human life. As children we learn that up to 60 percent of the human body is composed of water; we hear about the importance of keeping hydrated, of washing our hands, and of bathing frequently. Outside the classroom, our early experiences show us other irreplaceable values of water beyond human consumptive and hygienic needs. Many of us are lucky enough to have grown up playing in streams and ponds, as I did, or swimming and kayaking in or biking along rivers, lakes, and oceans. Nothing beats being at the beach, or, as we say in New Jersey, "going down the shore." President Kennedy, who loved sailing and being on the water, said, “We are tied to the ocean. And when we go back to the sea…we are going back from whence we came.”

There are countless watersheds in the world—2,110 in the continental United States alone—ranging in size from those that drain to small streams to those that empty out into vast oceans. Watersheds are not marked by local or state boundaries. Outside the United States, they cross international borders. Every individual within a watershed is equally dependent on the shared body of water, and every individual impacts the quality and availability of that water. As I learned at a very young age, water links our communities in profound and complex ways. It is in our universal best interest to preserve the shared source of water. The watershed has the potential to become the necessary dynamic force for change, a focal point for people and communities in their desire to adapt to change with optimistic, healthful actions that preserve the ecosystem that sustains them.

But first we must understand the scope of the watershed approach, and look at the size of the "community" that is really involved. Most Americans probably think of water pollution simply as the discharge of pollutants into water. This intentional discharge is known as point source pollution, which the U.S. Environmental Protection Agency (EPA) defines as “any single identifiable source of pollution from which pollutants are discharged, such as a pipe, ditch, ship or factory smokestack." The progress we have made in improving America’s water quality reflects the fact that we have largely eliminated the direct discharge of pollutants into waterways.

Most of the pollution that threatens America’s waters today comes from nonpoint sources. Nonpoint source pollution occurs as water moves over or through land, thus

transporting natural and man-made pollutants to bodies of water that may be many miles away. These pollutants can be the result of a major spill or something as small as the discharge that washes off the driveway after you change the oil in your car. Every eight months, as much oil makes its way to our coastal waters from nonpoint sources as was spilled from the *Exxon Valdez* in 1989. Agricultural nonpoint source pollution and the growth of paved surfaces—roads, sidewalks, parking lots, roofs—result in stormwater runoff that ultimately impacts streams and tributaries. All developed landmasses suffer from nonpoint source pollution, and it poses the greatest threat to America's water health today.

Sadly, because of the pollution that enters and affects every surface of every watershed, the purity of our water—along with the services it renders—is compromised. In 2004, EPA informed Congress that about 44% of the country's surveyed stream miles, 64% of surveyed lake acres, and 30% of surveyed bays and estuaries were too polluted for swimming, fishing, and drinking.

So we can see that unification of governmental agencies and nongovernmental organizations within watersheds is crucial to protecting our waters. But how exactly do we go about this? There are many instances of people and organizations working together to improve their water. One of my favorite examples of watershed cleanup appeared in an article by a student at the Milton Academy. He wrote about a visit with his marine biology class to the nearby Quincy, Massachusetts, beach, which received a $10 million grant from the EPA. After marveling at all of the marine life they found at the beach, he concluded his article by saying, "What's most amazing about the beach is that we students had no idea that just a few years ago . . . Wollaston used to be an environmental disaster." In attributing the remarkable change in Wollaston beach to "the hard work of the EPA, MWRA, and the Town of Quincy," the student highlighted one of the key benefits of the watershed approach: collaboration across political boundaries.

The word "watershed" was originally derived from the older term "shedding," which meant splitting or dividing. Watersheds, by this alternative definition used outside North America, are the high ridges or other landmasses that divide different drainage basins. The symbolic difference between the definitions of a watershed is significant: one is a force for unity,

the other for division. The world, as seen through the hydrologically defined lens of the watershed-as-drainage-basin, stands to benefit from more collaboration.

We need to embrace a collaborative effort for preservation, inevitably bound by the shared watershed. Through a widespread effort to reduce pollution and other strains on our waterways, we can uplift economies, strengthen neighborhood communities, and secure the health of humans, other animals, and ecosystems for years to come—and teach our grandchildren to fish in the same clear streams that we did.