




The Land We Need for the Water We Use



Water Quality Is More Than a Reservoir Issue

To ensure drinking water quality, watershed and aquifer lands need to be preserved. At the Regional Water Authority (RWA), our mission is to provide our customers with a reliable supply of high-quality water. As stewards to more than 27,000 acres of land, we manage our land and water supplies to fulfill our mission and our purpose to make lives better by delivering water for life. This brochure explains our land policy, which includes why we acquire and sell land.

Over 80 percent of the region's tap water comes from 10 reservoirs located in the district towns of Bethany, Branford, East Haven, Guilford, Hamden, Killingworth, Madison, North Branford and Woodbridge. The balance of the water comes from the Quinnipiac and Mill River aquifers located in Hamden and Cheshire and the Housatonic River aquifer in Derby and Seymour. The watersheds



that replenish these reservoirs and aquifers cover about 118 square miles. How large is that? It's almost six times larger than the city of New Haven or twice the size of Washington, D.C.

To ensure that your tap water is consistently of high quality, we adhere to a multi-barrier approach that encompasses source water protection, treatment, distribution and extensive water quality monitoring. It takes a network of over 1,700 miles of pipes, pumping stations and storage tanks to deliver water in the region. We carefully maintain this extensive distribution system to ensure that water is available when you turn on your faucet. Our source water protection efforts include security patrols, review of development plans that may threaten the watershed areas and limited public access to the protected open space, as well as the mapping of resources and inspection

of activities within the watersheds. We also offer hands-on environmental education programs to show young people how their actions impact the ecosystem, and we operate a regional household hazardous waste collection facility.

Another critical element in our source water protection efforts is land acquisition and protection. We have spent several million dollars since 1996 to buy watershed lands. This is an important investment for the long-term protection of our region's water supply. We are committed to funding future acquisitions of watershed properties that are critical to the protection of both surface and groundwater.



Water Quality Is a Land Issue

Since 1996, we have invested \$30 million to protect nearly 3,700 acres of watershed land in the region so we can maintain a high level of water quality for our customers. Buying and protecting watershed land is effective in preventing the degradation of water quality and helps to minimize treatment expenses. Simply put: keeping this land undeveloped is essential because the better the quality of the source water flowing into our reservoirs, the fewer contaminants that need to be removed to protect drinking water.

Over the years, to permanently protect watershed land in our region, we have purchased land outright and have secured conservation

easements. We have also joined with other non profit environmental organizations to successfully connect scattered parcels of forested watershed lands into a network of open space to protect drinking water.

Although much of the land adjacent to reservoirs is already owned by us, there is an additional estimated 3,000 acres of privately owned watershed land in our region that is desirable for protection. Acquiring this land requires careful planning as well as adequate funding.



Glossary

Aquifer: An underground layer of rock, gravel or sediment containing usable quantities of water.

Conservation Easement: A legal agreement that prohibits or limits certain kinds of development on a particular property while allowing the landowner to continue to own it and utilize the land.

Groundwater: Fresh water found beneath the earth's surface (usually in aquifers); often used to supply drinking water to wells and springs.

Reservoir: A pond, lake or basin – either natural or artificial – for storage of water.

Source Water: Untreated water from streams, reservoirs or aquifers used for public water supply.

Watershed: The land area from which water drains into a water body such as a stream or reservoir.



Water Quality Is Managing Land Assets

Just like any business, we carefully review the assets of our water system. In our sizable landholdings, we identified about 1,000 acres of non-water system land. These parcels are not needed for the operation, protection and maintenance of our water system – now or in the future. We intend to sell some of these parcels in order to keep water rates as low as possible.

Land sales are something we do not enter into lightly. We must follow a lengthy statutory process to sell a parcel of land. Besides notification of local community officials and land and conservation agencies, we notify the Connecticut Department of Public Health, the Connecticut Department of Energy and Environmental Protection and the Connecticut Office of Policy and Management. We also conduct an in-depth land study and environmental evaluation. These surveys, depending upon parcel size, can cost as much as \$20,000. We also hold a public hearing prior to any sale of land. Based on these required procedures, we anticipate that selling these properties will take us between 10 and 20 years.



Since 1996, we have sold 714 acres of land that were not necessary to protect water quality or not useful for our water system. From this effort, we received \$14 million. We applied these funds to offset the cost of our capital improvement program, which includes land acquisitions.

How do we provide high-quality water?

Before water ever reaches your tap, it goes through a multi-step process:

Protect: Our source water protection program focuses on watershed management and aquifer protection to maintain the quality of our drinking water sources.

Treatment: Groundwater is naturally filtered underground. Reservoir water is treated at our filtration plants. Both ground and reservoir water are disinfected with chlorine to kill microbes that can cause illness. Fluoride is added to prevent dental cavities, and phosphate is added to minimize corrosion of pipes.

Distribute: Finished water is delivered to customers through a network of pipes, pumping stations and storage tanks. We carefully maintain this extensive distribution system.

Monitor: We conduct thousands of tests a month in our state- and nationally-certified laboratory. We collect and test samples from numerous locations throughout our distribution system, along with filtration plants, lakes and aquifers.

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A Tale of Two Watersheds

While our drinking water is plentiful, development can create challenges to maintaining source water quality. As the aerial photo above shows, various types of urban and suburban development can surround a reservoir. Reservoir water quality deteriorates with increasing development on its watershed. The lower photo shows a well-protected, forested watershed surrounding the reservoir. Land ownership is a critical element for our source water protection program.