

**From:**

Stuart Braman, Ph.D.  
Lamont Doherty Earth Observatory  
P.O. Box 1000  
Palisades NY 10964-1000  
917-658-7215  
[sbraman@ldeo.columbia.edu](mailto:sbraman@ldeo.columbia.edu)

**To:**

Jeremy Rosenthal,  
NYS DEC, Division of Environmental Permits,  
625 Broadway, Albany, NY 12233-1750,  
Phone: (518) 402-9159 [depprmt@gw.dec.state.ny.us](mailto:depprmt@gw.dec.state.ny.us)

**Subject:** UWNY Scoping

**Date:** May 22, 2009

Dear Mr. Rosenthal:

I am an Adjunct Associate Research Scientist at Lamont-Doherty and have been working for the past 21 months on a website focused on water resource issues in Rockland County, and my particular focus in the development of this website has been on understanding residential water use in Rockland County and the opportunities to reduce water use through conservation. My comments on the scoping are based on this work.

1. Including conservation as a component of future water supply plans.

As DEC and many many others have noted it's essential that a serious evaluation of the potential role of water conservation as a component of future water supply plans be conducted.

2. The legal and institutional requirements for adoption of conservation measures

Because new legal and/or institutional arrangements may be needed to implement water conservation measures in Rockland County, the nature of legal and institutional measures that could facilitate the implementation of the full range of potential water conservation measures should be identified and assessed.

### 3. Residential water conservation

The analysis below of indoor residential water usage in Rockland County indicates that improvements similar to those achieved in other areas could make a meaningful contribution toward meeting future water needs, and therefore requires careful assessment.

( [http://superfund.ciesin.columbia.edu/Rocklandwater/demand\\_rock.html](http://superfund.ciesin.columbia.edu/Rocklandwater/demand_rock.html) )

Based on United Water production data from 1986-2005 I calculated residential daily use as 86 gpcd. Using the difference between usage during the months of higher water prices (May-August) and the months with lower water prices (September – April) as a proxy for outdoor water usage it was estimated that average indoor water usage was 81 gpcd. This number was then compared to national benchmarks to determine whether there was room for improvement in Rockland County and therefore an opportunity for water conservation to make an impact in future water supply plans. Widely accepted indoor water conservation research uses 69gpcd (including leaks) as a national average, and a conserving home with all water efficient fixtures and practices can achieve 45gpcd. Using these benchmarks and looking at what's been achieved elsewhere it's evident that conservation could make a difference in Rockland County water consumption -- a 15% improvement, similar to what's been achieved in Cary, North Carolina, would bring Rockland County residential water use down to the national average.

The DEIS needs to exercise care in its choice of benchmarks for evaluating what can be achieved through water conservation.

### 4. Outdoor residential usage, industrial, commercial and municipal conservation potential need to be addressed as well.

To get an accurate picture of the amount of demand reduction that can be achieved through conservation the potential for conservation with respect to all other water uses in the county should be examined and documented as well – outdoor residential usage, industrial usage, commercial usage and municipal usage.

### 5. Leaks

In a similar fashion, the amount of water supply increase possible from detecting and fixing leaks should be evaluated along with the associated costs.

## 6. Setting water supply objectives

- a. The issue of defining water supply objectives is related to but different from the question of the contribution of conservation measures to future water supply plans. In some areas of the country the objective is to meet 100% of demand in years with sufficient rainfall and 80% during droughts. This could be achieved by formally incorporating drought-triggered mandatory conservation measures in to the setting of water supply objectives. Alternate approaches to setting water supply objectives should be incorporated into the planning process.
- b. It may be that changes in regulation or law would be required to change how water supply objectives are set in NY. These changes should be identified.

## 7. Examples of Successful Water Conservation Programs

In analyzing the potential for water conservation successful programs implemented elsewhere should be studied. New York City and Cary North Carolina are two examples.

[http://superfund.ciesin.columbia.edu/Rocklandwater/demand\\_conserv.html](http://superfund.ciesin.columbia.edu/Rocklandwater/demand_conserv.html)