



Watershed Protection

Evaluation of New York City's Catskill/Delaware Watershed policy

Columbia's MPA in Environmental Science and Policy Watershed Protection Workshop Group examined New York City's Catskill/Delaware Watershed policy. The students focused on analyzing and evaluating the policy in terms of its scientific worth and efficacy.

Water New York City's Watersheds: Why We Care?

According to the U.S Environmental Protection Agency, "A watershed is the specific land area that drains water into a river system or other body of water. It is separated from other systems by high points such as slopes."



Exhibit A. New York City's Water Supply System

New York City government is obligated to ensure clean drinking water to the public, and so far has been successful in doing so. In 2002, the EPA renewed New York's Filtration Avoidance Determination (FAD) for the Catskill/Delaware Watershed, which allows New York City to continue using unfiltered surface water as drinking water source if source is protected.

If water quality were to fall below the levels mandated by the EPA, the city would be forced to construct the \$6 billion treatment facility, making protection of the watershed extremely important. To the right is list of the EPA guidelines for various pollutants the watershed must meet.

Pollutant	EPA Guideline	2003 Catskill/Delaware Data
TURBIDITY	< 5NTU	0.9 NTU
GIARDIA LAMBLIA	Suggest 99.9% killed	Within suggested limit
CRYPTOSPORIDIUM	Suggest 99% killed	Within suggested limit
TOTAL COLIFORM	<5%	0.30%
FECAL COLIFORM	None	None

Exhibit B. EPA Guidelines for Pollutant levels in watershed areas.

Water How does a watershed provide clean water to NYC residents?

The Catskill/Delaware Watershed is the source of 90% of the City's water. The natural reserve of forest, as well as an accompaniment of soil with adequate carbon levels, is necessary for the Catskill/Delaware watershed to have good conditions for natural water filtration. Development leads to impervious cover, such as roads, which retards natural filtration processes.

Water Measuring the success of watershed protection as proposed in the Act

- Water analysis and sampling are conducted on a regular basis in New York City
- The Bureau of Water Supply, which is part of the city's Department of Environmental Protection, does extensive monitoring of water quality
- A total of 892 sampling stations have been installed city-wide
- In 2003, New York Water Supply and Quality Report 36,900 samples

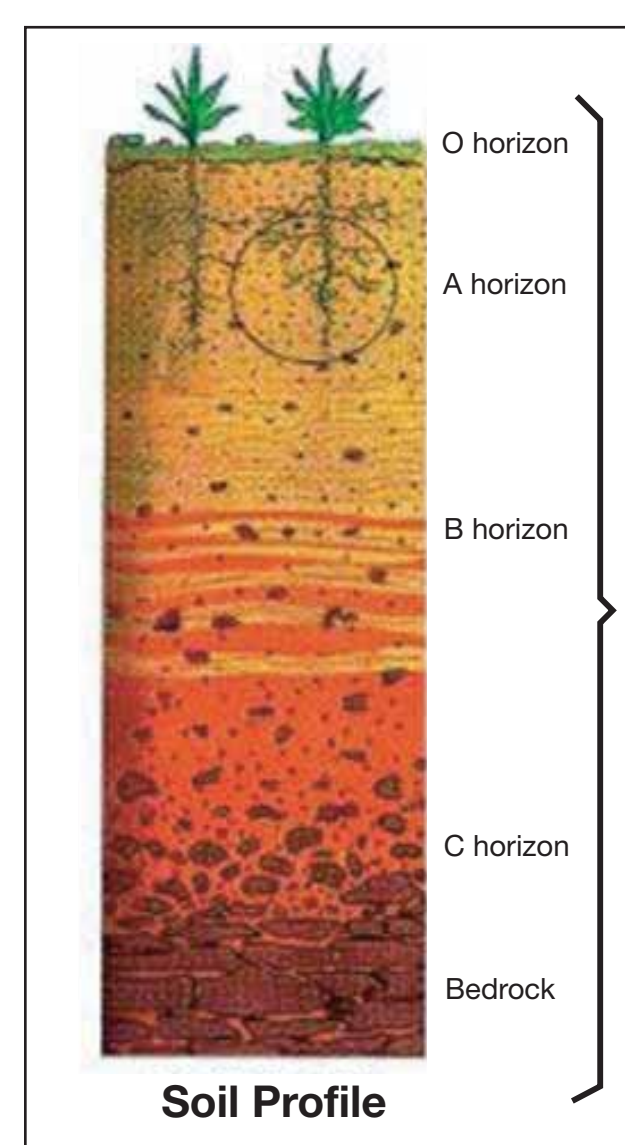


Exhibit C. Soil Profile

Water Conclusion

New York City has one of the few sources of natural, unfiltered water in the United States. Fortunately, the early leaders of New York City were planning ahead when they sequestered the Catskill/Delaware watershed as the city's drinking water source. With the Public Surface Water Supply and Protection Act, New York City has the opportunity now to plan for the next 100 years and keep this pristine water source.

Project Participants:

Adrienne Antoine, Shadan Azali, Emily Dubin, Alison Gilmore, Nicole Markarian, Catherine Mulvey, Kazuhiko Muto, Meghan Newcomer, Daniel Olson, Laura Toops
Faculty Adviser: Dr. Steven Cohen

Water Challenges of providing clean water

The Catskill/Delaware Watershed region is facing an increasing threat of contamination from pathogens linked to expansion of agriculture and development because the impervious cover of roads from development has provided a direct pathway for fecal matter to runoff into water bodies.

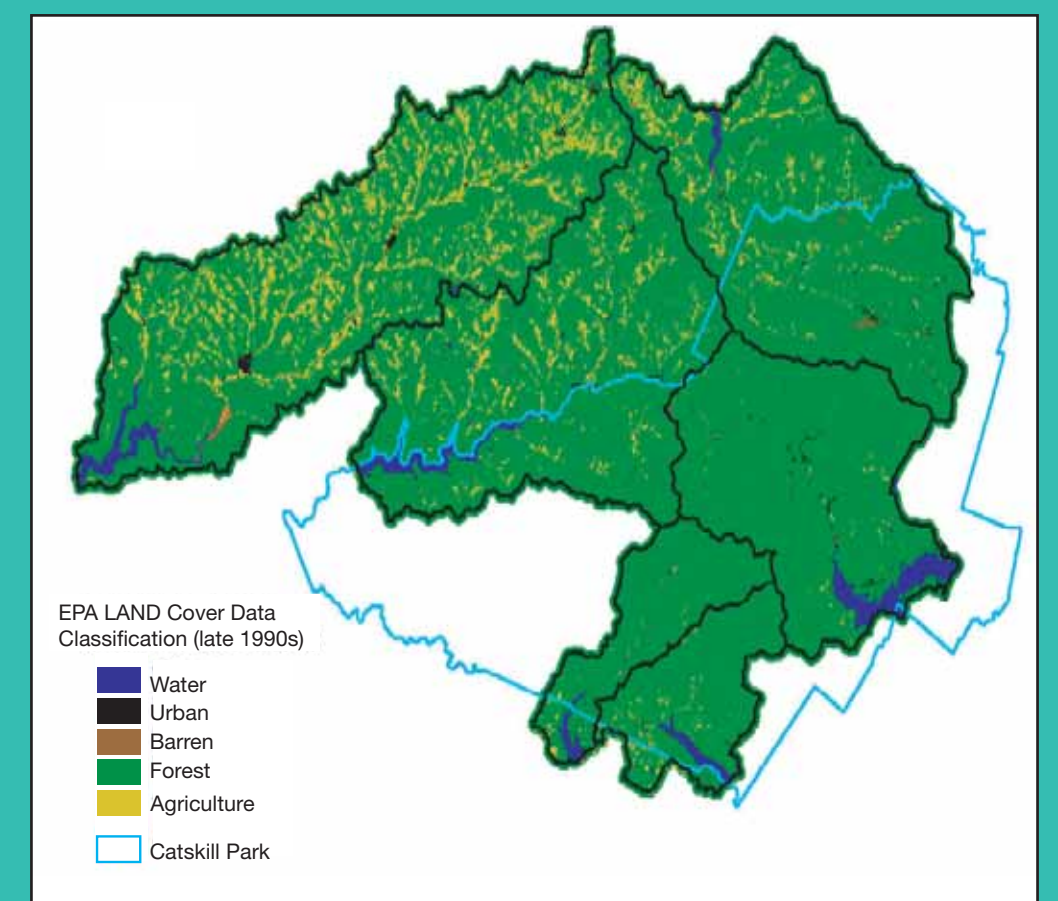


Exhibit D. Land Use Map of the Catskill/Delaware Watershed

Water Legislative steps taken to protect Catskill/Delaware Watershed

- Control water quality by managing development in critical supply areas
- Land acquisition
- Subsidization of local best management practice
- Proposal of the Public Surface Water Supply Protection Act, which calls for the creation of permit system and establishing buffer zones around all water bodies feeding into or contained within the Catskill/Delaware watershed. If enacted this act allow local governments to regulate activities and development within watershed management area.

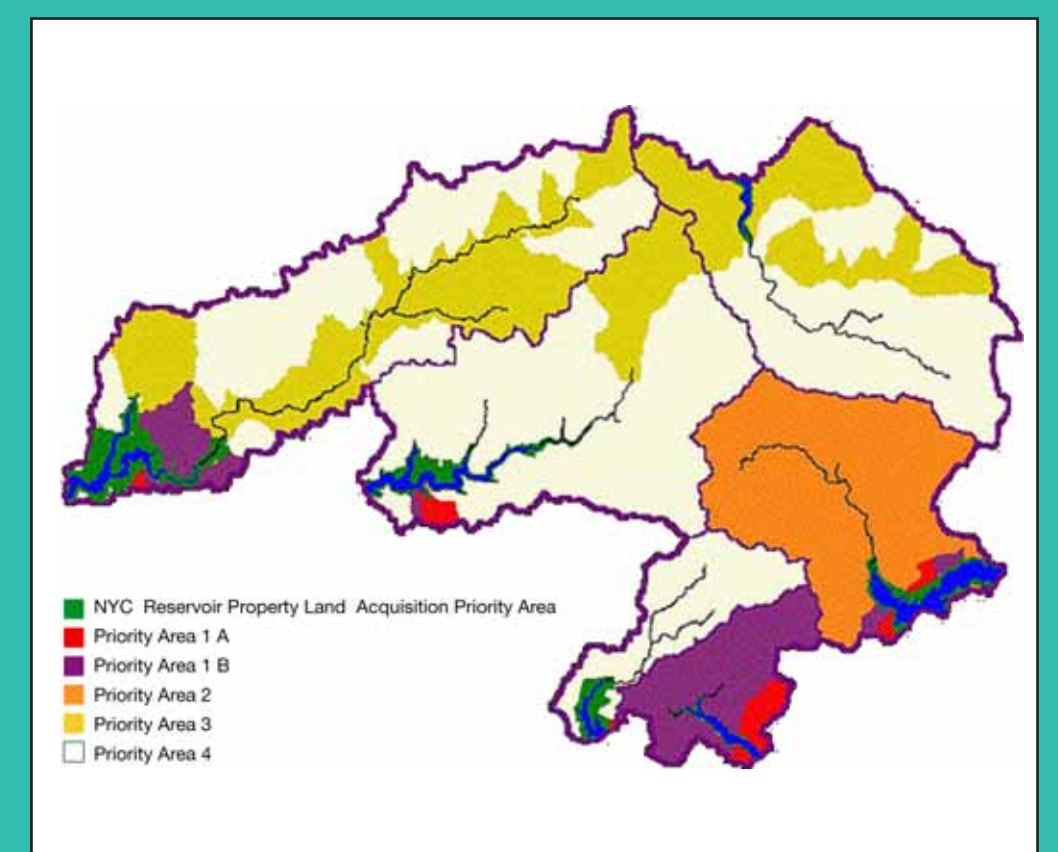


Exhibit E. Priority Areas for Land Acquisition in the Catskill/Delaware Region

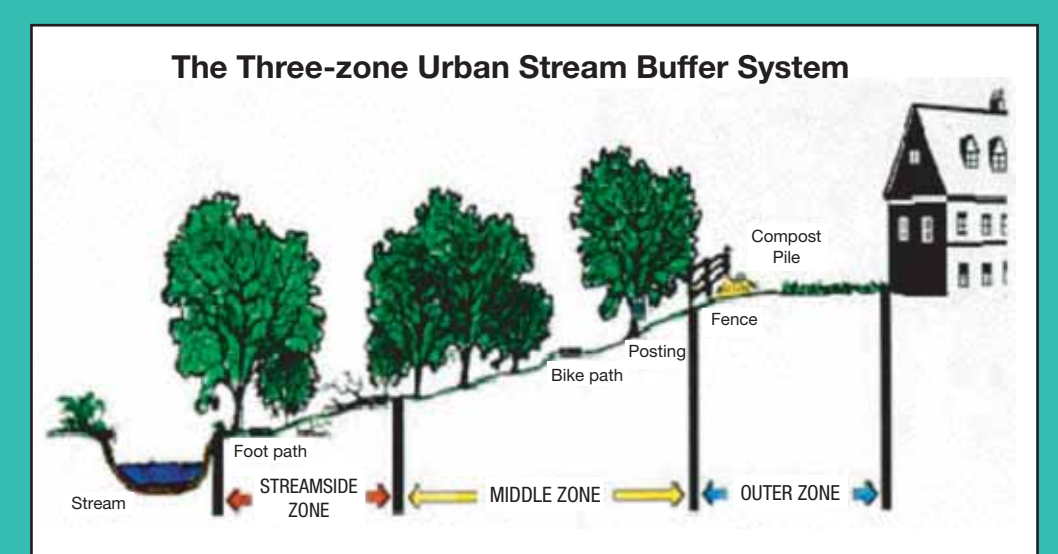


Exhibit F. Three Buffer Zone Model Source: <http://www.stormwater.net>