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# The New York City Watershed: Improving Relations Using Environmental Policy

Colby Richardson

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The New York City Watershed: Improving Relations Using Environmental Policy

By Colby Richardson

Environmental Policy—Department of History

Union College

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**Abstract:**

From 1837 until the early 1970s, New York City constructed a total of 19 reservoirs in the Catskill/Delaware region to meet growing demand for clean drinking water. This historically strained relationship between upstate and New York City officials due to involuntary land acquisition has positively progressed since reservoir construction. However, as New York City has utilized regulations and additional land acquisition to avoid billions of dollars in water filtration expenditures, tensions have again risen. Through interviews with watershed and state officials, this research study has found a more cooperative and trusting relationship can be built with more targeted land acquisition, greater New York City monetary support of watershed economic sectors such as tourism, agriculture, and forestry, more New York City employment opportunities in the watershed, and better communication channels.

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## **Chapter 1: A Rift Created by Economic Interests**

New York City has always made the preservation and protection of its water sources a priority, often at the expense of upstate residents. From 1837 until the early 1970s, city officials constructed a total of 19 reservoirs in the Catskill/Delaware river region to meet increasing water demand. New York City used eminent domain to obtain land for reservoir construction. Because of their land acquisition methods and resulting population displacement, the upstate community became resentful towards New York City watershed officials.<sup>1</sup>

To protect the water quality of cities across the United States, federal legislation was enacted. In the late 1980s, the Environmental Protection Agency (EPA) created the Surface Water Treatment Rule (SWTR), which had direct implications on the management of the New York City watershed. This rule outlined how cities and urban areas could apply to avoid the use of filtration systems mandated in a 1986 EPA ruling that updated the Clean Water Act. The avoidance of filtration systems, otherwise known as a Filtration Avoidance Determination (FAD), must be approved by the EPA and may be rejected at any time if water fails to meet quality standards. This failure results in the mandatory adoption of filtration systems.<sup>2</sup>

Construction and maintenance costs of filtration plants for large urban areas are expensive. The New York State Department of Environmental Conservation

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<sup>1</sup> Joan Hoffman, "Economic Stratification and Environmental Management: A Case Study of the New York City Catskill/Delaware Watershed," *Environmental Values* 14, No. 4 (2005): 455.

<sup>2</sup> Jennifer Church, "Avoiding Further Conflict: A Case Study of the New York City Watershed Land Acquisition Program in Delaware County, NY," *Pace Environmental Law Review* 27, No. 1 (2009-2010): 396.

(DEC) estimates a \$8-\$10 billion initial investment would be required for New York City water filtration infrastructure. Maintenance costs of operating filtration plants—estimated to be \$1 million per day—are excluded from this figure.<sup>3</sup> New York City officials were interested in creating an FAD that avoided the use of water filtration and its associated costs. City officials understand from firsthand experience that filtration expenditures are costly. This is exemplified by the Croton watershed, which is located outside of the Catskill region and provides roughly 10% of New York City’s drinking water. Because New York City failed to protect this watershed from urbanization and consequent septic pollution, EPA regulations mandated the construction of a \$3 billion water treatment facility in 2015.<sup>4</sup> The large initial investment and maintenance costs of filtration plants make land acquisition and the prevention of development more economical.<sup>5</sup> In spite of these economic benefits, the avoidance of filtration systems is uncommon in the United States. In total, only seven cities in the U.S. have an EPA approved Filtration Avoidance Determination. These major urban areas that avoid water filtration include Seattle, Boston, Portland (ME and OR), and San Francisco.<sup>6</sup>

During the late 1980s into the 1990s, New York City worked with the EPA, the New York State Department of Environmental Conservation, and the New York State Water Resources Institute from Cornell University to avoid filtration

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<sup>3</sup> Department of Environmental Conservation, “Facts about the New York City Watershed,” *dec.ny.gov*, (2017): N.P.

<sup>4</sup> Adam Wisnieski, “City’s Watershed Protection Plan Seeks Difficult Balance Upstate,” *citylimits.org*, (2015): N.P.

<sup>5</sup> Church, “Avoiding Further Conflict...” 396.

<sup>6</sup> Winnie Hu, “A Billion-Dollar Investment in New York’s Water,” *nytimes.com* (2018): N.P.

expenditures.<sup>7</sup> In 1991, farmers, New York City Department of Environmental Protection (DEP) officials, and agribusiness representatives from the Catskill/Delaware region created the Watershed Agricultural Council (WAC). This council operates an agricultural program that works collaboratively with farmers located in the New York City watershed to generate plans to reduce agricultural pollution.<sup>8</sup> The WAC was an outgrowth of the Brown Book—a voluntary farm program finished in 1991 that used scientific methods funded by New York City to help farmers decrease surface water pollutants. This council works indirectly with farmers through “local research teams and extension services.”<sup>9</sup> Driven by monetary incentives, greater than 85% of watershed farms utilized water source protection strategies—such as the planting of buffer strips—by 2007. Although a study investigating nutrient runoff was not conducted before and after these water source protection strategies were implemented, scholars believe they were successful in reducing runoff.<sup>10</sup>

In 1993, the New York City DEP began negotiations with Watershed Town Coalition representatives to create a Filtration Avoidance Determination. Ultimately, these discussions led to the 1997 New York City Watershed Memorandum of Agreement (MOA). The MOA called for land acquisition of areas important to water quality through the Catskill Watershed Corporation (CWC) and

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<sup>7</sup> Laurence Smith, Keith Porter, “Management of Catchments for the Protection of Water Resources: Drawing on the New York City Watershed Experience,” *Regional Environmental Change* 10, (2009): 317.

<sup>8</sup> Hoffman, “Economic Stratification and Environmental Management...” 456.

<sup>9</sup> Smith, “Management of Catchments for the Protection of Water Resources...” 317.

<sup>10</sup> *Ibid.*, 317.

an updated series of regulations regarding watersheds in order to avoid filtration. Funding for the program was greater than \$1 billion.<sup>11</sup> The city, which had previously received a temporary Filtration Avoidance Determination (FAD) from the EPA, was given a five-year FAD extension due to the MOA agreement.<sup>12</sup> The EPA, DEC, New York City, and five counties, 34 towns, nine villages, and several non-profit organizations located in the watershed signed the 1997 New York City Watershed MOA.<sup>13</sup>

The EPA was mostly satisfied with the DEP's watershed protection prior to the creation of the MOA. According to a study conducted by EPA officials, only one out of six reservoirs studied in the Catskill/Delaware region experienced a loss of forest cover—a factor associated with watershed pollution—from the 1970s until the 1990s. The loss of forest cover that occurred in this reservoir was due to the destruction of forest for development projects.<sup>14</sup> During this same time period, urban expansion experienced a slight increase—0.11%—in the six watersheds. This development can largely be attributed to the construction of second homes, often located close to ski resorts. Despite development concerns, the vast majority of the Catskill/Delaware watershed met or surpassed EPA water quality standards.<sup>15</sup> Over the aforementioned 20-year period, there was a 2% forest cover increase in the New

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<sup>11</sup> Smith, "Management of Catchments for the Protection of Water Resources..." 318.

<sup>12</sup> Church, "Avoiding Further Conflict..." 399.

<sup>13</sup> Hoffman, "Economic Stratification and Environmental Management..." 456.

<sup>14</sup> M.H. Mehaffey, M.S. Nash, T.G. Wade, D.W. Ebert, K.B. Jones, "Linking Land Cover and Water Quality in New York City's Water Supply Watersheds," *Environmental Monitoring Assessment* 107, No. 1-3, (2005): 36.

<sup>15</sup> Mehaffey, "Linking Land Cover and Water Quality..." 32.



York City watershed largely due to the conversion of former farmland. Additionally, three of the six watersheds studied had 95% or more forest cover.<sup>16</sup>

To combat development, the New York City Department of Environmental Protection (DEP) and the New York State Department of Health were given regulatory power over the Catskill watershed under Public Health Law 1100(1), which was passed in the 1974 Safe Water Drinking Act. This law grants the New York City DEP the ability to take ownership of property if land is viewed as critical to watershed health and create water quality-related regulations.<sup>17</sup> Under the MOA agreement of 1997, which helped establish the New York City Land Acquisition Program (LAP), New York City can acquire land that is essential to watershed protection. Land is acquired to prevent future water contamination from development. The New York City LAP does not use eminent domain to acquire land and also discusses potential purchases with town authorities prior to buying property.<sup>18</sup>

Because of the Land Acquisition Program, New York City successfully acquired land and limited development, helping to reduce water contaminants in the Catskill/Delaware region. Land use (e.g. urban development), erodible land, and agriculture on steep slopes are positively correlated with levels of nitrogen, phosphorus, and fecal coliform bacteria in water. Watersheds with less forest cover—due to agriculture and development—have higher rates of nitrogen in

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<sup>16</sup> Mehaffey, “Linking Land Cover and Water Quality...” 32.

<sup>17</sup> Church, “Avoiding Further Conflict...” 397.

<sup>18</sup> Ibid., 401.

comparison to watersheds with greater forest cover.<sup>19</sup> Due to agricultural restrictions and land acquisition, water quality assessments have revealed a large decrease in phosphorus and ammonia levels in the Cannonsville reservoir, the third largest reservoir used by New York City.<sup>20</sup>

This proven water quality protection strategy is controversial among watershed residents, as New York City land acquisition leads to artificially inflated property values.<sup>21</sup> To help appease watershed homeowners, LAP guidelines dictate that New York City pay property taxes on all land that it purchases.<sup>22</sup> The city is responsible for roughly \$157 million annually for taxes on its land in the Catskill/Delaware region.<sup>23</sup> Almost all city-owned land in the Catskill/Delaware area is shielded from development of any kind. Areas adjacent to streams and water bodies have a high percentage of New York City ownership with 50-60% of this land being owned by the city.<sup>24</sup> By 2011, New York City was in possession of over 200,000 acres of land that served to protect the Catskill/Delaware watershed.<sup>25</sup>

Despite a seemingly cooperative relationship created by the payment of property taxes, New York City often disagrees with town property value assessments. According to the MOA agreement in 1997, taxes can be challenged by the city starting 20 years after land is purchased. Not only will the tax base shrink if

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<sup>19</sup> Mehaffey, "Linking Land Cover and Water Quality..." 39.

<sup>20</sup> Smith, "Management of Catchments for the Protection of Water Resources..." 318.

<sup>21</sup> Wisnieski, "City's Watershed Protection Plan..." N.P.

<sup>22</sup> Church, "Avoiding Further Conflict..." 401.

<sup>23</sup> Wisnieski, "City's Watershed Protection Plan..." N.P.

<sup>24</sup> Ibid., N.P.

<sup>25</sup> New York City Environmental Protection, "State, City Announce Landmark Agreement To Safeguard New York City Drinking Water," *newyorkcity.gov*, (2016): N.P.

New York City successfully lowers tax rates on its land in the coming years, but legal fees from assessment challenges will also create debt in watershed communities. Complaints by community stakeholders related to land acquirement include a shrinking tax base, the rise of land prices due to city purchases, and less land available for development projects. Through the inclusion of watershed officials in land acquisition and regulation proposals, the reoccurring complaints of the local population against New York City's land acquisition practices will likely decrease.<sup>26</sup>

In addition to a shrinking tax base, the future of tax payments by the state of New York is in doubt. New York State forest preserve ownership and the payment of taxes is being challenged by Governor Cuomo, who recently proposed the creation of a fixed payment to replace taxes on state-owned land. The adoption of this program would undoubtedly save the state money, as this fixed payment would be less than current tax rates. Despite the New York State Assembly's decision to not include this proposal in their house budget bill, this idea will likely not be abandoned. The state has large landholdings in the Catskill/Delaware region.<sup>27</sup> If state officials eventually adopted this proposal, it has the potential to be disastrous for the watershed area. Further, a similar program could be considered by the city of New York, immensely shrinking the area's tax base.

Even if the economic contribution of New York City to the Catskill/Delaware river region via property taxes remains, the area still faces several economic challenges. During the 1990s, the poverty level in the region rose in part due to the

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<sup>26</sup> Church, "Avoiding Further Conflict..." 405.

<sup>27</sup> Editorial Staff, "NYS Assembly Cuts Forest Preserve Tax Changes," *adirondackalmanack.com*, (2018): N.P.

reduction of jobs outside of the agricultural sector.<sup>28</sup> This increase in rural poverty is also seen nationally during this time period.<sup>29</sup> Poverty in the Catskill/Delaware region is a water quality concern for several reasons. People living in low-income communities tend to purchase and utilize products that are less expensive but more polluting and attempt to extend the life of products already under their ownership. For example, cars and septic tanks are often not upgraded due to the high initial investment cost and little personal benefit. Extending the lifetimes of such products results in a greater release of environmentally threatening pollutants.<sup>30</sup>

Due to a rise in second home ownership among New York City residents buying property in the watershed region during the late 1990s and early 2000s, wealth inequality and development pressure increased.<sup>31</sup> For example, in Middletown, New York, the percentage of second homes in the area increased from 36% in the 2000 census to 40% in 2010. Often, second homeowners prefer to buy within the watershed because they are enticed by New York City's attempt to limit future development, which ensures less dense development around their properties.<sup>32</sup> Rising tax rates due to the construction of second homes and large land ownership by New York City creates additional economic stress for the working class and further complicates New York City's watershed protection.<sup>33</sup>

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<sup>28</sup> Hoffman, "Economic Stratification and Environmental Management..." 457.

<sup>29</sup> Paul Dudenhefer, "Poverty in the Rural United States," *Institute of Research on Poverty University of Wisconsin*, (1993): 39.

<sup>30</sup> Hoffman, "Economic Stratification and Environmental Management..." 457.

<sup>31</sup> *Ibid.*, 460.

<sup>32</sup> Wisnieski, "City's Watershed Protection Plan..." N.P.

<sup>33</sup> Hoffman, "Economic Stratification and Environmental Management..." 460.

The impact of the city's land ownership and regulations on the local community is disputed. City officials must consider both economic and sociological considerations when studying their impact on the watershed.<sup>34</sup> According to a case study performed by Joan Hoffman—an economist from John Jay College—it is unclear whether the watershed region receives much economic benefit from their relationship with New York City.<sup>35</sup> This controversy is demonstrated by the FAD extension negotiation that took place in 2002. In this agreement, New York City advocated for and implemented rules designed to limit future developmental activities. For example, restrictions on construction of new impervious surfaces near streams were enacted. Further, land purchased by New York City was permanently placed under protection from development. To appease watershed towns angered by city regulations and land acquisition, New York City financed agricultural programs, promoted tourism, provided grants, made regulations clearer, contracted a larger number of local businesses for watershed protection initiatives, and increased direct spending into watershed town economies.<sup>36</sup> Despite some of these positive economic contributions, the protection of the New York City watershed often competes against the economic interests of the watershed towns. Because people of lower socioeconomic status are less likely to comply with and be supportive of watershed regulations, New York City should try to appeal to the watershed community through a greater variety of avenues—such

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<sup>34</sup> Hoffman, "Economic Stratification and Environmental Management..." 462.

<sup>35</sup> *Ibid.*, 461.

<sup>36</sup> *Ibid.*, 461.

as affordable housing, healthcare, and daycare programs—than current city programs.<sup>37</sup>

In contrast, analysis by New York City officials and the New York Department of Environmental Conservation argue that New York City's land ownership and market presence have had a positive economic impact on the watershed region. New York City has made major infrastructural investments in the Catskill/Delaware area. For example, the New York City DEP has funded septic system replacement for 4,500 units and the construction of salt storage facilities. Additionally, through the recommendations of the Watershed Agricultural Council and Watershed Agricultural Program, best practices have been used to reduce agricultural and household runoff.<sup>38</sup> In 2009, a new Land Acquisition Program was reviewed by the DEC, EPA, and New York City DEP to determine its environmental, social, and economic impacts on watershed communities. If it was found that the LAP had negative impacts on the region, it could be revised or the program could be disallowed. The DEC determined the LAP had no negative effects on the watershed community.<sup>39</sup> The DEP agreed with this assessment. David Warne, the Assistant Commissioner of the DEP's Bureau of Water Supply stated: "I think the notion that somehow our land acquisition program, our regulatory programs are squashing what would otherwise be a robust and vibrant economic region really doesn't hold

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<sup>37</sup> Hoffman, "Economic Stratification and Environmental Management..." 458-460.

<sup>38</sup> Wisnieski, "City's Watershed Protection Plan..." N.P.

<sup>39</sup> Church, "Avoiding Further Conflict..." 406.

up.”<sup>40</sup> This assertion reveals that New York City officials do not believe their large presence in the region is responsible for the area’s economic hardship.

Other U.S. cities that avoid water filtration use watershed protection strategies akin to those of New York City. For example, Seattle exercises land acquisition, land regulations, and educational programs to protect the Cedar River Watershed. Despite these similarities in protection strategies, Seattle authorities are far more restrictive of economic activities compared to New York City. Agriculture, industry, and recreation are not allowed in the Cedar River Watershed. Comparatively, economic restrictions in the Cedar River Watershed are easier to implement than in the New York City watershed, as much of the land owned and acquired by Seattle was used as former logging operations and lacks human inhabitation. With a far smaller population base, control and restrictive regulations are more easily established.<sup>41</sup>

Like Seattle, Portland, Maine uses land acquisition to protect against watershed deterioration and the degradation of water quality. City officials also utilize a septic inspection program. Despite these watershed protection strategies, Lake Sebago and the Crooked River Watershed—the water sources for Portland—have an expanding human population that is threatening water quality. Non-point source pollution primarily from septic tank contamination has become problematic for water quality. Despite the threat of losing their Filtration Avoidance Determination due to rising water pollution, Portland officials believe that a

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<sup>40</sup> Wisnieski, “City’s Watershed Protection Plan...” N.P.

<sup>41</sup> Kate J. Gazzo, “Watershed Protection as the Primary Tool to Achieve High Quality Drinking Water,” *repository.usfca.edu* (2014): 44.

continued investment in watershed protection is important. Even if they have to build filtration infrastructure, city officials are convinced that an investment in watershed protection will reduce future filtration expenditures.<sup>42</sup>

Despite the lack of major U.S. cities that avoid water filtration, New York City and its protected watershed can serve as model for other countries. The city's highly sophisticated water delivery infrastructure is often subject to visitors from China, Australia, India, Singapore, and Columbia.<sup>43</sup> New York City has demonstrated the ability to reap economic benefits from the protection of rural water sources. In addition to providing a model for watershed protection in other countries, the few U.S. cities that avoid water filtration have much to learn from New York City about how to best form collaborative relationships between city and watershed region officials.

In spite of New York City's stance regarding their economic impact on the watershed community, it seems that their programs are partially responsible for the region's faltering economy. New York City must consider the redirection of funds and economic programs to emerging industries as the Catskill region undergoes an economic transition. For example, many officials in the region view tourism as the future economic pillar of the local community. Although tourism does not directly contribute to clean water, greater funding for this economic sector may encourage land conservation and, in turn, water quality protection. New York City must continue to encourage activities that support their water quality initiatives while simultaneously bringing greater economic stability to the watershed region.

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<sup>42</sup> Kate J. Gazzo, "Watershed Protection as the Primary Tool..." 46.

<sup>43</sup> Hu, "A Billion-Dollar Investment..." N.P.



## **Chapter 2: Eminent Domain and the Land Acquisition Program**

The use of eminent domain by New York City to acquire land for reservoir construction—which began in the 1830s and ended about 130 years later—resulted in the relocation of over 5,000 people and the loss of productive agricultural land.<sup>1</sup> According to Catskill/Delaware officials, anger from town displacement and involuntary residential removal still exists today. Despite these tensions, Catskill/Delaware officials have worked to improve New York City’s watershed programs and regulations.

Upstate officials who help organize and operate New York City programs identify tensions stemming from the use of eminent domain in their personal lives. The Catskill Watershed Corporation (CWC), a New York City-funded organization, manages a variety of New York City watershed programs, including but not limited to septic maintenance, the management of storm water, and the construction of salt storage facilities. Further, the CWC advises New York City on watershed initiatives such as land acquisition and road repair.<sup>2</sup> Alan Rosa, the executive director of the CWC, has personal experience dealing with the involuntary residential removal and building of reservoirs in the watershed region:

My family lived it. Including my own family, there are people today that still [have that as] a crow in the back of their throat. They absolutely hate the city of New York and how they conducted themselves when they came here, at least in Delaware County because they are the latest ones. In Delaware County, the Pepacton Reservoir was finished in roughly 1955-1956 and then the Cannonsville Reservoir was actually finished in

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<sup>1</sup> Michelle Young, "Lots of New York City's Drinking Water Comes from Drowned Towns in the Catskills," *untappedcities.org* (2016): N.P.

<sup>2</sup> Catskill Watershed Corporation, "Origins of the CWC," *cwconline.org* (2017): N.P.

1971. That's the year I graduated high school. So, it's still fresh in a lot of people's minds that are in their 60s, 70s, and 80s.<sup>3</sup>

Catskill/Delaware residents do not appear to trust New York City officials. Rosa believes anger stemming from involuntary removal still exists: "There is a lot of hatred still for DEP, no matter how good a neighbor they have become or can become."<sup>4</sup> First impressions often influence the future willingness for cooperation and collaboration. Emotions fueled by eminent domain have interfered with New York City's attempt to maintain a positive relationship with upstate residents. The political and social conflict created by the use of eminent domain has had lasting effects on the inhabitants of the New York City watershed and has made New York City officials unpopular in the area. Craig Cashman of the Watershed Agricultural Council (WAC)—another New York City-funded organization that uses conservation easements and farm and forest management plans to avoid agricultural and forestry practices that may degrade water quality—understands this conflict well. He acknowledges that New York City residents have greatly benefitted from the use of eminent domain.<sup>5</sup> Despite this recognition, Cashman cautions the use of this legal power:

I would say there will always be some cultural rift over the years because [of] the stories that have been passed down from family to family, and of course, I don't think eminent domain is ever a good idea. Obviously there are some exceptions. You know that phrase 'what is best for the many versus the few,' but at the same time it should never be used without a great deal of thought. So, I think over the years there was a lot of pain early on when people essentially lost their land, and as the future holds I think that will lessen over the years and it has over the course [of]

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<sup>3</sup> Alan Rosa. Interview by Colby Richardson. December 19, 2017.

<sup>4</sup> Ibid.

<sup>5</sup> "Watershed Agricultural Council Overview," *newyorkcitywatershed.org* (2017): N.P.

generations. But I think eminent domain should never be used, totally at the last resort, and even then [with] a great deal of consideration.<sup>6</sup>

Without the cooperation and support of Delaware/Catskill residents, New York City watershed protection will come at a greater cost. According to several upstate officials, Catskill/Delaware residents do not oppose providing clean water to New York City residents.<sup>7</sup> However, New York City's infringement upon property rights has likely caused a number of legal challenges and regulation defiance.

Despite the combative beginnings of this relationship, time has helped heal these feelings of hatred directed towards New York City. Dean Frazier, the commissioner of Delaware County Watershed Affairs shares this viewpoint: "There [are] still a [fair] number of people who remember, but those who still recall it are dwindling in number. It is still there. People younger than me—I'm 53—remember the use of eminent domain."<sup>8</sup> Glenn Nealis, the director of Economic Development for Delaware County agrees: "I'm going to be overly blunt about it. Yes, I think that still exists, but you know, in another 20 years probably everybody who was affected by it [will have] either [moved out] or died."<sup>9</sup> Catskill/Delaware officials concur that the use of eminent domain by New York City scarred relations with the watershed region. Although the pain inflicted by involuntary land acquisition still remains, it has dissipated.

The use of eminent domain also negatively affected the economy of the Catskill/Delaware region. At the time of reservoir land acquisition, the primary

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<sup>6</sup> Craig Cashman. Interview by Colby Richardson. December 11, 2017.

<sup>7</sup> Glenn Nealis. Interview by Colby Richardson. January 11, 2018.

<sup>8</sup> Dean Frazier. Interview by Colby Richardson. November 27, 2017.

<sup>9</sup> Glenn Nealis. Interview by Colby Richardson. January 11, 2018.

economic sector was agriculture, according to Rick Weidenbach, one of the authors of the Brown Book—a best practice agricultural manual for the watershed region—and a long-time Watershed Agricultural Program employee. Unfortunately, the most productive farmland was located near streams and rivers that were dammed to create the city’s reservoirs. Weidenbach stated, “Delaware County’s farming economy was very good prior to the reservoirs being put in because those farms were our bottom land farms, which were next to the Delaware River, which is the most productive soil.... An acre of upland soil producing corn can produce 11 to 14 tons per acre of corn... The bottomland can support 24 tons per acre of corn, almost double.”<sup>10</sup> Although there is a lack of available research regarding agricultural production before and after reservoir construction, this suggested destruction of the best agricultural land likely decreased farmers’ profits. According to Weidenbach, the use of eminent domain to acquire land created animosity between watershed farmers and New York City: “When New York City built the reservoirs they took our most productive farmland and these people had no choice. It wasn’t like willing buyer, willing seller. They came in, they needed this, they forced the people to move. And there was a very, very bitter relationship between upstate and downstate because... New York City came in and said, so we’re taking your farm, here’s our fair market value.”<sup>11</sup> This suggests that involuntary decline of a large and influential economic sector due to land acquisition alongside a well-documented northeast and national decline of agriculture likely had a ripple effect throughout the watershed region. The involuntary abandonment of agricultural land resulted in a loss of

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<sup>10</sup> Rick Weidenbach. Interview by Colby Richardson. January 9, 2018.

<sup>11</sup> Ibid.

farmers' livelihoods in addition to the destruction of a community. This community and economic damage sparked emotions of hatred towards New York City officials.

New York City no longer uses eminent domain to acquire land in the watershed region. However, despite its unpopularity, city officials today continue to use land acquisition for water quality protection. According to the Filtration Avoidance Determination signed in 1997, the city of New York agreed to acquire a total of 355,000 acres in the watershed region. New York City can gain land ownership or control via three methods: fee simple (otherwise known as in fee), outright purchase, or conservation easements. New York City often purchases land in partnership with the Watershed Agricultural Council.<sup>12</sup> In 2009, the Division of Watershed Lands & Community Planning from the New York City Department of Environmental Protection released the Long-Term Land Acquisition Plan, which outlines the goals of the program from 2012-2022. Besides the continuation of current land acquisition methods, the New York City Department of Environmental Protection pledged to use a more refined approach to purchase land in watershed basins. Basins that have less than 30% protection or are viewed as essential to future water quality are identified by the city to try and prevent future development.<sup>13</sup>

Catskill/Delaware officials believe the current Land Acquisition Program can be improved. Rick Weidenbach of the Watershed Agricultural Program questions the scientific validity of New York City's land acquisition strategy:

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<sup>12</sup> New York City Environmental Protection, "Land Acquisition," *newyorkcity.gov* (2018): N.P.

<sup>13</sup> New York City Department of Environmental Protection, "Long-Term Land Acquisition Plan 2012 to 2022," *newyorkcity.gov* (2009): ii.

Their scattered approach of just buying land anywhere throughout the watershed... I don't believe there's any science whatsoever in protecting the water supply... My interpretation of that is the city of New York, the Environmental Protection Agency, has succumbed to a lot of the environmental groups that wanted the open space in the watershed and forced the city to buy open space in the watershed under the guise of water quality.<sup>14</sup>

Several environmental organizations including Hudson Riverkeeper, the Open Space Institute, the Trust for Public Lands, the Catskill Center for Conservation and Development, and the Natural Resources Defense Council were identified by Dean Frazier of Delaware County Watershed Affairs as lobbying the DEP to preserve open space in the New York City watershed.<sup>15</sup> The goal of New York City when obtaining land is to protect the reservoirs' water quality. Land acquisition should not be done under the guise of watershed protection if its purpose is to preserve open space. By preserving open space, land acquisition has a far greater influence on the possible development and, in turn, economic stability of the watershed region. If this is New York City's disguised intent, current monetary compensation for land acquisition is unacceptable and must be increased.

The redirection of New York City's Land Acquisition Program towards a more scientifically based strategy is popular among upstate officials. Like Rick Weidenbach and Dean Frazier, Glenn Nealis, the director of Economic Development for Delaware County, promotes this new direction for the LAP:

The Land Acquisition Program is designed to essentially prevent development. Nobody really has an issue with development. What they care about from a scientific basis is impervious surfaces, so it's all about keeping impervious surfaces below a certain level. And all the studies you read say that [at] around eight to ten percent impervious surface, you

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<sup>14</sup> Rick Weidenbach. Interview by Colby Richardson. January 9, 2018.

<sup>15</sup> Dean Frazier. Interview by Colby Richardson. November 27, 2017.

start to have water quality impacts. I fully accept that science, absolutely. So, when you're in an area that has two percent impervious surface and is not a hotspot for growth, the idea that you need to acquire massive, massive amounts of property in order to maintain water quality... it just doesn't float.<sup>16</sup>

Understanding the sociological and economic realities of the watershed area should play a role in the setting of restrictive regulations. The Catskill/Delaware region is not a “hotspot” for development. Massive land acquisition for the preservation of open space is not sensible. Nealis helped to illustrate this by describing a hypothetical situation: “Let's say I'm New York City. I acquire a hundred acres of property located 60 miles away from a reservoir and claim that that has some type of benefit on water quality. There is nothing that backs that up even remotely.”<sup>17</sup> Regardless of whether or not this assessment by Nealis is controversial among DEP officials, Catskill officials believe it is important to not limit potential development on land that will have little impact on reservoir water quality. Thus, the incorporation of more targeted land acquisition will likely ease frustration from upstate residents and generate greater cooperation.

Today, the necessity of non-targeted land acquisition via the Land Acquisition Program is questionable. The vast majority of available land in the watershed region cannot be developed due to city and state ownership, conservation easements, and regulations. Patrick Palmer of the New York State Department of Health, which shares joint oversight of the New York City watershed with the DEC, believes the city must reevaluate their land acquisition strategies for

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<sup>16</sup> Glenn Nealis. Interview by Colby Richardson. January 11, 2018.

<sup>17</sup> Ibid.

several towns in the watershed region, as the city has acquired more land than originally planned:

Over the last year or so we have been working with the city and the locals on what are known as town-level assessments that the city had performed back in 2010 related to the water supply permit... Back in 2010, [New York City] said if we acquire this certain amount of land, we don't see an adverse effect on the communities. But in some communities, they have acquired more land than they projected.<sup>18</sup>

According to Palmer, because of this unplanned land acquisition, New York City worked with stakeholders to revise land acquisition methods for the 2017 Filtration Avoidance Determination. Palmer said, "Working with the locals, we have been having additional stakeholder meetings to discuss how the city might consider modifying what is called their long-term solicitation plan for land acquisition."<sup>19</sup> As Palmer implied, an examination of future practices is necessary. A compromise must be made that considers both watershed protection and community viability.

To better protect water quality, Rick Weidenbach of the Watershed Agricultural Program has two suggestions for the refocusing of New York City's Land Acquisition Program: invest in flood mitigation and protect riparian ecosystems. Studies conducted by the Watershed Agricultural Program helped convince New York City to adopt a program that focuses on flood control and runoff mitigation, which both positively impact water quality. Weidenbach stated: "Since our flood hazard mitigation programs have been put in place, we're realizing that flooding is a water quality issue."<sup>20</sup> An interview with Weidenbach revealed that

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<sup>18</sup> Patrick Palmer. Interview by Colby Richardson. February 22, 2018.

<sup>19</sup> Ibid.

<sup>20</sup> Rick Weidenbach. Interview by Colby Richardson. January 9, 2018.



cooperation between upstate and city officials has resulted in the redirection of funds so they are spent in a smarter, more ecologically sensible manner:

We demonstrated that flooding is a serious water quality issue and that working on a flood hazard mitigation program is as important or maybe even more important than having a long-term water quality maintenance program like the farm program and the septic program and all those other programs. So, we convinced the EPA and New York State Department of Health that flooding was an issue and they forced the city to have a flood hazard mitigation program... that's being implemented through the soil water conservation districts under separate contract in the Watershed Agricultural Program, as well as having a flood hazard mitigation program with the Catskill Watershed Corporation.<sup>21</sup>

While a scattered approach of land acquisition may improve water quality, it is clear that a more refined and refocused approach such as a flood hazard mitigation program may protect water quality and also have a minimal effect on the region's economy. Officials in the Catskill/Delaware region and New York City have proven the ability to work well together. This more focused approach proposed by upstate officials is one example of how watershed officials have positively contributed to water quality protection.

City and state officials also appear to support the revision of New York City's Land Acquisition Program. The New York City Department of Environmental Protection just recently made the acquisition of property next to streams a new emphasis of the LAP. Thomas Snow, a New York State Department of Environmental Conservation employee, is the program coordinator for the New York City Watershed. As Snow detailed, after meeting with upstate officials to discuss the 2017 Filtration Avoidance Determination, a pilot program began:

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<sup>21</sup> Rick Weidenbach. Interview by Colby Richardson. January 9, 2018.

We have more of a targeted program that's being piloted right now up in the Schoharie basin that focuses on riparian buffers... We can have better, more targeted land acquisition going forward and the riparian buffer program seems to get at and address those specific things that are being brought up as it relates to land acquisition by the West of Hudson communities.<sup>22</sup>

According to Patrick Palmer of the Department of Health, the new acquisition method would subdivide properties that are being sold. Unlike past land acquisition, Palmer explained that New York City officials would purchase only the portions of properties viewed as essential to water quality, and refrain from purchasing the entire property:

There is a program that is still in its pilot phase right now called Streamside Acquisition Program, which might be one way to modify what we call core land acquisition... instead of buying 100 acres maybe they are only going to buy five acres, but it's the five acres that you would think has the most environmental benefit in what's called the riparian area around the stream or around a wetland...<sup>23</sup>

This refined land acquisition approach would help quell accusations of unscientific land acquisition and open space preservation in addition to minimizing the footprint of New York City land ownership.

According to Palmer, New York City is also researching the formation of a collaborative relationship with federal-funded land conservation programs: "One of [the pilot programs] looks into exploring a partnership between the city's program called the Catskill Stream Buffer Initiative and the Conservation Reserve Enhancement Program, which is actually a federal program."<sup>24</sup> The Conservation Reserve Enhancement Program is run by the Farm Service Agency. This program

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<sup>22</sup> Thomas Snow. Interview by Colby Richardson. February 13, 2018.

<sup>23</sup> Patrick Palmer. Interview by Colby Richardson. February 22, 2018.

<sup>24</sup> Patrick Palmer. Interview by Colby Richardson. February 22, 2018.

funds the conservation of vulnerable environments identified by state authorities. Farmers who participate in this program and whose environmentally valuable land is identified as prone to degradation collect a rental fee, paid for by the Farm Service Agency.<sup>25</sup> Additional funding from this federal program could potentially free city and state money for other water quality or regional economic initiatives.

Watershed officials agree that a refined Land Acquisition Program would be beneficial. Rick Weidenbach of the Watershed Agricultural Program believes this new acquisition approach would lead to better water quality protection and have a limited impact on watershed community development:

Now the land acquisition program is being redirected, which I have 110% support of... Protecting those riparian areas and protecting them from development and letting them be as a buffer and as a filter for pollutants... Having their land acquisition program geared more towards that flood hazard mitigation is a great idea and that is starting to happen right now and therefore I've been becoming more supportive of the Land Acquisition Program when it's science-based rather than open space.<sup>26</sup>

Weidenbach is not alone in his support of this refined approach. Dean Frazier of Delaware County Watershed Affairs also sees great value in the city purchasing areas such as wetlands that are key for maintaining water quality. Frazier discussed that, "Contained wetlands, for example, should be targeted. The city would work with towns and the towns would agree to work with the city in order to help manage and acquire land that is sensitive to the water supply."<sup>27</sup> Together, upstate and city officials can design a refined approach to land acquisition that better serves the needs of both parties.

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<sup>25</sup> United States Department of Agriculture, "Conservation Reserve Enhancement Program," *fsa.usda.gov* (2018): N.P.

<sup>26</sup> Rick Weidenbach. Interview by Colby Richardson. January 9, 2018.

<sup>27</sup> Dean Frazier. Interview by Colby Richardson. November 27, 2017.

Ideas about a more refined LAP have emerged because of an improved dialogue between upstate and New York City officials. According to Patrick Palmer from the Department of Health Bureau of Water Supply Protection, there have been a greater number of stakeholder meetings with upstate officials prior to the release of important documents such as the 2017 Filtration Avoidance Determination:

There are a series of what we call stakeholder meetings, where we get in the same room [with] folks from State Health, DEC, the city, CWC, Coalition of Watershed Towns, folks from Delaware county... We felt that it would be best instead of just the city and state working on conditions for the FAD and then having the locals comment on those during a public comment period, it would make more sense to get everybody's input prior to the state issuing a draft FAD... I think those type of open group meetings... having those wide viewpoints all together in a room to look at issues from different perspectives is very helpful.<sup>28</sup>

It is clear that state and New York City officials would benefit from the continued inclusion of upstate officials in regulation and program proposals. This collaboration would not only improve working relations, but also water quality protection. As Palmer discussed, "Relations between state and local officials are good. I've heard comments from some folks, especially following our most recent negotiations on the FAD, that things are as good as they have been, ever."<sup>29</sup>

Together, upstate, New York State, and New York City officials can work cooperatively to not only improve water protection programs, but also lessen the impact that New York City imposes on upstate residents by not buying property unimportant to water quality protection. As previously mentioned, of the proposed acquisition goal of 355,000 acres set in the Filtration Avoidance Determination of

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<sup>28</sup> Patrick Palmer. Interview by Colby Richardson. February 22, 2018.

<sup>29</sup> Ibid.

1997, over 200,000 acres were acquired by 2011.<sup>30</sup> The remainder of this proposition should only occur if this land has a scientifically definable impact on the reservoirs' water quality.

Thanks in part to the Land Acquisition Program, New York City has reduced agricultural runoff and sediment deposition, helping to avoid the use of water filtration. Glenn Nealis, the director of Economic Development for Delaware County, attempted to downplay the importance of the Land Acquisition Program for water quality protection. To illustrate this point, Nealis pointed to Portland, Oregon as one example of an area that had total ownership of land surrounding their primary watershed, but still failed to avoid the use of filtration plants: "They still had to go to filtration despite having 100% control of the land surrounding their watershed. They still had to put in a filtration plant. So, that just shows that acquisition and public control of land is no guarantee of anything."<sup>31</sup> Despite negating the importance of the New York City Land Acquisition Program, Nealis was incorrect about Portland utilizing filtration. Portland's primary reservoir, the Bull Run Watershed, is located in Mt. Hood National Forest. Water from this region must undergo treatments of chlorine and ammonia in addition to a pH adjustment in order to reduce pipe corrosion. However, according to Portland's government website, the Bull Run water source meets the requirements of the Surface Water Treatment Rule and does not undergo traditional filtration practices.<sup>32</sup> Despite

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<sup>30</sup> New York City Environmental Protection, "State, City Announce Landmark Agreement..." N.P.

<sup>31</sup> Glenn Nealis. Interview by Colby Richardson. January 11, 2018.

<sup>32</sup> Portland Water Bureau, "Source Water Treatment," *portlandoregon.gov* (2018): N.P.

Nealis' misinformation, it is important to recognize that other programs besides land acquisition could be utilized in the New York City watershed, especially because the region would benefit from indirect and direct economic stimuli. Further, the redirection of funds away from the Land Acquisition Program to other water quality programs may be a worthwhile environmental move.

Due to New York City Department of Environmental Protection land ownership, New York State land ownership, and land topography, there is little land in private ownership that can be developed. Dean Frazier of Delaware County Watershed Affairs outlined this:

Towns are already out of developable lands. There are some towns with little to no land that is actually developable. The 2017 [Filtration Avoidance Determination] created by the city evaluated the data to determine what will happen with the Land Acquisition Program. New York City said there is x amount of acres that are still developable. Our own numbers aren't far apart from New York City's analysis. However, we looked at local ordinances, and found there was less developable land because of them. The city did not do this.<sup>33</sup>

Alan Rosa of the Catskill Watershed Corporation was initially supportive of city land acquisition. However, he believes only 10% of land in the watershed region is available for single-family home development. According to his estimates, about 60% of the region's land is state- or city-owned, and the remainder of land cannot be developed due to geographical limitations such as slope and proximity to water bodies. In reality, according to statistics collected in 2014 by the Watershed

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<sup>33</sup> Dean Frazier. Interview by Colby Richardson. November 27, 2017.

Agricultural Council, city and state authorities own 32% of the land in the watershed excluding conservation easements, as seen in Figure 1.<sup>34</sup>

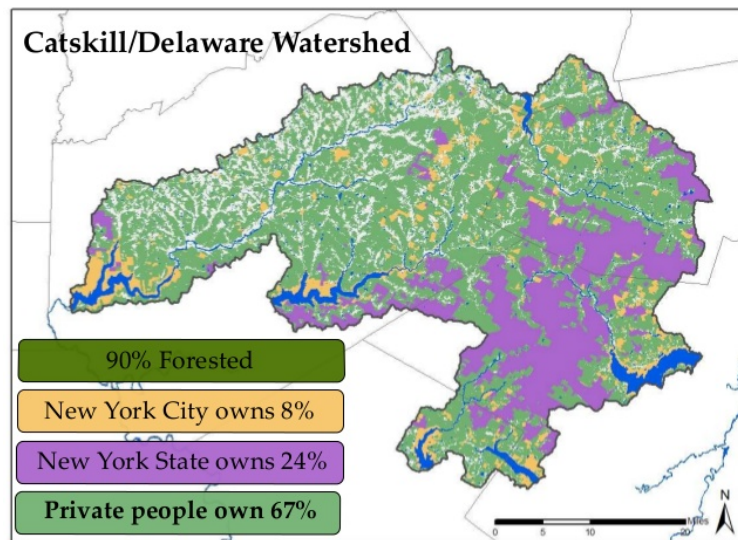


Figure 1: Catskill/Delaware Watershed Ownership

Despite his initial support of the Land Acquisition Program, Rosa recognizes this strategy of massive land acquisition to protect water quality is no longer necessary.<sup>35</sup> In spite of his overestimate of the amounts of city- and state-owned land, Rosa is not alone in his belief that New York City and Catskill/Delaware officials must be proactive in creating new strategies aimed at watershed protection, as formerly used strategies are no longer sensible.

Conservation easements have often been championed as an alternative to city and state land acquisition. Easements are optional legal agreements entered into by the landowner that shield property from future development and specific

<sup>34</sup> Tom Pavlesich, "Conserving Forests in the New York City Watershed," *slideshare.net* (2014): N.P.

<sup>35</sup> Alan Rosa. Interview by Colby Richardson. December 19, 2017.

potential uses.<sup>36</sup> Federal support of conservation easements first began in 1976, when the Tax Reform Act gave tax benefits to people who donated easements to land trusts. Several federal laws followed the Tax Reform Act and supported easement donations through tax benefits including the Tax Reduction and Simplification Act of 1977 and the Tax Treatment Extension Act of 1980. State support of conservation easements rose to prominence during the early 1980s, following the National Conference of Commissioners on Uniform State Law's creation of the Uniform Conservation Easement Act. States used this law as a model to generate conservation easement laws.<sup>37</sup> From 1990 until 2000, conservation easements were used to protect over two million acres of land nationwide.<sup>38</sup> Unlike land purchased by state and city authorities, conservation easements can be bought and sold in the real estate marketplace and make an economic contribution to the watershed region. Craig Cashman of the Watershed Agricultural Council favors the use of conservation easements by his organization compared to New York City land purchases: "We have about 20,000 acres of agricultural land [under easement]. And the difference between in-fee versus conservation easements is that the land is still in private ownership and can be transferable and is actually conserved for specific reasons, for agriculture, for water quality, for forestry, for working landscapes."<sup>39</sup> Land obtained by New York City often has limited access for low impact activities

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<sup>36</sup> Susan Louise Monahan, "The Critical Analysis of Land Trusts and Their Use of Conservation Easements as an Effective Tool for Open Space Preservation," *repository.upenn.edu* (1995): 3.

<sup>37</sup> The Nature Conservancy, "Conservation Easements," *nature.org* (2018): N.P.

<sup>38</sup> Duncan M. Greene, "Dynamic Conservation Easements: Facing the Problem of Perpetuity in Land Conservation," *digitalcommons.law.seattleu.edu*, (2005): 888.

<sup>39</sup> Craig Cashman. Interview by Colby Richardson. December 11, 2017.



such as hiking or is not accessible to the public. On the other hand, land in conservation easements can be used according to the easement restrictions.

Depending on the type of restrictions, conservation easements do not prevent landowners from participating in agricultural or forestry activities. The intent of easements varies, as easements are a product of individual property ownership decisions. Conservation easements in the watershed region usually aim to preserve “working landscapes” such as agricultural land, conserve natural areas with unique qualities or great ecological importance, or conserve whole ecosystems or habitats.<sup>40</sup> As Craig Cashman discussed, agricultural production or other economic activities allowed under easements, such as forestry, can make a positive economic contribution towards the landowner’s income: “I think there’s ways to look at this in terms of land acquisition versus conservation easements and in fee. I support conservation easements because I see that it can be an economic benefit long-term for the region.”<sup>41</sup> Further, landowners that agree to place their land under easement are compensated by land conservation organizations and federal and state tax benefits. Money from both land products and easement establishment stays in the area’s economy and also restricts development. Cashman explained, “In other words, it can’t be subdivided but it can always be used for farming. So from our perspective, we see that as a benefit to the region and to us it’s a benefit in keeping that rural character and perpetuating farming.”<sup>42</sup> Permanently removing land from economic activity via city or state ownership can potentially reduce future

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<sup>40</sup> Greene, “Dynamic Conservation Easements...” 889.

<sup>41</sup> Craig Cashman. Interview by Colby Richardson. December 11, 2017.

<sup>42</sup> Ibid.

employment opportunities and the watershed's population. On the other hand, the use of conservation easements can prevent development and also allow for economic activity such as agriculture.

Alternatives to New York City land acquisition—such as the use of conservation easements—have received criticism. Glenn Nealis, the director of Economic Development for Delaware County, believes that the use of conservation easements is not sensible, as they place limitations on future industry innovation.

Nealis expounded on this point:

When you put an agricultural easement on the property, you're talking about what you know of agriculture today. And in my mind, it is just mind numbing arrogance to think you can put an easement on a piece of property that is forever. For as long as our society exists, you're saying you know what agriculture is, will be, and will be 300 years from now... I just think that's the ultimate arrogance. And you see it now as we've changed from dairy farming to other aspects of farming. Whether it be vegetable growing or something like that, which in some ways is even less impactful upon water quality than dairy farming was, you say you preserve this land for agriculture forever. But a vegetable grower can't put up a greenhouse because that's development on an agricultural land.<sup>43</sup>

Easements' predictions of future land use may prevent development in the watershed region that has little impact on water quality. For example, the concept of aquaculture is very new and the facilities that are needed to house this agricultural practice are not considered by current agricultural easements as explained by Nealis: "[In the future, agricultural practices] could be all aquaculture where there's not a single plant touching dirt anywhere. It's still agriculture, but it's prohibited by the easement."<sup>44</sup> Although conservation easements are individually

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<sup>43</sup> Glenn Nealis. Interview by Colby Richardson. January 11, 2018.

<sup>44</sup> Ibid.

adapted to protect different qualities on different properties, often development is disallowed. According to Nealis, prevention of development outlined in conservation easements obstructs agricultural practices in indoor facilities.<sup>45</sup> Despite contrasting views regarding the value of conservation easements and whether they will help support the area's future economy, there is agreement that New York City needs to redirect funds from the Land Acquisition Program to other water quality protection strategies.

Residents and officials of the Catskill/Delaware region are not opposed to New York City's goal of providing clean water to the area's residents. In fact, residents who live in the New York City watershed depend on the same water that New York City residents drink. Glenn Nealis pointed out:

We want clean water at least as much as they do. I mean, our communities drink this water before it gets to the city. We don't want polluted water. And people live in this area not because of the great income levels that are here. We are one of the poorest counties in the state. People live here because they like the rural landscape. We're not looking to destroy it...<sup>46</sup>

Despite strained relations due to the past use of eminent domain, there is common ground between upstate officials and New York City Department of Environmental Protection officials. According to Patrick Palmer of the New York Department of Health, state officials have taken an interest in respecting the vibrant watershed community and ensuring that regulations do not severely limit the area. Palmer explained, "We don't want to ever lose the sight of the fact that these are living communities and we don't want the burdens of watershed protection to negatively

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<sup>45</sup> Glenn Nealis. Interview by Colby Richardson. January 11, 2018

<sup>46</sup> Ibid.

affect them.”<sup>47</sup> Upstate officials support the new, more targeted direction of the Land Acquisition Program and are invested in improving the policies and programs implemented by New York City. There is a genuine interest in working cooperatively with New York City officials and offering both ecological and economical insight about the watershed region that can help create better water quality protection and relations between city and upstate officials.

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<sup>47</sup> Patrick Palmer. Interview by Colby Richardson. February 22, 2018.

### **Chapter 3: Economic Support and Improving Relations**

Similar to the Catskill/Delaware region, small town economies across the United States are declining as employment opportunities are reduced. There is widespread acknowledgement among Catskill/Delaware officials that the watershed region has greatly benefited from New York City's economic support via watershed programs. By 2015, according to a New York City Department of Environmental Protection report, the city invested \$1.7 billion in watershed programs.<sup>1</sup> A further breakdown of DEP spending and the direct impact this monetary contribution made in the watershed economy were not found. Despite this economic contribution, the working relationship between upstate and New York City officials could be improved to better protect water quality and also strengthen the region's economy.

The implementation of New York City programs has an immense impact on the watershed region's economy in part via employment opportunities. The DEP currently employs about 6,000 people in the Catskill/Delaware region for program implementation, regulation enforcement, and reservoir monitoring.<sup>2</sup> Alan Rosa, a Catskill Watershed Corporation employee, willingly acknowledged that New York City programs have made a major impact through infrastructure investments: "Millions of dollars have been pumped into this economy here that helps sustain us."<sup>3</sup> As previously discussed, the CWC is tasked with operating the New York City-funded septic program, which refurbishes or replaces septic tanks for individual

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<sup>1</sup> Wisnieski, "City's Watershed Protection..." N.P.

<sup>2</sup> New York City Department of Environmental Protection, "Department of Environmental Protection Announces Graduation of 19 New Policy Officers," *newyorkcity.gov* (2017): N.P.

<sup>3</sup> Alan Rosa. Interview by Colby Richardson. December 19, 2017.

property owners. The CWC also organizes and implements the community wastewater program for the region. As Rosa explained, disadvantaged rural areas outside of the watershed do not receive New York City funding, “and [they’re] probably a little more fortunate inside the watershed [than] rural New York outside of the watershed.”<sup>4</sup> Thomas Snow, the New York City Watershed program coordinator for the New York State Department of Environmental Conservation identifies the septic program as a specific example of the beneficial impacts of New York City programs in the watershed region. Snow said,

If you look at the number of communities... all of their wastewater treatment plants have been upgraded, they have brand new wastewater treatment plants in 22 of these communities across the watershed. [They are] either brand new or they have been upgraded significantly. Therefore, their abilities or capacity to grow has now been allowed as a result of doing those upgrades. If the city of New York were not there, chances are those wastewater treatment plants would not be upgraded. So, they would be somewhat limited in their capacity to grow as communities. They wouldn’t have excess capacity to allow development in and around their hamlet areas.<sup>5</sup>

The septic program, like many programs funded by New York City, serves a dual purpose by protecting water quality and making a positive economic contribution to the watershed region. Snow outlined: “The septic program is viewed as a water quality remedial program, but...from an economics perspective it’s a great program to be able to provide to the folks in the watershed that may not otherwise have the means or capacity to replace their septic systems...”<sup>6</sup> Alan Rosa is aware the programs operated by his organization—the Catskill Watershed Corporation—make a significant economic impact: “So when you talk about the New York City

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<sup>4</sup> Alan Rosa. Interview by Colby Richardson. December 19, 2017.

<sup>5</sup> Thomas Snow. Interview by Colby Richardson. February 13, 2018.

<sup>6</sup> Ibid.

programs as far as the programs that CWC runs, [they are] very important and [they are] an economic driver to the region.”<sup>7</sup> New York City’s programs will continue to serve as a reliable and permanent economic fixture, as New York City cannot move its reservoirs or turn to another water source without great economic investment. A move by the DEP to bring greater economic assistance to the Catskill/Delaware area through further program implementation would be very beneficial for their image and relations with the watershed region.

Manufacturing jobs have gone overseas, locally owned stores have been unable to compete with nationwide and global chains, and the agricultural sector has become smaller with greater mechanization.<sup>8</sup> In Delaware County, 17.5% of the watershed’s residents are classified as living in poverty.<sup>9</sup> America’s rural agricultural regions are now becoming the “new inner city” as there has been a decline in employment opportunities.<sup>10</sup> According to statistics collected in 2016 by the United States Department of Agriculture, for the past six years there has been a decline in the rural population around the United States. This decline is due to lower birthrates, deaths in the older portion of the population, and migration from rural to urban areas in search of greater economic opportunity. Often, migration is linked to two factors: fewer farming opportunities and increasing poverty levels, both of which characterize upstate New York. The increase in poverty levels is often related to the reduction of jobs in energy and extraction industries such as

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<sup>7</sup> Alan Rosa. Interview by Colby Richardson. December 19, 2017.

<sup>8</sup> Steven Conn, “Is Rural America The New Inner City?,” *huffingtonpost.com* (2017): N.P.

<sup>9</sup> “Quick Facts, Delaware County,” *census.gov* (2016): N.P.

<sup>10</sup> Conn, “Is Rural America...” N.P.

forestry.<sup>11</sup> The median household income of Delaware County is \$45,055, nearly \$15,000 below the national median household income.<sup>12</sup> Alan Rosa of the CWC recognizes this trend of rural decline:

Most of these rural towns are probably really similar to a lot of regional rural areas in the United States. After the global economy has taken over, the small manufacturing facilities have all disappeared, the small mom and pops stores have disappeared. Everything has gone to the bigger cities... where it supports a Wal-Mart or a Home Depot. We are in the same boat as everyone else.<sup>13</sup>

The decline and depopulation of small towns is not unique to the watershed. New York City and its large number of regulations and land holdings are not solely responsible for the economic state of the Catskill/Delaware region. Despite this nationwide trend, Patrick Palmer from the Department of Health Bureau of Water Supply Protection recognizes that there are development limitations due to city regulations: "Doing large projects in the watershed is more difficult because it is the city's watershed, so there are those competing interests and it's not just the city's interests, the environmental side of it also plays a role in terms of not wanting to spoil the natural beauty of the Catskills..."<sup>14</sup> Development limitations certainly influence the economic success of the watershed region.

The deterioration of small towns across the nation makes it difficult to identify all the contributing factors that have led to decline in the Catskill/Delaware region. Craig Cashman of the Watershed Agricultural Council believes the downswing of the agricultural sector is a significant factor in the loss of economic

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<sup>11</sup> John Cromartie, "Rural Areas Show Overall Population Decline and Shifting Regional Patterns of Population Change," *ers.usda.gov* (2017): N.P.

<sup>12</sup> "Quick Facts, Delaware County," *census.gov* (2016): N.P.

<sup>13</sup> Alan Rosa. Interview by Colby Richardson. December 19, 2017.

<sup>14</sup> Patrick Palmer. Interview by Colby Richardson. February 22, 2018.



opportunity: “This is a rural region of New York State that has some of the same rural challenges that other parts of the state have, and the main industry that we focus on and see is agriculture.”<sup>15</sup> Dean Frazier of Delaware County Watershed Affairs acknowledges that the nationwide decline of rural areas makes it difficult to assign responsibility for the economic decline in the watershed region. However, Frazier recognizes that loss of agricultural land likely exacerbates these general trends: “We are subject to some of the same trends in rural areas such as the decline of upstate New York. New York City took some of the best farmlands in the county for their reservoir... There is not enough data to quantify whether the regulations of the LAP were harmful. We only have anecdotal evidence...”<sup>16</sup> Certainly, agricultural production was reduced following the involuntary New York City land acquisition. However, it is unlikely that the Land Acquisition Program and New York City regulations are the sole cause of job loss in the area.

There is a growing nationwide movement of young, educated people moving to urban areas where there are greater employment opportunities. This trend is reflected in the rising age of the average farmer in the Catskill/Delaware region. According to Craig Cashman, “The average age of a farmer... is about 58, and if you were to look at the number of farms which have gone out of business, the New York City watershed is really no different than the rest of the State of New York. I can’t statistically and empirically say that New York City’s water supply system has adversely effected agriculture because the statistics don’t bear out that.”<sup>17</sup>

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<sup>15</sup> Craig Cashman. Interview by Colby Richardson. December 11, 2017.

<sup>16</sup> Dean Frazier. Interview by Colby Richardson. November 27, 2017.

<sup>17</sup> Craig Cashman. Interview by Colby Richardson. December 11, 2017.

According to census data from 2007 to 2012, the average number of farms decreased alongside a reduction in agricultural land in Delaware County. Over the same time period, there was also a decrease in the monetary value of agricultural products brought to market by nearly eight million dollars.<sup>18</sup> Similar trends of agricultural decline are seen in New York State, where there has been a decline in the number of farms and farmers. Further, the average age of a New York farmer is 55, only three years younger than Delaware County.<sup>19</sup>

Fewer economic opportunities and the migration of young people from the watershed region are also reflected in the area's declining school-aged population. Glenn Nealis, the Director of Economic Development for Delaware County and a longtime school board member, has witnessed this trend firsthand:

To a very real extent, for the next 20 years we're fighting for survival because our local school districts, they've lost 30% of their population. I've been on the school board for 12 years now. We've lost 30% of our enrollment over those 12 years. And there is not the wealth of job opportunities in this area that is going to reverse that trend... [If] we lose another 30%, who's going to be here to maintain the roads? Who's going to? Who's going to work in the hospital? Who is going to be a teacher? I mean there's going to be nobody left or not enough at a certain point to continue to be a vibrant community. If [New York City] can just understand that's where we're coming from... We just want to survive. Not that we, for some reason want to pollute the water. That'd be great. That would be awesome.<sup>20</sup>

Fewer young people are choosing to live in watershed communities due to a lack of economic opportunity. Without employment, it will be extremely

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<sup>18</sup> "2012 Census of Agriculture County Profile: Delaware County New York," *agcensus.usda.gov*. (2012): N.P.

<sup>19</sup> Thomas P. DiNapoli, "The Importance of Agriculture to the New York State Economy," *osc.state.ny.gov* (2015): 2.

<sup>20</sup> Glenn Nealis. Interview by Colby Richardson. January 11, 2018.

difficult for this region to remain a permanent community of year-round residents.

Although regulations are not the sole cause of economic decline, they do impinge upon development opportunities in the watershed area. New York City regulations have acted as a roadblock towards the establishment of new business. According to Alan Rosa of the Catskill Watershed Corporation, “[Regulations] keep businesses away. For instance, there was a resort that was planned, been in the making for 19 years. It still hasn’t received all its approvals. I can’t blame that all entirely on DEP. But other factors, [such as] environmentalists fighting against any type of development, have certainly hurt us.”<sup>21</sup> According to Rosa, environmental organizations and their advocacy for open space in the Catskill/Delaware region alongside New York City regulations and the Land Acquisition Program deter businesses from centering their operations in the watershed region.

As a result of a declining economy, upstate officials have refocused their efforts to identify and support economic sectors with potential for growth. For example, Alan Rosa of the Catskill Watershed Corporation has identified the watershed as a tourism destination, much like the Adirondacks. “We have something that especially the young people like... Except the younger generation who really wants that type of [outdoor] activity, they work five days a week, so basically you become a weekend destination in a tourism driven economy. A tourism driven economy is not enough to support a restaurant or a small mom and

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<sup>21</sup> Alan Rosa. Interview by Colby Richardson. December 19, 2017.

pop store. You need business year around.”<sup>22</sup> As tourism has become a larger economic sector, New York City has begun to open their lands to low-impact activities. According to Rosa, “You see a difference; you definitely see a difference because a lot of people are using those city lands now.”<sup>23</sup> The preservation through state and city landholdings and conservation easements has played a key role in the development of tourism. Support of outdoor activities by both the state and New York City can allow for more recreation and grow the tourism industry. For example, according to Thomas Snow of the New York State DEC, “The lands that New York City owns... some of those properties may lend themselves to mountain biking. If there are opportunities in areas where mountain biking can be expanded, that is something that from DEC’s perspective is encouraged... It is just a matter of trying to figure out a way that we can balance water quality protection and, in this case, economic tourism.”<sup>24</sup> Despite growing tourism support from the city and state, the sole reliance on seasonal tourism is not economically sustainable, as it likely cannot serve as the centerpiece of the watershed’s economy. Rosa believes the Catskill/Watershed region serves as a weekend getaway, making tourism an unreliable stream of economic income.<sup>25</sup> Officials and residents in the Adirondack State Park likely experience the same issue of economic sustainability due to a reliance on tourism. Other economic sectors must either be identified or revitalized in order to spark an economic resurgence in watershed communities.

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<sup>22</sup> Alan Rosa. Interview by Colby Richardson. December 19, 2017.

<sup>23</sup> Ibid.

<sup>24</sup> Thomas Snow. Interview by Colby Richardson. February 13, 2018.

<sup>25</sup> Alan Rosa. Interview by Colby Richardson. December 19, 2017.

Despite the decline of agriculture in the watershed region, it is still the largest economic sector of the watershed economy, according to Craig Cashman of the Watershed Agricultural Council. As Cashman explained, the regional proximity to New York City presents a great opportunity to sell agricultural and forestry products from the watershed region in a densely populated area: “The leading industry in this region is still agriculture, still a large degree forestry too... Working landscapes in a rural environment are still so critical... always perpetuating agriculture, perpetuating forestry, working with the city to develop programs that help to enhance both those industries...”<sup>26</sup> Annually, New York forestry products contribute nearly \$10 billion to the state’s economy and the industry employs 43,912 people. These figures do not include forest recreation, which contributes an additional \$8 billion to the economy.<sup>27</sup> The city of New York could actively market agricultural and forest products from the Catskill/Delaware region. Moreover, the reputation of cleanliness and quality characteristic of the Catskill/Delaware region’s water could also be used to market agricultural and forestry products. To support the economic viability of the watershed region, a collaborative relationship between New York City and the utilization of its large consumer base could be very beneficial for Catskill/Delaware residents. As Cashman pointed out, “That’s such a huge market, nine million people, and the story of being able to say that some of the cleanest water in the United States and products comes from the Catskills is a great

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<sup>26</sup> Craig Cashman. Interview by Colby Richardson. December 11, 2017.

<sup>27</sup> New York State Department of Environmental Protection, “The Economic Importance of New York’s Forest Based Economy 2013,” *dec.ny.gov* (2013): 3.

marketing tool. Having city officials promoting that and promoting not only water, clean water, but clean products that come from this region... is a key.”<sup>28</sup>

Despite the optimism of utilizing such a large market, product transportation and the creation of a stable market is difficult. Cashman stated, “It’s hard to get products to market from a region that’s over 100-150 miles away. I think working on solutions around that with the city would be very helpful in the future.”<sup>29</sup>

Together, clean products and clean water can coexist and act as a selling point for the region’s agricultural and forestry production. New York City’s support of watershed products through social media and advertising may, in turn, garner greater support from watershed residents for the further protection of reservoirs and water quality. The opposition to the New York City Land Acquisition Program and regulations grows out of limited economic opportunity, but if economic activity were ample and growing, complaints against the LAP and regulations would be reduced, as public opinion and economic sustainability are interdependent.

Despite New York City’s current and future economic contribution to the watershed region, the sum of this contribution is likely unable to compensate for the burden of the Land Acquisition Program and watershed regulations aimed at limiting development. As part of the 1997 Memorandum of Agreement, New York City established a \$59.6 million dollar fund known as the Catskill Fund for the Future. This fund—operated by the Catskill Watershed Corporation—distributes grants and micro loans to environmentally friendly businesses and funds watershed

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<sup>28</sup> Craig Cashman. Interview by Colby Richardson. December 11, 2017.

<sup>29</sup> Ibid.

tourism advertisement.<sup>30</sup> Glenn Nealis, the director of economic development for Delaware County believes New York City's contribution to the Catskill Fund for the Future does not justify city regulations:

We essentially settled for \$60,000,000, which I'm sure seemed like a huge amount of money. I think that we maybe didn't understand the full... costs of the watershed to the local business community... We settled too cheaply. If there's one thing I would like to see change... maybe that there could be recognition that maybe they could [give] a little bit more economic funding on a regular basis to help the businesses along.<sup>31</sup>

This fund is reimbursed as businesses repay their micro loans and grants. Thomas Snow of the DEC believes the fund has had a positive economic impact on the Catskill/Delaware region: "As part of the MOA, there was money that was provided to the Catskill Watershed Corporation for the Catskill Fund for the Future. It was \$59.6 million that was provided. To CWC's credit, they used that as low interest loans to help stimulate and support businesses and economic development within the watershed."<sup>32</sup> Of course, it is difficult to assess the development limitations caused by the LAP and New York City regulations. Rick Weidenbach of the Watershed Agricultural Program believes there is need for greater economic support for the watershed region: "There needs to be more done in the economic development field to compensate Delaware County for some loss of opportunity... There's definitely been an economic advantage in these programs, but we can succeed a lot more. And as you know, if we're successful economically, water quality

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<sup>30</sup> Catskill Watershed Corporation, "Economic Development Programs Supported by the Catskill Fund for the Future: Overview," *cwconline.org* (2018): N.P.

<sup>31</sup> Glenn Nealis. Interview by Colby Richardson. January 11, 2018.

<sup>32</sup> Thomas Snow. Interview by Colby Richardson. February 13, 2018.

becomes much easier to deal with than in an area that has a poor economy..."<sup>33</sup> The creation of economic stability is key in the protection of water quality. It is difficult to impose regulations upon an area that is struggling economically, which makes New York City's regulations and land acquisition an easy target for blame. In a successful economy, hatred and rebellion towards regulations would be minimized and watershed residents would have a better relationship with New York City management.

Other Catskill/Delaware officials agree it is not easy to determine the amount of economic compensation they should receive for New York City land ownership and regulations. An anonymous upstate official who previously served as a watershed town supervisor for several years believes it is hard to quantify the impact: "As to whether there's a dollars-and-cents [amount] that can really compensate for all the [DEP] rules and regulations that have been placed upon us, I'm not sure. It's hard to judge because, for an example, due to many of the regulations, industry does not come. They cannot afford to be here. So without that industry, how much have we lost? We don't know."<sup>34</sup> Rick Weidenback of the Watershed Agricultural Program recognizes some of the economic benefits of current New York City programs that he helps to administer, such as worker employment:

They're paying to have everybody's septic system replacement brought up to snuff... At hundred percent cost they're paying for a hundred percent of farms for these BMPs [Best Management Practice(s)] to reduce runoff. Those are all great economic generators... There are 60 people in our building right now that are either directly or indirectly funded by

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<sup>33</sup> Rick Weidenbach. Interview by Colby Richardson. January 9, 2018.

<sup>34</sup> Anonymous Upstate Official. Interview by Colby Richardson. January 25, 2018.



New York City. They're buying gas and buying groceries. And so all in all there's been a positive economic impact.<sup>35</sup>

Not only does New York City directly employ people in the area, but also, these employees make investments in communities that further the economic impact of New York City's funding.

Through program development and implementation, current relations between upstate officials and New York City have vastly improved. The anonymous upstate official that worked as a watershed town supervisor had a rocky relationship with a previous commissioner of the New York City Department of Environmental Protection. The official recalled,

I can remember my first meeting with the commissioner of the [Department of Environmental Protection]... it was very, very contentious, to the point where he stepped up to me and pounded my chest with his finger, with a clenched fist, to remind me that... it *was* your land, your water. Now, he said, 'it's still your land, but it's our water.' He kept pounding my chest, I should have socked him one but I didn't. We don't have any of that anymore. We just sit down and talk like human beings.<sup>36</sup>

Relationships between the DEP and watershed officials have mellowed over the years. Now, a largely cooperative and supportive relationship exists. The anonymous upstate official stated,

I do remember in my term as supervisor... we experienced a very devastating flood. The assistant commissioner [of the New York City DEP] called me the next day on the phone. I didn't call him, he called me and offered any assistance that New York City could give us in the rebuilding and coming back from this flood. This would have never happened 30 years ago, 40 years ago.<sup>37</sup>

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<sup>35</sup> Rick Weidenbach. Interview by Colby Richardson. January 9, 2018.

<sup>36</sup> Anonymous Upstate Official. Interview by Colby Richardson. January 25, 2018.

<sup>37</sup> Ibid.

A cooperative working relationship is beneficial for both sides. New York City's programs and low-interest loans for development have increased cooperation with the watershed region. Delaware County has formed a well-connected series of organizations that work together to protect water quality. Weidenbach said, "I've never seen such a close working relationship and integration of services and integration of programs that there is in Delaware County as a result of the Department of Watershed Affairs and the core-group. [Dean Frazier] just brought this county to a really good place... working with DEP, working for the people of Delaware County, protecting the water supplies."<sup>38</sup> The continuation of cooperation is key for water quality protection and economic improvement. If this relationship is successful, the watershed economy and the protection of water quality can both benefit.

According to Dean Frazier of Delaware County Watershed Affairs, the turning point in DEP and upstate officials' relationship occurred following the review of the Land Acquisition Program in 2009 and the release of an impact statement by the DEP, DEC, and EPA. Upstate watershed officials disagreed with the DEP, DEC, and EPA assessment that there was no negative impact on the watershed region due to New York City land acquisition. Ultimately, the negotiations that occurred due to this difference in opinion led to a more open and increasingly cooperative dialogue. Dean Frazier said, "The reason [relations] improved is because the environmental impact statement said there was no negative impact on the watershed region as result of the Land Acquisition Program. We said it was not adequate and there was

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<sup>38</sup> Rick Weidenbach. Interview by Colby Richardson. January 9, 2018.

a negative impact, and we threatened to sue. The city didn't want to litigate so we started to negotiate the water supply permit."<sup>39</sup> The threat of a time consuming and expensive lawsuit helped to encourage face-to-face negotiations with Catskill/Delaware officials and the formation of a more trusting relationship. "During water supply permit negotiations, what started was the back-and-forth that led to more trust between watershed representatives and the city," said Frazier.<sup>40</sup> Frazier's account demonstrates that out of conflict and the threat of legal suit came better communication.

Despite a vast improvement in their relationship with New York City, watershed officials still have suggestions for how to improve their economy, better protect water quality, and improve upstate and city relations. Alan Rosa of the Catskill Watershed Corporation believes that the Department of Environmental Protection should employ better-educated locals in the Catskill/Delaware region:

The Catskill Watershed Corporation and DEP need to be in one building... I don't believe that regulators should be regulating from New York City... I believe they should be part of the community or have to live in the community. I think that makes things a lot more successful, a lot more personal, and understanding one another and how we can compromise on issues [is important].<sup>41</sup>

Face-to-face conversations instead of long-distance communication via telephone or email will improve relations between DEP and upstate officials and will make the enforcement of regulations and the creation of new or alternative regulations easier. Further, state officials recognize that New York City Department of Environmental Protection employment has a significant economic impact in the watershed region.

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<sup>39</sup> Dean Frazier. Interview by Colby Richardson. November 27, 2017.

<sup>40</sup> Ibid.

<sup>41</sup> Alan Rosa. Interview by Colby Richardson. December 19, 2017.

As told by Thomas Snow of the DEC, “A lot of people who work in the watershed are city employees... From that perspective, if the city of New York [were] not there those folks would probably not be there... That has a direct economic benefit.” An expansion of New York City employment would serve the economy of the watershed community well alongside better and more personal relations.

To make this face-to-face daily coordination a reality, Alan Rosa has collaborated with the DEP to build an office in the Catskill/Delaware region: “I am in the process... I have the building designed. I have a commitment in the FAD that DEP will move some of their key positions into the watershed, into the center of the watershed... to occupy an office with us.”<sup>42</sup> According to Rosa, both the current New York City DEP commissioner and the deputy commissioner support this initiative. The commissioners share the belief that with locals in charge of regulation enforcement and program application, protection of water quality will be done more effectively. Rosa said, “They like the idea, and they also claim they will get better water quality coverage if locals do it. The locals know the area.”<sup>43</sup> Craig Cashman of the Watershed Agricultural Council agrees that face-to-face relations result in better communication between the two sets of officials: “Working through those issues with top officials so that the integrity of the conversation remains constant and not filtered down to legal staff or midlevel staff [is important]. I think a combination of Dave Warren and Paul Rush from the New York City DEP do a really good job of that and try to make sure that happens.”<sup>44</sup> By having in-person relations with high-level

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<sup>42</sup> Alan Rosa. Interview by Colby Richardson. December 19, 2017.

<sup>43</sup> Ibid.

<sup>44</sup> Craig Cashman. Interview by Colby Richardson. December 11, 2017.

staff, miscommunications will be reduced. Further, continuity between DEP, DEC, and upstate officials has helped create better and more understanding relations. Thomas Snow of the DEC said, "I've been working with the same folks for 20 years... We have well-established relationships, which I think is really important and fundamental."<sup>45</sup> More long-term relations between upstate, DEP, and DEC officials can help improve cooperation. The aforementioned anonymous upstate official that was a town supervisor in the watershed region believes DEP officials in the watershed community are much easier to work with than officials based outside of the region: "I will have to say that in my experience... [compared to] the people that are on the ground that have worked with us face-to-face, there is a complete difference than the downstate, the people that sit in the offices, in the city, that have little or no face to face contact with us. There is a complete difference."<sup>46</sup> Locals have well-established, personal relations with watershed community members. On the other hand, as told by Alan Rosa, regulation from outside of the watershed results in anger: "When you're dealing with people who come from Westchester or come from some other place in the state... [that] try to regulate you from Kingston... or from New York City and have very little knowledge or limited knowledge of the Catskills, it doesn't really sit well with people who live here. But you [would] have a lot more respect if you knew the family of the DEP inspector that may show up at your house."<sup>47</sup> With the greater DEP employment of watershed residents, New York City will likely have better regulation enforcement, the ability to create alternative

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<sup>45</sup> Thomas Snow. Interview by Colby Richardson. February 13, 2018.

<sup>46</sup> Anonymous Upstate Official. Interview by Colby Richardson. January 25, 2018.

<sup>47</sup> Alan Rosa. Interview by Colby Richardson. December 19, 2017.

regulation methods, and better relations with the watershed community. In return, watershed residents will have reliable and well-paying environmental-related employment opportunities.

DEP relations with locals have the potential to improve if more watershed residents were employed by the agency. Alan Rosa said, “The DEP jobs—they are good jobs and I would like to see our local kids have a shot at those jobs... We are trying to develop an educational program to actually get into the schools and to try and encourage kids to go into this field so they can live here. Because many of kids want to live here but they can’t because there is nothing for them to do.”<sup>48</sup> In the past, the Catskill Watershed Corporation attracted talent from outside of the watershed region for employment. According to Rosa, despite the hard work of these individuals, employees unfamiliar with the area were not as effective as well-trained locals: “I went through a hiring process where we advertised nationwide for this expert or that expert. We got them in, they did some good work, but they didn’t really know the people... Our success really came when I started hiring local people and training them to do what we wanted to help with these programs...”<sup>49</sup>

Additional employment opportunities will likely stabilize the region’s decline in population and help to replenish the economy alongside better water quality protection.

In order to have their perspective on water quality issues represented, it is important that the watershed area continue to strongly lobby for its point of view. Glenn Nealis, the director of Economic Development for Delaware County believes

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<sup>48</sup> Alan Rosa. Interview by Colby Richardson. December 19, 2017.

<sup>49</sup> Ibid.

this advocacy is imperative for a better relationship: “I think there's just a continuing responsibility on the county to further educate officials as to why sometimes we have concerns, issues, disagreements, to continue to put forth our side.”<sup>50</sup> Further, if the city of New York could be more empathetic and attentive to the needs of the watershed region, negotiations and collaborative relationships would improve. “If the city could do a little bit better job of putting themselves in our shoes, for a little bit, if there could be a little bit more understanding on the city's part, that would help them listen and understand from our point of view,” according to Nealis.<sup>51</sup> The ability to compromise and understand community needs is beneficial for both watershed protection and community relations. Fortunately, Delaware County has learned to support their perspectives and suggestions for water quality management strategies with scientific information. Nealis said,

I think right from the beginning, Delaware County tried to make a concerted effort that... anything they brought up had to be scientifically based, scientifically proven... I think that the county was very disciplined in taking that approach and stuck to it even though sometimes maybe they just wanted to rant, rave and pound on the drum. And I'm not saying that didn't ever happen, but [they] for the most part stuck to science-based stuff, factual information. I think that helped.<sup>52</sup>

The persistence of Delaware County and its advocacy based on science has helped gain New York City's trust. Nealis believes New York City has learned to take into consideration the information and suggestions offered by watershed officials: “I think over time the city learned to listen. They learned that... in some areas [watershed officials] really do know what they're talking about and... some of these

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<sup>50</sup> Glenn Nealis. Interview by Colby Richardson. January 11, 2018.

<sup>51</sup> Ibid.

<sup>52</sup> Ibid.

issues... I'm not going to say they would say, we're right, but [they] would at least say there's merit to this."<sup>53</sup> Thanks to this constant advocacy backed by scientific research, watershed officials have gained the trust of New York City.

Upstate watershed officials are not solely advocates for the region's economy or the wants and needs of its residents. They are also advocates for the protection of clean water and share this interest with city officials. Local officials have knowledge about the area that city officials lack. A greater reliance on watershed officials would serve New York City well, as there would be more respect for their regulations in communities and better watershed protection. As Rick Weidenbach of the Watershed Agricultural Program noted, "I believe between the programs that have been developed through the coalition of watershed towns, the non-agriculture program that has been enacted that has primarily been implemented through the Catskill Watershed Corporation, working at sewage treatment plants, individual septic systems being replaced and hundred percent paid for, all the programs that were developed have really mellowed that relationship."<sup>54</sup> Clearly, trust and reliance on the upstate community and its knowledge of the watershed is critical in continuing to develop a more functional relationship that will help to protect water quality.

Although the importance of face-to-face relations and strong advocacy for perspectives is crucial, it must also be recognized that, sometimes, economic interests and water quality do not always align. There often needs to be compromises made to ensure that both of these interests are well represented.

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<sup>53</sup> Glenn Nealis. Interview by Colby Richardson. January 11, 2018.

<sup>54</sup> Rick Weidenbach. Interview by Colby Richardson. January 9, 2018.



Thomas Snow of the New York State Department of Environmental Conservation understands that even with good relations, there will be times where the interests of one side suffers at the expense of another: “That is sort of a fundamental thing that we may not always agree [on], but we can agree to disagree... We continue to build on our relationship... We have to understand and realize that not every single person is going to be happy everyday all the time, it could be the city of New York, could be the upstate communities, it could be us.”<sup>55</sup> Based on this account, compromise and empathy are crucial for future negotiations.

Both New York City and watershed officials care about water quality. To form a cooperative relationship and to have more effective and better-enforced regulations, it is important that effective communication and open dialogues continue between both parties. The economy of the watershed region, like many small towns in the United States, is in decline. The promotion of agricultural and forestry products and the utilization of the New York City market, greater face-to-face communication, and support from New York City for the rising tourism industry are necessary. As the land produces products that act as a source of income and employment, the prevention of development within the watershed will become more highly supported by residents, and endorsement of New York City regulations will grow. This rests upon the notion that it is much easier for an area with a booming economy to be supportive and cooperate with New York City than a region with a struggling economy. Careful consideration of the economic

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<sup>55</sup> Thomas Snow. Interview by Colby Richardson. February 13, 2018.

contribution of New York City to the area should continue to occur and New York City should be open to suggestions from watershed officials.

#### **Chapter 4: Future Relations**

A cooperative and supportive relationship between New York City and upstate officials is essential for better water quality protection and the improvement of the watershed region's economy. There will never be absolute agreement between the New York City Department of Environmental Protection and upstate officials and residents on the direction of regulations, land acquisition, and economic support provided by New York City programs. However, continuing a healthy dialogue is essential. Watershed officials and upstate residents offer intimate knowledge of the area's environmental and sociological qualities. This knowledge will help New York City establish more sensible regulations and programs. In return for their continued cooperation, New York City offers employment opportunities and economic support for the region. Despite growing collaboration between the two parties, there are still areas where relations can be improved.

In order to increase cooperation between officials, the exploration of other case studies with similar development restrictions may be relevant and offer useful insight. The Adirondack State Park is very similar to the Catskill/Delaware region. The park has strict limits on land use in certain areas due to state regulations, massive state landholdings—similar to the Catskill Forest Preserve—and the widespread use of conservation easements. The Adirondack region has an aging and declining population that lost over 2,000 people from 2000-2010. School-aged populations are declining at double the rate of student populations outside of park boundaries. Over a ten-year period beginning in 2003, the student population in the

Adirondacks declined by 422 students annually. In 2014, the average age of the park's residents was nine years older than the United States national average. An aging population has made the sustainability of emergency services questionable, as fewer people are willing and able to volunteer. Now, aid from neighboring communities is commonplace when responding to fires and fewer volunteers has resulted in a spike of delayed emergency responses. The inability to respond in a timely manner will result in the loss of town certification for emergency services. The remaining certified emergency services will have to cover a greater geographical region.<sup>1</sup> With a declining population, similar trends such as loss of emergency services will become a reality in the New York City watershed.

Similar to the Catskill/Delaware region, in return for economic limitations imposed by state development restrictions, the Adirondack region receives a great amount of state funding through a variety of policy initiatives including but not limited to the Environmental Protection Fund, tax exemptions for privately owned forest, funding from the Clean Water Infrastructure Act, and payment of property taxes on state landholdings.<sup>2</sup> The examination of Adirondack programs may offer insight into how to improve Catskill/Delaware area programs. With funding from the Environmental Protection Fund (EPF), the New York State Department of Environmental Conservation created the Smart Growth Program for both the Adirondacks and Catskill regions. The Smart Growth program utilizes EPF funding to offer a series of grants geared towards towns and counties inside park

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<sup>1</sup> Brad Dake, Deanne Rehm, & Fred Monroe, "Adirondack Park Regional Assessment," *APRA2014* (2014): 2-28.

<sup>2</sup> John F. Sheehan, "Adirondack Park Needs State Funding In Final Budget," *adriondackcouncil.org* (2018): N.P.

boundaries. Towns and counties are awarded with grants that fund development or other projects with an environmentally conscious focus on livability and the compaction of development sprawl. Examples of projects that have received funding include the promotion of advertising installations around the state for first wilderness in Warren County, the repair of Fort Ticonderoga, and the construction of trails by the Lake George Land Conservancy. The Department of Environmental Conservation also offers assistance in the technical aspects of planning, ensuring environmental consideration when growing town blueprints.<sup>3</sup> An expansion of the Smart Growth Program would be beneficial for environmental consideration and economic purposes. Further, working collaboratively with DEP officials on a voluntary basis when planning development may ease relations marred over development limitations.

To help slow migration from rural landscapes, it is important that developing industries receive greater monetary support. In 2016, tourism supported \$65 billion of business and economic ventures in the state of New York. Of this \$65 billion, only 2% of spending occurred in the Catskill region. Excluding New York City, tourism in the Catskill region garnered 7% of state expenditures. In the watershed region, direct and total tourism—the expenditure of money on tourism ventures and other economic expenses while in the area—accounted for 15% of the area’s employment. Similar to the Catskill region, the Adirondack State Park received 8% of total upstate tourism expenditures and had 19% of its employment supported by the tourism. In 2016, the tourism industry employed nearly 18,000

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<sup>3</sup> New York State Department of Environmental Conservation, “Smart Growth in the Adirondack Park and Catskill Park,” *dec.ny.gov* (2017): N.P.

people in the Catskill region. Compared to 2015, the Catskills experienced one of the largest rises in traveler spending in the state along with central New York and the Thousand Islands. The majority of tourism spending in the Catskill region occurred in Ulster County (45%). Only 8% of the region's tourism took place in Delaware County. In total, \$1.2 billion was spent by travelers in the region in a variety of economic areas including lodging, transport, retail, second homes, recreation, and food.<sup>4</sup> In order to expand this growing industry, other areas such as the Adirondacks and national parks should be used as a model for tourism infrastructure development and advertisement of the watershed region's outdoor ventures, which currently garner about \$33,000,000 annually in revenue. Unfortunately, the DEP has a budget under \$50,000 to advertise recreational opportunities.<sup>5</sup> This program needs to be expanded. The more valued the Catskill/Delaware area is for its preserved natural beauty and traveler expenditure, the less opposition there will likely be for New York City regulations and land acquisition.

Tourism is not the only industry that would ease population loss in the Catskill/Delaware region through job creation. New York City may want to consider marketing clean products from the region's forestry and agriculture industries by expanding the Pure Catskill Campaign founded by the Catskill Watershed Corporation. This campaign's goal is to create a larger and more reliable market for agricultural produce from the watershed region. The program helps to advertise for

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<sup>4</sup> Tourism Economics: An Oxford Economics Company, "The Economic Impact of Tourism In New York," *ulstercounty.ny.gov* (2016): 3-36.

<sup>5</sup> Wisnieski, "City's Watershed Protection Plan..." N.P.

an array of businesses located in the region and also helps to market watershed products. The marketing of these businesses and products occurs largely through social media. The program is also responsible for the creation of a guide that serves to advertise participating businesses. The support of these watershed organizations is not solely for the protection and growth of the watershed region's economy, but also looks to continue the protection of water quality as the program capitalizes on its clean reputation.<sup>6</sup> The expansion of this program and its marketing in the city of New York is absolutely important for the growth of the rural economy and the protection of water quality. In order to significantly expand this program and the Catskill/Delaware product market, funding for mass-transport of fresh produce and products to New York City should be investigated.

Another economic contributor in the watershed region is direct employment by the Department of Environmental Protection. As Alan Rosa of the Catskill Watershed Corporation suggested, a feeder program that educates area students about DEP programs and employment opportunities should be established. This will make local watershed candidates better qualified for DEP jobs and also more prepared for program implementation. More qualified candidates in the watershed region will likely encourage the relocation of more New York City Department of Environmental Protection jobs. The employment of locals can heal fractured community relations created by the use of eminent domain and controversial regulations. A larger DEP presence in the watershed region will allow for greater program implementation and creation by upstate officials. Upstate officials are

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<sup>6</sup> Watershed Agricultural Council, "Pure Catskills," *newyorkcitywatershed.org* (2017): N.P.

supportive of water quality protection and have no desire to object to regulations that would compromise this goal. With greater upstate official participation and more stable employment opportunities, New York City will probably have greater cooperation from area officials and residents.

Further, the continuation of the current Land Acquisition Program and the preservation of open space must be reconsidered. Watershed towns have very limited developable land left. The New York City Department of Environmental Protection should continue its greater emphasis on the conservation and protection of wetlands and riparian areas backed by scientific research. The redirection of funds from the LAP to other existing programs that deal with water quality issues such as flood mitigation and sediment displacement should be considered. As previously discussed, in the recently released 2017 Filtration Avoidance Agreement, several towns in the watershed region expressed concern that New York City's level of acquisition was larger than originally planned. In response to these comments, the Department of Environmental Protection reviewed land acquisition in 21 towns in preparation for the renewal of the Land Acquisition Program, as the current program expires in 2022.<sup>7</sup> The reevaluation of land acquisition in these areas is ongoing. The future operation of this program must seek a more science-based approach and preservation simply for the sake of open space should end. Instead, there should be a more targeted approach for water quality protection.

The future utilization of traditional conservation easements should also be reconsidered, as they may limit future, low impact development. It is important that

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<sup>7</sup> New York Department of Health, "New York City Filtration Avoidance Determination," *nyc.gov*, (2017): 10.



the adoption of dynamic conservation easements—a novel and unutilized concept—be considered in areas that are attempting to quell environmentally harmful development while supporting the continuation of industries such as forestry or agriculture. Unlike a traditional conservation easement, dynamic easements are constructed to allow for adjustments in land use.<sup>8</sup> Although it is important to acknowledge that conservation easements vary depending on the intent of the easement and the property owner’s specified needs, traditional conservation easements in the watershed region will likely limit economic development that may have little impact on water quality or may inadvertently outlaw future environmentally friendly and less impactful extraction practices used to collect natural resources.

As the agricultural sector shifts away from the dairy industry in the northeast, it is important to avoid limitations on growing agricultural markets such as flowers and fresh vegetables. In an area that has a cold climate, infrastructure needed for growing products all year round, such as low impact greenhouses, should not be limited by easements. The year-round viability of farms that sell these products will come into question if production has to stop due to climate limitations or development restrictions. Additionally, future economic endeavors are nearly impossible to predict, making inflexible traditional conservation easements impractical. For example, the agricultural industry may see a rise in hydroponics, which requires large indoor facilities. Once rights through traditional conservation easements are established, it is nearly impossible to alter these restrictions. It is

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<sup>8</sup> Greene, “Dynamic Conservation Easements...” 885.

very difficult to protect future, low impact development under an inflexible traditional conservation easement, as future economic ventures are often unknown and cannot be accounted for.

The economic value of the land that is protected under a traditional conservation easement is dependent on the value of forestry and agricultural products in today's ever-changing market. When a traditional easement is issued, it limits economic activities that can occur on the land. If certain forestry or agricultural goods lose economic value, the ability to use the land for economic good is destroyed. In a shifting economy, there must be support for dynamic easements that adapt to future industry while still protecting against development or other economic ventures harmful to water quality.<sup>9</sup> Of course, if dynamic easements are utilized, there is greater potential when compared to traditional conservation easements for development that degrades the New York City watershed. The viability of future industry in the watershed region relies on a balance between flexible easements that adjust to unexpected industry change and protection from harmful development.

In addition to being dependent upon market values, traditional conservation easements are prone to changes in tax law, which can reduce the monetary benefits of conservation easements for property owners.<sup>10</sup> Having a conservation easement that can be altered to bring greater income to landowners through limited development is advantageous, and will encourage continued easement usage despite potential future shifts in tax laws. Additionally, the incentive provided by

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<sup>9</sup> Greene, "Dynamic Conservation Easements..." 885.

<sup>10</sup> Monahan, "The Critical Analysis of Land Trusts..." 34.

tax laws is diminished depending on the wealth of the property owner.<sup>11</sup> Dynamic easements that can adjust to future industry changes in forestry and agriculture and allow low impact development will encourage greater easement use by property owners of all economic classes.

Although at times it appears that Catskill/Delaware officials may have goals that are in direct competition with New York City, it is important to remember that both city and watershed officials want the watershed region to have a thriving economy and high-quality water. New York City has already established several programs that have a great impact from both a water quality perspective and an economic perspective, such as the septic replacement and refurbishment program. Implementation of more programs as a result of suggestions by watershed officials will serve the area well. It is absolutely critical that face-to-face conversations and constant communication between city and watershed officials be made a priority. This continued dialogue will likely result in more cooperative relations between the two parties, better water quality protection, and the resurgence of the Catskill/Delaware region's economy.

**Notes:**

Four officials were contacted from the New York City Department of Environmental Protection including Adam Bosch, the director of public affairs for the New York City Watershed, and Paul Rush, the deputy commissioner. Three DEP officials that were contacted declined to comment. One official did not respond.

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<sup>11</sup> Monahan, "The Critical Analysis of Land Trusts..." 34.

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