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Water for the city, ruins for the country : archaeology of the NYC watershed

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Abstract

New York's Catskill region contains innumerable ruins. To outsiders, they are romantic reminders that rural life is a struggle. To insiders, many are the debris of a distant government's colonial power. New York City began depopulating this region, approximately 161km to its north, when construction of the Ashokan Reservoir began in 1907. Residents were evicted and towns were submerged. Thousands left, but those who remained struggled to reorganize their lives and communities, now disconnected from past economic opportunities, environmental resources, and community histories. Archaeological survey of city-owned properties around rural reservoirs reveals a scarred landscape of ongoing conflict.

Keywords: Water, Ruination, Contemporary, New York

Few are aware that New York City exerts partial political control over regions far to its north; the most distant being over 200 kilometers away (Figure 1). The city even employs a special police force to patrol these lands and enforce land-use regulations there. This colonial presence is not hidden, but it is obscured by the creation of a watershed landscape where one did not exist before (Galusha 1999, Koeppel 2001, Pires 2004, Soll 2013, Weidner 1974). Over the last 150-years, two city institutions, the Water Department and the Department of Environmental Protection, have worked to provide safe and clean drinking water to millions of city residents. But tens of thousands of rural residents bore the brunt of this otherwise humanitarian act. Many were forced from their homes, schools, churches, farms, and other

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businesses by reservoir construction. Others were left behind on a significantly altered landscape and received little assistance with reorganizing their lives and their communities.

Dispossessed of and dislocated from their past resources, many rural residents struggled to maintain a way of life and properties were abandoned at an uneven pace, leaving, innumerable ruins throughout the city's watershed. Some are visible from public roadways, and others are only accessible to hikers and hunters who hold the proper permits. Without interpretive materials, these decontextualized ruins are part of the nostalgic gaze favored by recent arrivals and passing tourists (Stradling 2010, p. 36); the message received is that rural life was a struggle. Yet the region was quite prosperous before the city came for water. With historical context and archaeological documentation, these ruins can be seen through the interpretive framework of ruination (Stoler 2008); the message they now send is that this land was cleared by government projects whose legacy spans more than a century. New York City, also known as the Empire City, created these "imperial formations" by engineering wilderness where had not existed for approximately 100-years. Like many such formations, this was done in the name of humanitarian work (Stoler 2013 p. 193).

This research examines New York's watershed ruins as sites of alternative histories — the untold struggles of those left behind — and sites of an unfinished history, as city institutions still wield colonial power there. Archaeological survey of city-owned properties in the Catskill portions of the water supply have documented building foundations, cisterns, stone walls, agricultural fields, animal pens, pastures, and discontinued roadways. Artifact scatters are commonly found within or adjacent to these features, especially glass bottles and metal cans - the daily refuse of past inhabitants and recent visitors. But here, even the plants are features that tell the story of an altered landscape. On some abandoned properties garden plants still bloom, on others hay fields grow unattended. Everything is obscured by dense growth of a secondary forest — the city planted millions of trees to reduce soil erosion and limit runoff from

adjacent agricultural land. These watershed lands contain a wealth of archaeological data, accessible without excavation, that can provide one means of documenting generations of land use.

The framework of ruination suggests that the city's symbols of legitimacy and continuity may be casting a conscious or subconscious influence on the livelihoods of those in this zone of abandonment. These symbols (Figure 2) include the previously mentioned monumental engineering constructions but also includes a Department of Environmental Protection headquarters that occupies a complex of preserved historic homes amid a dense forest, a well equipped police force focused on environmental not cultural protection, and simple signs that seemingly mark the prior locations of submerged towns without acknowledging acts of seizure that destroyed those towns and altered the larger region. By exerting political control over distant lands and unevenly placing burdens on a rural minority for the benefit of an urban majority, New York City's Water Department and Department of Environmental Protection can be seen as colonial institutions with a 150-year long legacy of creating imperial debris.

History of the Water System

New York City was built on Manhattan Island, surrounded by salt water and criss-crossed by minor salt rivers. The only reliable source was a fresh-water pond, the Collect Pond, near the island's southern end, and the underground channels that fed it (Koepel 2000, p. 11). Collected rain and well water sufficed into the 1800s, when a growing population of people and animals polluted their own water source. Privies emptied onto the streets, livestock roamed freely, and private wells syphoned off fresh water to industries, such as beer breweries (Koeppel 2001, pp. 13-15). By 1776, discussions on how to construct a public water system had begun (Koeppel 2001, p. 39). The first reservoir was completed in 1801, but local water could not meet demand; the city struggled with logistics of bringing water in from the mainland. Two disasters

forced the issue, the cholera outbreak of 1832 (Koeppel 2001, p. 139) and the Great Fire of 1835. Cholera killed 3,500 and caused 100,000 to flee the city (Koeppel 2001, p. 146). The fire destroyed 52-acres including 700 buildings, some of which were intentionally blown up to create a firebreak (Koeppel 2001, p. 177). Water was essential to the city's recovery and future growth so work on the Croton Dam, approximately 56 kilometers to the northeast, began in 1837. The Croton region would eventually contain 12 city reservoirs and three controlled lakes. This was once thought to be an ample water source, but today it supplies only ten percent of the city's water.

Demand for water increased faster than construction could supply it. Between 1842 and 1894, the city's consumption went from 12 million gallons per day to 183 (Finnegan 1996, p. 595). The city needed a larger water supply and the Catskill region seemed to have plenty. Construction of the Ashokan Dam, approximately 137 kilometers to the northwest, began in 1905. Just two Catskill reservoirs were built but they are large enough to currently supply 40 percent of the city's water. Four additional reservoirs were later constructed along the Delaware River Valley. Together, the Delaware, Catskill, and Croton regions hold more than 555 billion gallons of water and transport over 1one billion gallons to city residents every day. The city prospered because of this water but the country's sacrifice is easily forgotten. Official New York City Board of Water Supply statistics report 17 villages submerged, 4,464 people displaced, 8,093 bodies from 57 cemeteries reinterred and 287.4 kilometers of highway discontinued (Board of Water Supply 1950, p. 35,76). This is just from six of the city's 19 reservoirs. The Ashokan Reservoir submerged seven of those towns (Board of Water Supply 1917, p. 65).

In 1905, just before construction of the Ashokan Reservoir began, the region was a prosperous agricultural area and popular destination for city dwellers seeking a respite from the city. The Hudson River and a railroad network transported goods and travelers to and from the mountains. Towns lined the railroad corridor along a valley floor. Agricultural lands covered the

floodplain and reached up the slopes. This natural basin is where the city would build the Ashokan. Clearing 12,000 acres, meant destroying 500 homes, 35 stores, 32 cemeteries, 10 churches, and eight active mills (Stradling 2007, p. 167). The official count is that 2,000 living and 2,800 dead were displaced *at the beginning of the work* [emphasis added]. It wasn't an anonymous process, residents were paid to burn down their own houses and to dig up their family members (Stradling 2007, p. 167). Landowners were paid half the land's assessed value (Stradling 2007, p. 162) and had to petition for more (Soll 2013). Many left the region and moved west, where the money they received could replace that which they had lost. Those who remained outside of the take line had to deal with the relocation of 17.7 kilometers of railroad and the discontinuation of 103 kilometers of highway (Board of Water Supply 1917, p. 65).

By 1915, the Ashokan landscape was transformed by a man-made 123-billion gallon lake. The city soon turned its attention towards the next reservoir, making few provisions for redeveloping or protecting the Ashokan landscape. Where 899 buildings stood in 1901 (Figure 3a), only 557 remained in 1910. Over the next 50-years the sparse and scattered settlement pattern of the post-reservoir landscape was replaced by dense suburban occupations concentrated around the reservoir. By 1969, almost 1800 buildings occupied the same landscape (Figure 3c). As had happened with the Collect Pond, populations brought pollution. By 1995, 128,000 septic tanks and 100 sewage treatment plants were discharging treated wastewater into waterbodies that fed the reservoir (Finnegan 1996).

In 1997 the city released a plan that included land-use rules, partnerships, educational programs, and the goal of acquiring 355,000 acres of watershed lands (Pires 2004). These acquisitions are targeted to reduce water supply contamination from septic and sewage discharge, road grease and oil, and lawn biocides, pesticides, and fertilizers (Finnegan 1997, p. 611). This plan contains many positive initiatives but it does not historically contextualize the pollution problem, nor does it seek lessons from past land acquisitions to inform future ones.

Also, the environmental impact statement (New York City Department of Environmental Protection 2010) uses the “vacant” label to dismiss the spaces and places between occupied structures. As this land acquisition program moves forward, archaeology can be employed to examine the functions of city-owned vacant lands to understand how they fit within the larger cultural systems of the past and present. Pedestrian survey of these lands reveals a high density of ruins and artifacts. When collectively viewed through the framework of ruination, these archaeological remains tell the story of a landscape scarred by conflict.

Catskill Ruination and Social Justice

Creation of the city’s watershed classifies as ruination because it is a political project that laid “waste to certain peoples and places, relations and things” (Stoler 2008, p. 196). The ruination framework castes ruins not as “remnants of a defunct regime” but as “reappropriations [with] strategic and active positioning with the politics of the present" (Stoler 2008, p. 196). This positioning includes impacts to human potential that can become bound to, or by, the altered and degraded environments they are left to live in. Individuals can extricate themselves from the colonial order of things but they tend to do so at an uneven pace. Some engage in creative and costly measures in an attempt to improve their lot (Stoler 2008, p. 193). Isolated ruins might reflect individual choices but a landscape of ruins reveals larger forces of degredation. Living in zones of abandonment conditions expectations of the future (Rao 2013, p. 304).

Watershed residents in high priority land acquisition areas are contacted twice a year with offers to buy their land. Sellers must be willing but certainly know it is only a matter of time before their communities become fractured. All watershed residents are surrounded by the symbols of ruination (Figure 2). Fences and “No Trespassing” signs cordon off city-owned forest and water-front. The roads encircling reservoirs are dotted with “Former Site of” signs bearing the names of demolished towns. Signs also mark a collection of preserved nineteenth century

homes as the city's Department of Environmental Protection Police headquarters. The quantity and diversity of enforcement vehicles parked adjacent to them are a sufficient proclamation of their power here. Together these symbols remind residents that the city is very much in control here. An empire's ruins "contour and carve through the material space in which people live" (Stoler 2013, p. 2).

Behind the signs and fences stands forest that didn't used to be there. Millions of trees were planted by the city (Stradling 2010, p. 170) to reforest the formerly agricultural landscape. Within this new growth are the "durabilities of distress" (Stoler 2013, p. 5), building foundations, stone walls, artifact scatters, and once cultivated land that has become overgrown. These ruins were created by active clearance, not passive abandonment, of the land. Such slow violence and long dyings (Nixon 2006) creates new zones of uninhabitable space and leaves behind a "sense of arrested rather than possible futures" (Stoler 2013, p. 21). Connecting a degraded landscape to the government project that instigated it "is not designed to settle scores but rather to recognize that these are unfinished histories, not of victimized pasts but consequential histories that open to differential futures" (Stoler 2008, p. 195). By recording these ruins as examples of "inequalities and injustices of the past" archaeologists can raise social consciousness and inspire action within contemporary communities facing similar situations (LaRoche 2011).

Survey Methods & Results

According to its 2010 environmental impact statement, the city works with local governments to demolish buildings on newly acquired watershed properties. The city does not clear a property, it leaves ruins on the landscape. Approximately half of the acquired lands are now open to the public, most for recreation by permit. While the city provides maps of each recreational property, or unit, the maps simply define property boundaries and activities that can

take place there, they do not depict cultural features or provide interpretive material. With students from Vassar College, I have undertaken pedestrian survey of all Ashokan area units designated as hiking or public access properties (Figure 4). We have documented ruins and/or artifact scatters on every surveyed unit. Global Positioning Systems (GPS) and Geographic Information Systems (GIS) were used to organize and categorize data gathered from pedestrian survey and archival research. Despite being labeled as “vacant” properties, these lands serve both social and economic functions.

Devoid of official trails, the team enters a property with the intention to systematically survey all but the steep and uninhabitable slopes. But within the first few meters the artifact scatters begin, usually glass bottles and metal cans. Handheld GPS units record locations and take geotagged photos. Diagnostic attributes are noted. Stone walls are usually the next feature identified. Both the walls and the adjacent grounds are assessed to determine wall function; whether to mark property lines, separate croplands, or enclose animal pasture. Further into the property, any building foundations encountered are assessed for building size and construction of the foundation allows for characterization as a residence, barn, or other outbuilding. Artifact methods. Artifact scatters are often associated with foundations and roadbeds. Those on several properties are suggestive of waste dumps rather than occupations. That land taken in the name of environmental protection is being used for uncontrolled waste disposal suggests that locals are indifferent to the city’s water pollution concerns. Some of the waste can be traced to the city itself as they have not removed their demolition debris.

Acorn Hill, the unit closest to the Department of Environmental Protection and Water Department headquarters, has a unique history. Once the southern outskirts of the town of Olivebridge, this property was acquired before reservoir construction began so the hill could be quarried for construction stone. The quarry ruins are monumental constructions that dwarf and obscure evidence of the property’s earlier history. Cut stone was transported by a railway whose

bed is still visible. Rusted 55-gallon drums litter the adjacent ditch. Closer to the quarried cliffs are artifact scatters that include both household and industrial wastes — everything from perfume bottles and a washing machine to a decomposed car and a rusted deli slicer. Some of this material dates to reservoir construction but some dates to the 1940s, well after city quarrying ceased. Most of the more recent material is scattered along a discontinued road, blocked by naturally fallen trees. The change in access, instead of changes in attitudes, likely caused an end to the dumping. Away from the quarry, stone walls are all that remains of the property's agricultural past. Several building foundations are visible across the road to the north, on a unit that is not open for hiking and therefore they cannot be analyzed.

To the northwest of Acorn Hill is the South Mountain unit, which was once between the towns of Brodhead and West Shokan. Much of South Mountain is too steep for intensive land use, but the more gentle southern slope contains the ruins of a residence and a barn, along with stone walls, roadbeds, and artifact scatters. The remains of a hay rake at lower elevations foreshadowed the persistent and untended hay fields we encountered on slopes around 900 feet (275 meters) above sea level. Above the hayfields are the fieldstone house and barn foundations, unimproved during the twentieth century. Garden flowers still bloom here. Historic maps suggests that the residence predated the reservoir and stood for at least 75-years after it. Architectural debris from its demolition litters the property. Holes dug by metal detectorists suggest that some diagnostic artifacts have already been transported off-site. A chance encounter with adjacent property owner provides some insight into what happened here. The family that lived here stayed until they died. With no one to leave the property to, the neighbor bought it, demolished the buildings, and sold the property to the city.

To the northwest of South Mountain are the Traver Hollow and Sun Mountain units. Despite being labeled as a public access area, meaning no permit is required to enter it, there is no obvious way to enter the Traver Hollow property without crossing private lands. Another

chance encounter with a landowner provided access and information. This landowner had recently purchased his neighbors property after giving up hope that the city would buy it; it is not within the high priority acquisition area. Survey of the Traver Hollow recorded a 1970s era dump site, made up of religious candles, aluminum beer and cola cans, and cinder blocks. The nineteenth-century house site has yet to be surveyed. Nearby, the relatively steep Sun Mountain unit contains a roadbed that lead to a probable house site but the foundation could not be clearly defined. Historic maps didn't record a building here so it must have been short-lived. An early twentieth-century stove sits discarded on the hillside, too high up to be from anywhere else. That few cultural features were found here supports the hypothesis that land use was directly tied to property slope and regional topography.

East of the Sun Mountain unit is the large Piney Point Road unit, on the outskirts of Boiceville. Only a small fraction of this 369 acre property has been surveyed in two visits. Where this property is not steep it is very wet. Few historic features have been documented here but recent waste dumps were identified along roadbeds and near adjoining occupied properties. One dump of landscaping equipment, including a "lawn vacuum," certainly includes the exact materials that the land acquisition program seeks to keep out of the water system. Not far from this active dump site is an environmental monitoring station that consists of a polyvinyl chlorate (PVC) pipe emerging from a wetland area and connected to a small box of electronic monitoring equipment. This is not pristine wilderness.

South of Piney Point Road is the Black Road Unit, which contains the densest ruins of all the Ashokan units surveyed to date. Black Road was once on the outskirts of the town of Shokan, now it abuts the relocated town and its many suburban homes. Here we recorded foundations of at least two residences and two barns, an extensive network of massive stone walls connected by gates, and a series of check dams on what is now a dry creek bed. Between 800 and 900 feet (244 and 275 meters) above sea level, a large and persistent hay field grows

unattended. Below, several maple trees and rusted collection pails show evidence of tapping for syrup. Those who worked this property made a significant investment in it and diversified the economic pursuits. Yet they were not able to stay long, these buildings do not show up on any historic maps.

The city-owned Black Road, Acorn Hill, and South Mountain recreational units each contain distinctive ruins that tell the story of a city's colonial presence. At Acorn Hill, previous agricultural land uses were dwarfed and obscured by monumental constructions associated with natural resource extraction. When the city was finished taking what it needed from the land it did not clean up after itself. At South Mountain, resident hay farmers were able to maintain their way of life but not prosper. The fieldstone foundation was never replaced by or encased in concrete and no such additions were made to the home. At Black Road, two residences were established after reservoir construction and intensive clearing of the land created huge stone walls, a network of livestock pens and hayfields, and a maple syrup farm. Despite the effort put into this property it was abandoned within 50-years. The dry creek bed that runs along the livestock pens suggests that a lack of water may have contributed to their hardship. Creation of the reservoir did redirect much local water, changing the location and flow of creeks and wetlands.

Persistent patterns suggest that the post-reservoir economic activities were constrained by the loss of low-lying lands, and a property's unique combination of slope, access to water, and distance from transportation infrastructure. Property owners learned to make the best of their situation, and some use the city's land acquisition system to their benefit: by encouraging purchases that provide tax-free buffers, by dumping waste items that are otherwise costly to discard, or by using the land for treasure hunting through metal detecting. While all of the properties surveyed for this research are open to hiking, we never encountered other hikers. That sort of recreation is not what locals use these city-owned units for.

Discussion

Landscapes can be volatile places when clearance programs erase some inhabitants from the land (Smith 2008, p.14). Clearance comes in many forms, including sudden forced removals, long-term abandonments due to changing perceptions of the landscape, and political creations of wilderness (Gazin-Schwartz 2008, p. 28). Such clearance can be viewed as an act of colonialism when outsiders are allowed into cleared lands. To visitors, a cleared landscape seems empty, but it is not (Lelong 2008, p. 177, Zimmerman and Makes Strong Move 2008, p. 190). Clearance approaches ethnocide when it ruptures a past sense of place "thereby destroying some part of the people themselves"; a sense of defeat is often followed by acts of resistance (Smith 2008, p.18).

The debris scattered about New York City owned lands in the distant Catskills can be compared to other case studies where people live with and critically interrogate their own ruination (Chari 2013, p. 135). As with the Srisailam Dam in India (Rao 2013), the remains of the demolished villages are always part of the present, even if they are visually obscured. Natural resource development often creates obscured spaces and places that are neither continuous with the past nor truly modern, for pollution fears necessitate the engineering of a wilderness. But what might it mean for those left behind if these ruins, and the destruction that created them, were acknowledged (Rao 2013, p. 290)? As McAtackeny's (2014) Ireland research suggests, such an acknowledgement might aid reconciliation. Singular-dominant narratives that overshadow uncertainties helps to perpetuate conflict. By documenting, describing, and dissemination information on ruins, archaeologists can allow contradictions to emerge from the conflict's enduring materially. Residents and visitors of the Ashokan region are surrounded by the symbols and ruins of an unexplained present and misremembered past.

These symbols discourage cooperation to protect the city's watershed, and encourage self-protection from the ruination that surrounds them.

Two city institutions are responsible for the overarching narrative of Ashokan Reservoir creation and its maintenance. Neither the Water Department (formerly the Board of Water Supply) nor the Department of Environmental Protection boast skills in protecting and promoting cultural resources. Their expertise in and overarching concern for natural resources is evident in their 500-page environmental impact statement for the land acquisition program; it contains just 159-words regarding "cultural resources." Because no construction is occurring, historical and archaeological resources are described as benefitting from the program which inexplicably is "ensuring that these sites will not be disturbed" (New York Department of Environmental Protection 2010, p. ES-60). Either these institutions do not consider twentieth century ruins to be cultural resources and they are unaware of both the metal detecting taking place on these properties and the loss of cultural heritage that clearance projects create. Such boilerplate policy may fit for standard construction projects but given the historical and colonial impact the city has had on Catskill lands, it seems insufficient.

Conclusion

Archaeological survey of New York City-owned lands around the Catskills' Ashokan Reservoir has documented the materiality of a government project. For over 150-years, two city institutions, the Water Department and the Department of Environmental Protection, have worked to clear a distant occupied landscape and harvest its water resources. The wilderness they created is not pristine, it is littered with imperial debris that effect those living in this zone of abandonment and undermine environmental protection efforts. By documenting this debris and contextualizing it within the colonial legacy that created it, archaeology acknowledges the

struggles of this enduring conflict and identifies factors that encourage abandonment and discourage environmental protection.

References

Board of Water Supply. (1917). *Catskill water supply, a general description and brief history.* New York: City of New York

Board of Water Supply. (1950). *Origin and achievements of the board of water supply.* New York: City of New York

Chari, S. (2013). Detrius in durban: Polluted environs and the biopolitics of refusal. In A. L. Stoler (Ed.), *Imperial debris: On ruins and ruination* (pp. 131-161). Durham, NC: Duke University Press

Finnegan, M. C. (1996). New York City's watershed agreement: A lesson in sharing responsibility. *Pace Envtl. L. Rev.*, *14*, 577

Galusha, D. (1999). *Liquid assets: A history of New York City's water system.* Purple Mountain Press Fleishmans New York.

Gazin-Schwartz, A. (2008). Abandoned, avoided, expelled: The creation of empty landscapes. In A. Smith & A. Gazin-Schwartz (Eds.), *Landscapes of clearance : Archaeological and anthropological perspectives* (pp. 25-46). Walnut Creek, Calif.: Left Coast Press.

Koeppel, G. T. (2001). *Water for Gotham: A history.* Princeton University Press

LaRoche, C. J. (2011). Archaeology, the activist community, and the redistribution of power in New York City. *Archaeologies*, *7*(3), 619-634

Lelong, A. (2008). New places for old: The reinhabitation of cleared landscapes in northern scotland. In A. Smith & A. Gazin-Schwartz (Eds.), *Landscapes of clearance : Archaeological and anthropological perspectives* (pp. 164-179). Walnut Creek, Calif.: Left Coast Press

McAtackney, L. (2014). Manifestations of conflict in a post-ceasefire state: Material, memory and meaning in contemporary northern ireland. In B. Olsen & P. Pétursdóttir (Eds.), *Ruin memories: Materialities, aesthetics and the archaeology of the recent past* (pp. 319-334)

Nixon, R. (2006). Slow violence, gender, and the environmentalism of the poor. J*ournal of Commonwealth and Postcolonial Studies*, 13(1), 14-37

New York City Department of Environmental Protection. (2010). *Final environmental impact statement (EIS): The extended New York City watershed land acquisition program*

Pires, M. (2004). Watershed protection for a world city: The case of New York. *Land Use Policy*, *21*(2), 161-175.

Rao, V. (2013). The future in ruins. In A. L. Stoler (Ed.), *Imperial debris: On ruins and ruination* (pp. 286-321). Durham, NC: Duke University Press

Smith, A. (2008). Landscapes of clearance : Archaeological and anthropological perspectives. In A. Smith & A. Gazin-Schwartz (Eds.), *Landscapes of clearance : Archaeological and anthropological perspectives* (pp. 13-24). Walnut Creek, Calif.: Left Coast Press

Soll, D. (2013). *Empire of water: An environmental and political history of the New York City water supply.* Cornell University Press.

Stoler, A. L. (2008). Imperial debris: Reflections on ruins and ruination. *Cultural Anthropology*, *23*(2), 191-219

Stoler, A. L. (2013). "The rot remains": From ruins to ruination. In A. L. Stoler (Ed.), *Imperial debris: On ruins and ruination*. Durham, NC: Duke University

Stradling, D. (2010). *Making mountains : New York City and the Catskills.* Seattle: University of Washington Press

Weidner, C. H. (1974). *Water for a city; A history of New York City's problem from the beginning to the Delaware river system.* New Brunswick, N.J., Rutgers University Press.

Zimmerman, A., and Makes Strong Move, D. (2008). Archaeological taxonomy, native americans, and scientific landscapes of clearance: A case study from northeastern iowa. In A. Smith & A. Gazin-Schwartz (Eds.), *Landscapes of clearance : Archaeological and anthropological perspectives* (pp. 190-212). Walnut Creek, Calif.: Left Coast Press

Captions

Figure 1. Map of Manhattan Island and New York City's watershed areas.

Figure 2. Symbols of ruination that surround the Ashokan Reservoir include "no trespassing" signs and barriers, "former site" signs, historic homes occupied by a well equipped city-employed police force.

Figure 3. Locations of buildings around the Ashokan Reservoir in (a) 1901, (b) 1910, and (c) 1969. The densely occupied valley floor was cleared, leaving mainly a scattered settlement pattern. New construction created densely occupied areas around the reservoir, triggering pollution concerns.

Figure 4. New York City-owned properties around the Ashokan Reservoir that are designated as recreation units. Units surveyed for this research are labeled. The base map is the 1901 topographic map that was revised in 1910 to show the Ashokan Reservoir.