

# Economic and Environmental Sustainability Through Adaptive Leadership

---

*Preserving 9 Million Peoples' Drinking Water  
and Forging a New Way of Life in New York...*

**Eric R. Martin**

Version Date  
January 4, 2011

## Shaking Up the Watershed

---

BRINGING A NEW SENSE OF URGENCY to protecting the water supply of New York City's 9 million residents, the Environmental Protection Agency (EPA) in 1989 established the somewhat controversial Surface Water Treatment Rule (SWTR) requiring cities to filter their water to safeguard public health. SWTR confronted New York City with a choice: Prove it could "respect and protect" its upstate watershed – a historically messy endeavor. Or start filtering the water – a relatively straightforward though costly option.

Building a filtration plant would require \$6-8 billion in capital, plus running costs of \$100-300 million annually. Restoring the integrity of the Catskill ecosystems, on the other hand, would cost only \$1.5 billion over ten years. The challenge the City and other watershed stakeholders faced was unprecedented: *Learn how to protect a "living" watershed that is home to hundreds of thousands of people, and do it quickly.* Referring to a looming EPA deadline, Eric Goldstein of the Natural Resources Defense Council cautioned, "It's not just the deadline that is at issue, it's the biological time clock that is ticking as well." Uncertainty about how to move forward could not have been higher.

Absent any obvious answer, the City concluded that at the very least watershed protection could not happen without the partnership of local residents, local governments, farmers and land owners, as well as folks in Albany. Much easier said than done. Embittered animosity simmered fiercely and occasionally had boiled over for more than 100 years between the City and its upstate neighbors over its indiscriminate use of eminent domain to secure sensitive lands around the watershed.

Every year since 1913, for example, the town of Boiceville, New York has held a ceremony to recognize the families who were forced off their land to make way for a reservoir for New York City. Hundreds of homes, churches, schools and graveyards still rest at the bottom of man-made lakes and reservoirs<sup>1</sup>.

"The D.E.P. [New York City Department of Environmental Protection] up here, with its little white trucks, is viewed like an occupying army," said Allen Zerkin, an upstate lawyer and New York University faculty member. George Pataki, the New York Governor at the time and native of the watershed region, had once sponsored a bill in the State Senate to strip the city of its upstate regulatory powers, but later reversed his position. At one public hearing, local official Perry Shelton pointed his finger menacingly at Pataki and warned that regulation of watershed towns would cause the people of his community to "make Oklahoma City look like child's play," referring to the recent incident of domestic terrorism<sup>2</sup>.

---

<sup>1</sup> GothamGazette.com; December 2000

<sup>2</sup> The Riverkeepers: Two Activists Fight to Reclaim Our Environment as a Basic Human Right; Cronin, Kennedy, Jr.; 1997

The EPA rule catalyzed conflict and action across the watershed and across the entire State of New York. In an early effort to avoid filtration, the D.E.P. issued a set of rules for farmers, homeowners and businesses. These rules sparked enormous resentment in the watershed communities. “It [the SWTR regulation] hit us like a ton of bricks,” said Shelton. “You couldn’t spread manure within 100 foot of a stream or watercourse. Well, when you get into these hills and valleys in Delaware County and the watershed, it would almost rule out everything.” Any construction within 250 to 500 feet of a watercourse was prohibited. “[That means] you aren’t going to build, unless you build on top of the mountain somewhere.”

Added Robert F. Kennedy, Jr., an environmental attorney, “You wouldn’t have been able to live in the watershed if all those regulations got put through.” Local officials insisted the new regulations would “destroy the character of their communities” and further erode the region’s vulnerable economy by imposing severe restrictions on residential, agricultural and industrial land use<sup>3</sup>. Local communities were not the only one vulnerable. Said Kennedy, “The City’s annual budget was about \$29 billion, so this was a huge, huge hit. It would have doubled water rates in the City; it would have put 250,000 people out of their homes; it would have closed down 50,000 housing units in rent-controlled areas of New York City, where the landlords could not pass the additional cost of the water on to their tenants.”<sup>4</sup>

In anticipation of further conflict, coalitions of affected watershed towns and farmers came together for the first time ever. In 1991, the Coalition of Watershed Towns filed a lawsuit against New York City on the grounds that City’s use of eminent domain to protect the watershed violated residents’ constitutionally protected rights to not have their property taken without just compensation<sup>5</sup>. Dozens of affected municipalities, communities and residents took similar actions against the City.

Eventually, in January 1997, a Memorandum of Agreement (MOA) was signed by New York City, New York State, the EPA, 73 local municipalities, eight counties in the watershed and five environmental organizations. The MOA established several watershed protection programs and organizations to help people living in the watershed mitigate pollution and protect water quality, including the Watershed Protection and Partnership Council and the Catskill Watershed Corporation (CWC), a kind of intermediary between the City and upstate communities. “I didn’t think I could ever sit down with the City,” reflected Alan Rosa, now Executive Director the CWC. “I was too little to know what happened, but I was constantly brought up on that hatred – you know, how the City just kind of came in and did what they wanted and bullied people around. So I was brought up hating the City.”<sup>6</sup>

---

<sup>3</sup> Enhanced Source-water Monitoring for New York City: Historical Framework, Political Context, and Project Design; Blaine et al.; 2006

<sup>4</sup> [www.cwconline.org](http://www.cwconline.org)

<sup>5</sup> Pires, M., 2004. “Watershed Protection for a world city: the case of New York.” *Land Use Policy* 21 161-175.

<sup>6</sup> [www.cwconline.org](http://www.cwconline.org)

The scene at the MOA signing ceremony would have been unimaginable only eight years earlier. Governor Pataki, Mayor Rudolph Giuliani, the EPA Administrator, and Marilyn Gelber, the city's Environmental Protection Commissioner, standing shoulder to shoulder with Shelton, other local politicians, environmentalists and stakeholders trumpeting the promise of protecting public health while saving billions of dollars for ratepayers. Reflecting on how things had changed, Shelton later remarked, "I remember when I said I wouldn't sit next to an environmentalist."

The EPA, Pataki and others successfully mobilized dozens of competing parties and factions to achieve an historic agreement for addressing the complex and intractable political, economic, social and environmental dimensions of watershed protection. However, significant obstacles have emerged since which threaten to irreversibly turn the clock back on progress. A deeper understanding of who exercised leadership in the watershed agreement process and how they did it provides practical insight into how to overcome these obstacles and how watershed stakeholders can develop ongoing adaptability and resilience amidst a persistently uncertain, complex and dynamic environment.

### **Leading Adaptively**

---

The actions of the EPA and other watershed stakeholders reveal a somewhat unconventional and controversial approach to exercising leadership. As authorized by the Safe Drinking Water Act, the EPA could have been more directive and decisive about the appropriate course of action in the watershed. It opted instead to place the difficult work of finding a way forward on City, State and local stakeholders themselves.

Reported extensively in the New York Times and upstate media, SWTR created a heightened sense of urgency within the City government, local governments and communities and environmental circles. The battle, as with most environmental issues, was pitched between jobs and public health, as well as between environmental protection and local autonomy. Rather than resolving this tension, the previous decades instead found the City and watershed communities unproductively embroiled in blaming, scape-goating, futile animosity and, in the case of the City, liberal use its authority to invoke eminent domain. The EPA rule escalated tensions to the point that such tactics no longer proved tenable. Was the EPA's action an abrogation of its responsibility and regulatory power? Or was it an effective form of leadership that forced the City, watershed communities and other stakeholders to address difficult challenges that they otherwise would have continued to avoid?

The sheer size and complexity of the issues – from the geographic expansiveness of the watershed to decades of animosity over flooded fields, dug up cemeteries and condemned villages – dwarfed considerably the financial and technical resources available to the EPA. It needed to lead others, not act alone, by leveraging the limited authority it had. Between 1989 and 1997 under the persistent pressure of EPA deadlines, the City, watershed communities, Governor Pataki, local and national environmental groups, representatives from Putnam and

Westchester Counties and watershed towns throughout the 2,000-square-mile area came together in an unprecedented way. Through thousands of hours of public discussion, debate, tears of joy and tears of dismay, watershed stakeholders hammered out an MOA that sought to protect the drinking source of the City without stifling development in the towns around the Catskill and Delaware watersheds.

The MOA, one of the most comprehensive and successful of its kind, called for targeted land acquisition to protect land adjacent to the watershed, revision of the City's stringent watershed regulations and an array of watershed protection and partnership programs. Source after source cites the agreement, also known as the Catskill-Delaware Water Management System, as the premier international example of watershed management. Governments and NGOs in South Africa, for example, are considering a watershed agreement modeled on the Catskill-Delaware systems to address the region's water crisis<sup>7</sup>. The United Nations touts the NYC Watershed Whole Farm Program, one of the programs that emerged from the negotiations, as a "Sustainable Development Success Story".

Closer to home, the Catskills have been an invaluable incubator for innovations in farm, forestry and watershed practices throughout the United States. More than the specific land acquisition mechanisms or watershed protection programs, what distinguishes the watershed agreement is its comprehensiveness compared to what could have been a piece-meal approach. Its innovativeness stems from the way in which the EPA and others created and sustained the conditions through which stakeholders took responsibility for tackling tough problems and generating answers that were adapted to the politics, culture, and history of the Catskills.

### **Exercising Leadership vs. Exercising Authority**

---

The central challenge of leadership, particularly on environmental issues, lies in driving progress without having the authority or resource to dictate how people should or should not behave. This is difficult because leadership is often conflated with the type of power that derives from authority. As a result, those who seek to lead others tend to try to figure out the answer for themselves and then impose it on other stakeholders<sup>8</sup>. In the case of the watershed, there was no one answer, no best practice to impose. Simply put, nobody knew what to do.

Nor was there a single authority or stakeholder who could implement a solution even if there were one. Many stakeholders could lay claim to the watershed but no one entity controlled the situation completely. The EPA's authority was limited to approving or denying an extension of the City's application for a filtration avoidance determination (FAD), an official "pass" on having to build costly filtration plants. However, the EPA had no formal relationship or authority over other actors in the State. The State of New York, through the Department of Health and Department of Environment Conservation, could issue permits for the City to acquire

---

<sup>7</sup> <http://www.environment.co.za>

<sup>8</sup> Leadership Without Easy Answers; Heifetz; 1994

watershed land, but only at the risk of disabling political backlash from local governments. Local governments could litigate against the City, but at a great cost of time and resources. Pataki, beyond his formal role as Governor, held tremendous informal authority with local governments as a native resident of the watershed, but he was limited by the strength of both political and personal loyalties in the region. The D.E.P. could plan and implement programs, but had to report back regularly to the EPA and the State of New York.

Illustrating the overlapping scopes of authority and difficulty of getting things done, Gelber, the City's Environmental Protection Commissioner, remarked that she needed “permits from the State Department of Health to impose sewage regulations, permits from the State Department of Environmental Conservation to begin acquiring land around the reservoirs...and Governor Pataki,” even while she herself managed the billion dollar City fund to upgrade sewage treatment plants and septic systems, pay farmers to reduce agricultural pollution and acquire land.<sup>9</sup>

Leadership is not the same as authority and power. We know this intuitively when we lament that the “leadership isn’t showing any leadership” or talk about the “crisis of leadership at the top”. Yet we often conflate leadership and authority. Formal authority depends on an established power hierarchy – the ability to tell people what to do and impose severe consequences for disobedience. By contrast, leadership is most usefully viewed as an activity rather than a formal position or personal characteristic, and it may or may not be accompanied by authority.<sup>10</sup>

As Vice President of the United States, Al Gore occupied a position of authority. However, he experienced a great deal of difficulty in furthering his environmental agenda. That is, until he left office and freed himself of the expectations and demands of his constituencies. Said Gore, "I've been trying to tell this story for a long time and I feel as if I've failed to get the message across."<sup>11</sup> People in positions of authority sometimes lead and sometimes they do not or, as the Gore case demonstrates, cannot. Regardless of their position or role, nobody exercises leadership all the time and survives very long.

Many others lead without formal authority or the resources that come with it. Those who lead environmental movements often have a small base of formal power in their own organizations and constituencies. They also may have a wide network of informal authority in the community at large, where their words and actions carry influence despite having no enforceability. Rachel Carson, the author of *Silent Spring*, was simply a marine biologist concerned about pesticide usage, but she was able to mobilize an entire generation of American environmental activism.

---

<sup>9</sup> New York Times, June 1995

<sup>10</sup> Practice of Adaptive Leadership; Grashow, Linsky, Heifetz; 2009

<sup>11</sup> Revkin, Andrew (2006-05-22). "'An Inconvenient Truth': Al Gore's Fight Against Global Warming". The New York Times. Retrieved 2009-11-02.

Bill McKibben, also an author but lacking the authority that comes with the scientific expertise Carsen had, has nonetheless coordinated what CNN, Foreign Policy magazine and others have called "the largest ever global coordinated rally of any kind," with 5,200 simultaneous demonstrations in 181 countries.

## Exceeding Authority

---

Carsen and McKibben are examples of people who have gone beyond the limiting expectations people have of them to exercise leadership well beyond their "job descriptions" or formal scope of authority. Progress in the watershed required many people and organizations to exceed their authority, and often disappoint their own people in the process. Nobody, much less the people who elected them, expected Town Supervisors in the watershed to come together as they did in 1991 to form the Coalition of Watershed Towns. Animosity and rivalry amongst watershed towns was nearly as fierce as it was with the City. Collaboration was almost unheard of, much less the pooling of funds and resources. "It was something that had never happened before," says Town of Denning Supervisor Clayton Brooks.<sup>12</sup> Yet come together they did at the suggestion of a town attorney, who exceeded his own authority in pushing collaboration rather than indemnification.

George Pataki went even further risking the alienation of his upstate constituencies and key gubernatorial bankrollers by calling for upstaters to relinquish their right to develop their land. "Here we have a Republican governor who comes from the watershed, who's previously supported the watershed," says Town of Hunter Supervisor Tony Bucca. "And yet he knows that the construction of a filtration system for the City of New York is going to have a tremendous negative impact on the City's economic stability and in turn on the State's. His frank acknowledgment of that and his willingness to incur some political damage or loss by getting involved in these negotiations . . . he has to be applauded for it, you know?"<sup>13</sup>

For its part, in a time of fiscal constraint the City managed to allocate nearly a billion dollars to watershed protection, ruffling the feathers of other powerful, would-be recipients of City funds and contributing in part to Mayor Dinkins' failed attempt at re-election. Furthermore, the City disappointed many a bean counter and fiscal watchdog by relinquishing control, though not totally, to the CWC for disbursing funds in the watershed.

Authority, influence and money are certainly a resource, but seldom are they sufficient when exercising leadership on issues where no single entity possesses a broad enough scope of authority to solve the problem. The EPA had no formal authority over the 70 institutional stakeholders in the watershed. Yet it mobilized them to come together in an unprecedented way. Through its leadership it focused attention on a long simmering problem and created the conditions that led to progress.

---

<sup>12</sup> [www.cwconline.org](http://www.cwconline.org)

<sup>13</sup> *ibid*

## Distinguishing Technical Problems and Adaptive Challenges

---

Complex environmental challenges like watershed protection are fundamentally different from technical problems like building a filtration plant. The effectiveness of the EPA and other stakeholders' leadership in the watershed depended on this critical distinction. Technical problems are well defined. Their solutions are generally known and those with adequate expertise and organizational capacity can solve them<sup>14</sup>.

Building a water filtration plant is a complicated but relatively known process with clear procedures and precedents for hiring qualified experts, calculating costs and developing construction timelines and mock-ups. Common technical approaches to watershed protection include raising awareness about what laws are on the books for residents to fight back and applying zoning laws to ban unwanted activity. Technical solutions can be effective and should be applied readily when they are. What distinguishes them from "adaptive" challenges is that they depend on well-established practices and, given enough money, a single organization can usually implement the solution.

Adaptive challenges are a different kind of problem. They are not so well defined. The answers are not known in advance. Typically all the needed information to make decisions is unavailable. Many different stakeholders are involved, each with their own perspectives. Until the stakeholders change their outlook, a solution cannot emerge since the problem is rooted in their attitudes, priorities or behavior. Adaptive challenges require learning among the interested parties, as well as new tools, methodologies and understanding. Even when a solution is discovered, no single entity has the authority to impose it on the others.<sup>15</sup> Most environmental problems, such as global warming, are adaptive. In contrast to technical problems, merely throwing money at an adaptive problem rarely, if ever, works. "Engineering," as Gelber said perceptively, "can't do everything."

Adaptive leadership involves distinguishing technical problems from adaptive challenges and then mobilizing people to engage in adaptive work. The tendency to apply technical solutions to adaptive challenges constitutes the single biggest waste of time and resources in addressing environmental issues. This happens for a number of reasons, the primary one being that people often rise to high positions of authority precisely because of their expertise in solving technical problems. Solving problems, and solving them quickly, is what we expect of our "leaders". The vicious circle of applying technical fixes to adaptive challenges, their inevitable failure, scapegoating of the people "in charge" and then finding new "leaders" to replace the old ones is why many environmental initiatives, even successful ones like the watershed agreement, can ultimately fail to create lasting change.

---

<sup>14</sup> Leadership on the Line; Heifetz and Linsky; 2002

<sup>15</sup> The Practice of Adaptive Leadership; Grashow, Heifetz and Linsky; 2009



## Grabbing Attention

---

Adaptive challenges grow out of conflicting values among stakeholders or internal contradictions between the values they stand for and the realities they face. Addressing them requires a change in values, beliefs or behavior on the part of those with an interest in the problem – difficult and sometimes painful work that people are usually adept at avoiding. Those who lead can use a number of techniques to counter work avoidance and initiate and lead adaptive work. These include focusing attention on a problem, maintaining an atmosphere of productive distress, framing the issues, mediating conflict and experimentation.

Getting people to pay attention to tough issues is where the work often starts. In addition to the EPA, others played a critical role in focusing the attention of actors across the State. One of the first to respond to the EPA rule was George Pataki, who to some disapproval indicated in a letter from New York State Health Commissioner Barbara DeBuono that he was "prepared to become directly involved in facilitating the negotiations between the involved parties on land acquisition, adequate compensation and the watershed regulations." His entrance onto the scene raised the stakes and heightened people's interest in the watershed.

In Gelber's case the challenge was to grab the attention of her own people inside the D.E.P., many of whom had gotten used to the hands-off approach of her predecessor. Speaking later of her unconventional decision to visit the watershed herself, she recalled, "I must say, all the City lawyers warned me initially that there was no way to avoid litigation – that instead of even fantasizing about an agreement with watershed communities, I should just prepare for litigation, get as many lawyers prepared as possible, and forget about any other strategy." Gelber intuitively recognized litigation as a technical fix. "That bothered me," she said, "so I decided that maybe despite all the advice I was getting, what I should do is just go up and look for myself." She surprised City lawyers and colleagues when she chose, quite literally, an alternative route to upstate engagement. Both Gelber and Pataki decided to play an active, visible and somewhat controversial role rather than play it safe within the bounds of what their constituencies expected of them. Getting people to pay attention is key. Without the leadership action of the EPA, Governor, Gelber and others it is doubtful the disequilibrium in the watershed would have escalated as productively as it did.

## Orchestrating Conflict and Holding Steady

---

Adaptive challenges are difficult and take time to address. Discovering a way forward in the watershed took eight years in the run up to the MOA and a subsequent 13 years of implementation and further learning – learning that continues to this day. People and institutions that lead must harness, manage and ultimately defuse conflict among interested parties so that each can adapt to each other and learn new responses to the situation. Adaptive leadership thus involves managing the conditions that enable people involved with complicated issues to figure out and undertake solutions that ultimately require changes in their own ways of working.

While technical problems tend to resolve themselves quickly with the application of money and expertise, adaptive problems play out very differently over time. A step forward may be followed by a step back, with the level of distress experienced by participants fluctuating. Harnessing this sense of disequilibrium – and making sure it stays productive – is another central task of adaptive leadership. The idea is to regulate this tension so that it stimulates but does not overwhelm people engaged in adaptive work. This takes time, patience and the willingness and ability to hold steady amidst criticism and setbacks.<sup>16</sup>

While it had successfully grabbed attention with its initial actions in 1989, the EPA has had to continually regulate the distress experienced by key actors, particularly the City. To keep the heat high, the EPA requires the City to regularly apply for FADs, of which about a half-dozen have been awarded to date. The EPA is not alone in its ability to regulate the heat. Established by the 1997 MOA to administer the City’s funding for local projects, the CWC plays a central role. Its mission, funding and Board composition are carefully calibrated to keep its finger on the pulse of the community. Among other things, it regulates distress by distributing grants in response to local needs and its own organizational priorities.

Adaptive work also take time because it is not always clear in the beginning who the relevant stakeholders are, particularly those whose voice is traditionally left out of the decision making process. If stakeholders are excluded from defining and solving the problem, the result may be an incomplete or unworkable solution. By giving the work of local engagement and authority for regulating distress to the CWC, the MOA allows for conflict to be channeled without letting the wealth or influence of the City overpower the emergence over time of new, less established stakeholders. It ensures that local voices – not always the loudest or most powerful – are heard. Adaptive leadership, therefore, plays a critical role in orchestrating and sustaining conflict long enough for competing values and priorities that hold people in status quo to be surfaced, interrogated and ultimately refashioned into new ways of working.

## **The Work Ahead**

---

Like all natural systems, the watershed is a complex adaptive system that has evolved in the years since signing of the MOA. So too have the challenges of protecting it. The imminent threat and opportunity of natural gas drilling in the Marcellus Shale; diminished water quality and “turbidity” due to global warming; Mayor Bloomberg’s initiative under PlaNYC 2030 to augment and supplement usage of the Catskill Aqueduct – any combination of these and other forces could strain and effectively nullify the watershed agreement. Some of these challenges are nearer than others, but none are far away by Goldstein’s watershed time clock. All of them require a tremendous adaptation in the existing watershed agreement and watershed protection mechanisms.

The tools and approaches to watershed protection that were pioneered in the early days of the MOA are now largely insufficient for an adaptive context today that bears only a slim

---

<sup>16</sup> The Practice of Adaptive Leadership; Grashow, Heifetz and Linsky; 2009

resemblance to the one 13 years ago. For many decades the City relied almost solely on the use of eminent domain, a technical approach to protect the watershed. Although it became more restrained in its use immediately after the 1989 EPA rule, the alternative of more severe rules and restrictions was equally as technical in its approach. After the MOA, land acquisition became the most important tool in the watershed protection toolkit, yet the City has come to rely on it in much the same way as before. Over-reliance on land acquisition is one of the greatest impediments to efforts to rebuild more self-sufficient and sustainable upstate communities despite investments of more than a billion dollars over the last 13 years.<sup>17</sup>

At its core the adaptive work ahead for watershed stakeholders involves wrestling with the short-term/long-term trade-off of pursuing a diversified economy and sustainable local autonomy versus simply replacing one seductive dependency with another. The good news is that many of the needed building blocks, relationships and organizations are in place to begin to make progress on these questions. The bad news is that some things will need to be dismantled and let go of to create room for innovation and progress. Who is willing to orchestrate the conflict between natural gas companies vying for drilling rights, poor and unemployed residents who stand to benefit from mining royalties, and those who seek to protect the watershed? What would it take to spur local politicians to action, to lead their residents – some of the poorest in the state – to find less lucrative, but more sustainable alternatives? Can the CWC or Coalition of Watershed Towns play a role, or are they now more a part of the problem than the solution? One of the consequences of the current political climate is that the risk profile for the EPA and policy makers makes any high profile involvement or risk taking on their part unlikely, yet finding better ways to reengage and leverage its authority remains critical.

Given such high stakes, a new value proposition for engagement is needed. The exact framing is less important than understanding the implications of the framing in terms of whom it brings to the table and with what skin in the game. Glaringly missing from the original MOA signing ceremony were large multinational companies with a stake in the region. A bit further afield and not directly related to the watershed, IBM's decision in the mid '90s to layoff nearly 20,000 upstate employees nonetheless severely impacted the region's economy, real estate prices and sense of local pride. A broader regional perspective may have headed off the worst of the damage. Critical this time around will be engaging companies such as GE, which just announced a \$100 million investment in upstate New York to build a new battery factory – bringing with it 350 skilled "green" manufacturing jobs and, according to Jeffery Immelt, G.E.'s chairman and chief executive, \$500 million in annual revenue by 2015 and \$1 billion a few years after that.

Building on the extraordinary success story in the watershed requires careful examination of the leadership behaviors and practices that contributed to it. It requires the will and skill to discern what is essential from what is expendable, to take risks and hold people's attention to the new adaptive challenges, to distinguish the technical and adaptive work, to orchestrate conflict, to hold steady and, ultimately, to discover new pathways forward.

---

<sup>17</sup> The New York City Watershed Economic Impact Assessment Report; May 2009