

this regard, the region is no better off than the less-developed countries for which it aspires to be a model. Thus, an immediate need is to capture existing information and analyses; to curate this information in a centralized, accessible location; and to make it available to the largest possible audience.

A model is only valuable to the extent that it is visible. At this time, the Adirondack experience is not sufficiently well known. Once the wealth of Adirondack information is compiled, demand for this information must be stimulated through strategic publications and publicity. To capture this demand, a regional training center or program should be created to foster applied research, offer courses and practical experience, draw lessons, and share these with new and experienced partners. If successful, then foreign managers and decision makers, who now go to Yellowstone or Yosemite, will instead come to the Adirondack Park to learn at a global crucible of conservation.

Conclusion

The Adirondack Experiment in a Full World

JON D. ERICKSON, WILLIAM F. PORTER,
AND ROSS S. WHALEY

What are the lessons of conservation and development from the Adirondack experiment? It is evident from the voices we have heard that the lessons occur at several levels. When we ask once again, "why is it still here?" we have to acknowledge that the Adirondack region is like many of the wilderness areas designated elsewhere: it was passed by in the settlement of North America by Native Americans and then European colonists because it simply was not hospitable. To attract settlement and sustain communities required support for an agricultural economy, and the poor soils, short growing season, and difficult terrain of the Adirondacks would not support such an economy. With improving transportation infrastructure, the natural resources of the Adirondacks became valuable to burgeoning markets throughout New York, New England, and southern Canada. Reflecting back to our original organizing concept for the book of the *ultimate means to ultimate ends spectrum*, the Adirondacks could not provide the means for an agrarian economy, but eventually the region was opened to resource exploitation by water, rail, and road.

The ax of the logger, the pick of the miner, and the hammer of the track layer would eventually find the Adirondacks. But what sets this region apart from other heavily exploited environments is that the ecosystem largely recovered from early exploitation and already

had significant land protections in place before twentieth-century modernity really took hold. Good fortune surely played a role because at several pivotal moments, shifts in economic or environmental conditions prevented exploitation from being even greater. However, the lesson of the political response to this exploitation is that society began to recognize a different set of resources. The forests of the Adirondacks could provide a sustainable source of water to meet the needs of powerful economic interests. Open space provided a sustaining source of health and sense of well-being to meet the needs of a growing wealthy class. And with rail and then road came a democratization of recreation for the masses. The means of the Adirondack experiment began to be seen more broadly, and as such the ends began to change.

Implementing a change of this magnitude required a political context that permitted bold action and strong political leaders who knew how to use power to take big steps. The end of the nineteenth century and the middle of the twentieth century produced both the opportunities and the leaders. The result was a Forest Preserve guided by a societal goal of setting aside large areas of land as Forever Wild and later a set of land-use regulations guided by a goal of sustaining both a wilderness ecosystem and human economy. Political leaders of the caliber of Theodore Roosevelt and Nelson Rockefeller were in position to wield power and effect change.

What we have witnessed over the past 40 years, and the larger focus of this book, is the playing out of the hand that was dealt by previous generations. The Adirondack experiment is still a work in progress instead of a distant memory because of the decisions made by these generations. The current generation at times seems as if it would rather fight than win because the past 40 years have been filled with acrimony. Establishing the Forest Preserve and Adirondack Park were certainly bold decisions, with little input from those towns and villages within the Blue Line, and these decisions were bound to generate debate. The process has done what open debate in democracy does well: clarify the issues and examine the successes and failures arising from experience. Society must draw on

the lessons from which to make the decisions that will affect future generations.

As the editors of this book, we have sought to identify the emergent lessons. We see five central ideas that, while not necessarily new, may clarify the fundamental issues.

1. The heart of the debate, and the reason for heat, is a long-standing divide between those who see the world as too full, and running out of resources, and those who see the world as empty, with limitless resources yet to exploit. This difference in mindset often materializes in debates over the equitable distribution of private and public property rights.

2. The principal effect of Article 14, the Adirondack Park Agency Act, the State Land Master Plan and the Adirondack Park Land Use and Development Plan is clustering of development. Clustering has been and will continue to be the primary driver of the ecological and economic change in the park.

3. Where the economic vitality of the Adirondacks was once limited by the challenges of transportation in a manufacturing economy, the economic conditions of the future will be driven by communication in a service economy. Ironically, the biggest future challenge to the Adirondacks may be the wealth coming into the region because of this change in the economy.

4. The remote character and quality of life in communities that are limited in size will draw a new segment of society to the Adirondacks, a demography whose preferences for preservation and development are as yet unclear.

5. The important environmental challenges likely to face the Adirondacks in the near future are likely to be more about decisions made outside the Blue Line than within.

Let's begin with the 800-pound gorilla in the room: property rights. The experience of the Adirondacks is one tied closely to the ongoing, worldwide struggle to distribute the benefits from property ownership between individuals and the public, between current and future generations, and between humanity and the rest of nature. In the modern economy, every economic decision depends on the

assignment of property rights between each of these domains. Without rights established through formal means such as legal institutions, or informally through norms and custom, social cooperation toward individual or common goals is impossible. The assignment of property rights is at the core of basic obligations and responsibilities of individuals, communities, states, and global institutions. As such, the goals of society shape, and are shaped by, the societal choice of property rights regimes.

In the Adirondacks these choices resulted in the allocation of some rights to the public at large (current and future generations) through the creation of the Forest Preserve, and a more complicated allocation of certain property rights through the creation of the Adirondack Park. The choices of how and for whom to assign property rights in a democracy are made by the people. Even in democracies where property rights are tilted more toward the individual than the state, this assignment is ultimately a product of the collective voice of the people as embodied by the state. Strict private property regimes should not be confused as a prerequisite for a free society, nor should pure public property regimes be confused with totalitarian rule. Both extremes, and every variation in between, are all possible choices within a democracy.

Critical to this choice is the relative abundance of natural resources and knowledge of their characteristics and function. When resources are abundant, a social system where the individual is assigned the rights to do as they please with property, but not the responsibility of their actions, is one among many logical outcomes. When uncertainty or ignorance of the consequences of individual decisions is high, then again a democratic process might favor a regime where the individual exercises their rights in a vacuum, without knowledge of or care for the impacts of their actions on others. We might call this the "empty-world" mindset, where resources seem unlimited and economies are thought to grow without bounds.

However, in a world of increasing scarcity and improving knowledge, society at large may choose to reassign portions of property rights away from the individual and to the larger community.

We might call this the "full-world" mindset. The exponential rise of the human population set against the hard realities of declining nonrenewable resource stocks and degraded renewable service flows from nature may lead to social systems that recognize limits to growth. Viewed from this perspective, the action of the citizens of New York in establishing the Adirondack Park Agency was a reaction to the anticipated pressures of a full-world experience. In an empty world, quantity is often equated with quality. The more we have, the better off we are. In a full world, thresholds are reached where quantity takes away from quality, and genuine economic development finds its source in balance and resilience over growth and fragility. Whether the world is empty or full, however, may not be uniformly perceived, and therefore the amount and kind of public remedies is likely to be controversial.

Coming to terms with limits and redefining the meaning and measures of progress is perhaps the greatest lesson from the Adirondack experiment. The New York Forest Preserve and the Adirondack Park were created in a time when the northeastern United States was beginning to realize the limits of industrialization. New York was home to the Rockefellers, Vanderbilts, and other oil, rail, and industrial empires that became synonymous with a late nineteenth-century free-market ideology never before experienced. The Adirondacks represented the last frontier for exploitation in the northeastern United States. What timber could be cut and hauled by river was taken early in the nineteenth century. Then came the appetite for hemlock for the tanneries and charcoal to fuel the iron smelters and wood fiber for pulp and paper. In this mountainous terrain with its harsh climate, there were many biological and physical limits that slowed the advance of resource exploitation. And much of the land hammered the hardest often fell back to the state when taxes were not paid. Just at the time when many of those biological and physical limits were giving way to technology, rail, and road, New York's citizens found themselves as owners by default of over half a million Adirondack acres.

The Adirondack region was a large, fairly intact ecosystem before the tidal wave of twentieth-century technology and economic

growth. Ultimately the legislators' pen was quicker than the rail and mightier than the lumberman's ax. It anticipated a public demand for a different set of resource values. Article 14 of the New York State Constitution, while visionary, was born of a pragmatism to protect the watershed of New York's burgeoning canal system, the very economic blood of New York's commercial power, and a call for strategic assets of timber shepherded by the original wise-use movement, with Theodore Roosevelt at the helm. It was also born of romanticism by an urbanizing public desperate for escape from the ills of large cities for the rejuvenation of nature's beauty. When the rails and roads penetrated the interior of the Adirondacks, Article 14 had already declared the public lands of the park "be forever kept as wild forest lands." Together with the political prowess of the Great Camp elite and the thousands of tourists who demanded forest vistas and quiet waters for their escape from city life, the Forever Wild clause would shape an American environmental ethic. The Adirondack experiment at the turn of the nineteenth century would be the touchstone for defining public land stewardship in the United States. Roosevelt would articulate this new ethic in terms of a public responsibility for wise management of all natural resources and would simultaneously pull back, ever so slightly, on the reins of privatization and free-market economics.

The Adirondack experiment is in many ways a microcosm of the evolution from private property to liability rules and then inalienable rights that define the individual's rights and responsibilities in democratic societies worldwide. With rights defined only by private property rules—when an individual is free to interfere with or prevent interference from another—a person is not obligated to limit the impact of their decisions on others. Excludability (e.g., no-trespassing laws) directs the benefits of ownership to the individual under private property rule. "No trespassing" signs first appeared around the time the state was defining its holdings as Forest Preserve. Within a period of a few years the advent of private property rules would transform the Adirondack landscape from a vast, open-access resource for local hunter and downstate explorer alike, to a

patchwork quilt of ownership. Use and development of the intermingled private property remained subject to the whim of individual landowners.

However, when society deems a narrow assignment of rights to the individual to be harmful and unfair to others, liability rules can be added that restrict activities on private interests. Hunting regulations, pollution standards, and legal mechanisms that provide for damage compensation are each examples of liability rules. In the Adirondacks, game laws were the first such rules to evolve, creating legal excludability on a previously open-access resource—the beginning of drawing individual rights (i.e., unregulated hunting and fishing) into the public domain (i.e., hunt and fish according to public law). Restrictions on recreation intensity on public land, and cutting practices and residential density on private land, were to follow.

The environmental movement of the 1960s brought a broad societal recognition of the implications of a full world and a mix of inalienable rights to protect the remaining open spaces and natural environments for current and future generations. The Wilderness Act and the Endangered Species Act were obvious manifestations of this shift in ethic. So, too, were the National Environmental Policy Act and National Forest Management Act because while not directly seeking to protect open spaces, they demonstrated a public interest in how lands were managed, and thus a desire for societal oversight. This new recognition of the full world went beyond oversight of public resources to seeking input for the management of private lands through zoning laws. Viewed in this larger context, it is not surprising that the Temporary Study Commission on the Future of the Adirondacks arrived at a prescient, or strident, imposition of public voice to all lands within the region. This sweeping legislation codified the intent of "wildness" of Article 14 by classifying public lands along a spectrum of recreation intensity. But it also extended the concept to private land. There it centralized development density restrictions and enforcement to create an Adirondack Park as an integrated model of public and private land management.

As did Article 14 with public land, the Adirondack Park Agency Act retracted private land from the sphere of indiscriminate use.

The work of the Temporary Study Commission was a direct translation of the larger societal vision. The Adirondack Park Agency Act, the State Land Master Plan, and the Adirondack Park Land Use and Development Plan were the first to lay out a full complement of private, liability, and inalienable rules to achieve regional protection of a wilderness already occupied by a sizable population. By defining this mix of rules for land use, these documents laid the foundation for a vision of sustainability of economic vitality in the context of a wilderness character.

The Adirondack Park of today is the product of a natural endowment that included harsh weather and a mountainous terrain, visionary advocates, and compromise between those who wanted as much of the natural environment protected as possible and those who were more concerned about economic prosperity (or some would say economic survival) for local residents. If one views the Adirondack region from an airplane or from one of its highest peaks, it does appear as one of the truly wild places in the United States. Up close, however, an expanding development of second homes is ever-present. Waterfront property has become sufficiently scarce that wealthy individuals are purchasing motels and other commercial establishments located adjacent to lakes and razing them to construct private residents. Change is evident.

In addition to public lands (the Forest Preserve) in the park, large tracks owned by the forest-products industry have helped maintain the forested landscape of the Adirondacks. That, too, is changing dramatically. In the past decade Champion International, Domtar, International Paper, and Finch Pruyn have each sold their timber holdings in the park. Some of that land has been sold to the state and some to timber investment management organizations (TIMOS) and real estate investment trusts (REITS). Much of the land sold to other kinds of private-sector investors has included the sale of conservation easements to the state as a means of further protecting the land from development. The conservation easement has become

a refined tool for managing lands in a way that partitions property rights between semiprivate means and semipublic ends.

Is there an advantage to shifting our focus on the Adirondack Park from one of simply protecting the natural environment (not that that is a simple proposition) to using the metaphor of sustainable development? We are aware of the controversy over whether there is real substance to the notion of sustainable development. Still, the words of the World Commission on Environment and Development that defined sustainable development as that which "meets the needs of the present without compromising the ability of future generations to meet their own needs" appear to have meaning here in the Adirondack Park. Sustainable development in the context of the Adirondack Park would include at least five goals:

1. Protect the wild character and ecological integrity of the public lands in the park.
2. Assist each hamlet to develop its own personality both esthetically and culturally so that its residents want to live there because of the quality of the experience.
3. Protect and improve where necessary the infrastructure in the park.
4. Promote and enable appropriate development that neither destroys nor impoverishes the natural resources on which that or other development depends.
5. Promote a shared vision with shared responsibility for the park.

Many people will agree that these are important goals. Even the most vocal critics of the Forest Preserve and the Adirondack Park Agency will point to wilderness as an asset. Whether we understand the science in depth or not, it seems intuitive that ecological integrity involves the protection of the function and structure of natural ecosystems on the public lands and a smooth transition between public and private lands. It seems obvious as well that we want to avoid public beautiful here and private ugly there. And many of the strongest advocates for wilderness will agree that community identity is important. All people want to brag about their community—their neighbors, churches, schools, and villagescape.

One of the cornerstones to quality of life is the infrastructure to support basic needs. Water is possibly the single biggest short-term environmental problem facing the world. The water quality and quantity of the Adirondacks is superb; therefore there is a temptation to ignore it (the empty-world mindset!). That would be the demise of sustainable development in the park. Maintaining water quality calls for particular attention to the appropriate disposal of commercial and household waste, adequate filtration of surface water run-off prior to entry to water bodies, protection of wetlands, and protection from invasive species. Similarly, promoting quality schools and building better communication systems are crucial.

These goals, of course, become irrelevant without an ability to keep the economy intact. The park is based on a rural economy. It is not the big projects with outside capital that will build an enduring economy, but the small actions that involve all sorts of people at the local level. It is the local real-estate broker, the banker, and the lawyer, rather than the Wall Street brokers and the big construction firms that bring vitality to communities. But the issue is not just about local decisions. The park's historic economy was sustained only because of close ties to the larger regional and global economy. Our failures all relate to our inability, still, to understand sustainability at multiple scales. Most recently, our failures to understand the cumulative impact of decades of deregulation and poor land-use planning, which created a "housing bubble" in the United States, led in large part to the global financial collapse of 2008. And unlike other recent economic woes such as the bursting of the dot-com bubble, the housing fiasco was not isolated to just a few economic sectors. We are all connected now.

It is the goal of achieving a shared vision that perhaps stirs the most controversy. The majority of New Yorkers live in full-world environments where human impact is pervasive and where they cope with crime, pollution, and traffic. To them, the Adirondack Park represents a place where the environment is safe, unblemished, and empty. To them, more acquisition of land for wilderness—land that would remain empty—is important because their world is full.

To those living in the Adirondacks, the world is anything but full. What many local residents see everyday when they walk out the door is an overabundance of land sitting idle. Many cannot conceive of a reason to set aside more wilderness.

The focal point for the debate is the land-use classification. At the heart of the classification system is an intention to cluster human impacts. Heavier human impact is limited to Rural, Hamlet, Low Intensity, Moderate Intensity, and Industrial areas. The clustering occurs because these classes represent less than 15 percent of the park. To the town supervisors seeking to promote economic vitality in their communities, this limit to growth is *the* reality of living in the Adirondack Park. To environmental advocates, the clustering is not stringent enough.

On the whole, though, it is the clustering that is largely responsible for the rise in both the environmental condition and the economic value of land in the Adirondacks. Land-use classification and economic disincentives to develop lands owned by timber industries limited fragmentation of the region. Measures of ecological integrity show that large portions of the park have returned to natural conditions akin to those of the sixteenth century. The presence of exotic species and the loss of native species, the key indicators of ecosystem decline, occur primarily in those areas designated for human development. Recent sales of development rights through establishment of conservation easements on large areas of industrial forestlands mean that fragmentation is unlikely to become ubiquitous. At the same time, economic value is increasing as limits to the amount of available land combine with changing economic and demographic conditions to drive up the cost of real estate. The retirement of the baby boomers and their unprecedented wealth, and the appeal of a second home or permanent move away from crime, pollution, and traffic to the slower pace of the Adirondacks have focused demand on the little land that is available for development. And the developable land is more valuable precisely because 85 percent of the surrounding landscape is protected. U.S. communities that suffered the most dramatic declines in real estate values in the 2008 collapse were

precisely the communities with the least amount of planning and growth controls.

The debates about property rights in the future will be shaped by the questions about the limits to available space for development and, in particular, clustering. Some have argued that the density criteria for buildings in Resource Management areas are too general and that we are now reaping the consequences in the form of local fragmentation. The law allows one building for 42.7 acres, which translates into a potential 15 buildings per square mile. With dispersion of the buildings come more roads and other infrastructure. Would tighter clustering of development reduce environmental degradation? Others have argued that the boundaries of hamlets should be expanded to allow at least modest development of local economies. Can the restrictions on the periphery of hamlets be relaxed without incurring a large ecological cost? Are there thresholds to expansion of development and attendant human impact on surrounding lands beyond which the resilience of the natural ecosystem is no longer able to cope? If so, where are those thresholds? The science available to date does not provide any clear answers. Until science can provide good answers, decision makers will be faced with economic pressures and diverse opinions about change that challenge the legal precedents of land-use regulation.

Perhaps the greatest economic pressure will arise not from the desire for second homes, but the emergence of infrastructure and what might be called the Emerson Effect. In 1858, Ralph Waldo Emerson and the small group of people who would pioneer philosophy in America convened a Philosophers' Camp near Follensby Pond in the central Adirondacks. Emerson left the camp motivated by a desire to get back to Boston to learn of the news of the first transatlantic cable. What would have happened if Emerson were in the middle of the Adirondacks with immediate connection to society? Would he have been as anxious to leave? We appear to be at the leading edge of the Emerson Effect today, where our desire to be connected to society is promoting penetration of high-speed telecommunication. Reliable telephone, fax, high-speed internet,

and overnight package delivery is slowly reaching to even the most remote communities of the Adirondacks. The perception of a higher quality of life associated with small communities and the aesthetics of the surrounding wilderness, coupled with good communication, is fostering a new migration of Americans from the suburbs back to rural environments. Will the Emerson Effect prove to be a metaphor for the Adirondacks of the next generation?

As we look to the future, we ask once again, did the succession of laws and policies from 1885 to 1972 meet the lofty goals of the authors who wrote them and the legislators who gave them the status of law? John Davis, conservation director for the Adirondack Council, answers this question with a still deeper one: "This is perhaps the best-protected landscape in the country, but is it protected well enough?" The Adirondack Park was created through an extraordinary confluence of societal will and political savvy. Once put in place, the park has sustained itself in the face of substantial challenges. Both politically and ecologically, the park has demonstrated remarkable resistance to outside forces. To some people, the ultimate measure of that resistance is evident in the decisions of the forest industry to pull out, ceding its lands to be part of the wilderness. For many of these advocates, the debate now shifts to housing subdivisions. For still others, the debate will focus on whether economic vitality and ecological integrity is an either-or question, and if science can provide an avenue to sustainability of both. Yet to others, the debate over property rights and how best to define sustainability has only begun. The enabling legislation of the Adirondack Park Agency sought nothing less than to codify a distribution of the benefits from property ownership between individuals and the public, between current and future generations, and between humanity and the rest of nature. Much of the past 38 years of the Adirondack Park Agency has been spent firming up the legal foundation for this approach and refining the process by which the distribution of rights is implemented day to day. As such, the park reflects the societal choice from the full spectrum of property-rights regimes.

On the horizon may be new societal choices, as indicated by observations that young people have less affinity for nature than previous generations. In question is a fundamental issue: is wilderness an important asset to the human condition, and therefore is conservation of the resources of a region a reasonable goal? Is sustainability through preservation of a wilderness environment possible? In concrete terms, what is the societal cost of wind turbines in a wilderness? What is the value of wild rivers in the face of the need for hydropower? And ultimately, how should we consider a forest that could be harvested to provide resources for cellulose-based bio-fuels or wood-fired electricity generation? The Adirondack region is located within 500 miles of over 90 million people, so the immediacy of the issues like energy is obvious. Less obvious are the broader issues that could drive the debate about wilderness.

The future the Adirondacks will play in society's thinking about the sustainability of the combination of wilderness and human economies is likely to be predicated on three remarkable ironies. The first is that the biggest threat facing the Adirondacks is the risk that wealth will flow into the Adirondacks. Local governments have railed against the Adirondack Park Agency for limiting their ability to bring economic vitality to their communities. The challenge they face is certainly affected by land-use regulation. However, for much of the past 40 years, the goal was to bring manufacturing jobs into the region. The challenges of transportation plagued the economic development of all of the northern forest from Minnesota to Maine. The forest industry is the common denominator in all these states, and even in the absence of the Adirondack Park Agency, northern Wisconsin and northern Michigan fared little better than northern New York. Yet the Emerson Effect may accomplish what forest industry could not, drawing high-paying jobs to the region that are generated by small entrepreneurs and digital connections to corporate America. The service-based economy is highly mobile and quality of life drives the decisions about where people choose to live. As high-speed internet service becomes standard in the Adirondacks, the software companies around Boston and the financial

corporations of New York City may begin to see strategic advantage in locating in the Adirondacks because doing so enables them to compete more successfully for talented employees. And in a post-AIG and post-Big Three auto era, where even the most dogmatic deregulators are questioning the mantra "too big to fail," might an economic model of small and local make a comeback?

Ultimately, however, human economies need energy and materials to survive. In the end, can the Adirondacks be held to a standard of sustainability if environmental protection and quality of life are sustained within the Blue Line at the expense of degrading environments elsewhere? A planning ethic of "not in my backyard" no longer applies when scaled up to the level of the whole earth's sustaining and containing ecosystem. As goes the planetary experiment, so goes the Adirondack experiment.

The power of wealth and values of society a century ago put the Adirondack experiment in motion. The power of wealth today may cast the old issues in a new light. Once again, property rights will be central. The limited land available for development will exacerbate issues of affordable housing to the point that it may produce a demographic shift. Gone will be the society of self reliance that has been pervasive for at least six generations. Ushered in will be a society with a desire for government to provide greater service. Yesterday, local governments were challenged by people who viewed the lack of cell-phone coverage as inconvenient. Today, they are faced with a society that sees it as dangerous. And today, local governments are challenged by the emergence of large numbers of seasonal residents who see the lack of shopping malls as inconvenient. Tomorrow, they may be facing the implications of rapidly growing population of year-round residents who demand all the conveniences of the suburbs.

The second remarkable irony is that Adirondack residents of today may be the last generation really to understand the nature of the region. As much as residents saw the park agency as limiting what they could do with a wilderness, they were at home *within* it. If Richard Louv has it right in *Last Child in the Woods*, American

society is moving away from outdoor experiences, and the future residents of the park may only live *beside* it.² If the demand of economic wealth combines with a societal shift in the perception of the value of wilderness, then redrawing of the lines and perhaps reconsideration of the entire classification system are likely. Article 14, the Adirondack Park Agency, the State Land Master Plan, and the Adirondack Park Land Use and Development Plan are political constructs that can be undone.

The third irony is that what happens outside of the Blue Line may be more important to the Adirondack environment than the decisions made within. The ecological resilience of the Adirondack Park is evident by the return of wilderness species such as the moose. The moose became reestablished after more than a century of absence because the Adirondack region remains ecologically connected to wild ecosystems of northern Vermont, New Hampshire, Maine, and southern Ontario and Quebec. That connection is tenuous and may eventually be broken by intense human development in the St. Lawrence River, Lake Champlain, and Mohawk River valleys. Moose are able to cross this ring of development today because what was once open farmland has been abandoned in the past century and reverted to forest, even if fragmented. That forest, though, is in transition to residential and commercial development with the attendant multilane highways. The "rooftop" highway under consideration for the St. Lawrence River valley from Watertown to Plattsburgh illustrates the immediacy of this vision of the future. Once the intensity of development truly isolates the Adirondack Park, 6 million acres may not be sufficient to retain the communities of species and the natural processes of the wilderness ecosystem.

Even regional connectivity may not be the most crucial issue. As is evident from three decades of scientific study, acidic deposition and atmospheric inputs such as mercury have been detrimental to the Adirondack ecosystems and potentially to the health of people living in the region. The long-term measurements show that the ecosystem remains resilient as exemplified by the signs of natural recovery during the years of stringent federal air-quality standards.

However, if current trends in degradation continue, there is an ultimate threshold beyond which recovery is not likely to occur. Of course, the specter of global climate change overshadows all. Already there are signs of shifts of songbird communities, with the southern edges of northern bird species shrinking, and the northern edges of southern species expanding. With changes in length of the warmer seasons will come new diseases and insect pests resulting in a decline of many of the tree species that are hallmarks of the Adirondacks: maple, birch, spruce, and hemlock.

The future of the Adirondacks is certain to include significant change. Economic and ecological characteristics of the region today that influence so many of the decisions we make are unlikely to be the only considerations that shape future concerns. Yet while society in general, and Adirondack residents in particular, face the challenges of moving forward in a context of broad uncertainty, and certainly an absence of complete understanding of how to achieve sustainability, there is nevertheless a need to make decisions. We can continue to debate decisions regarding hamlet boundaries and lakeshore setbacks for construction, and we should, but we must also cast an eye to the gathering clouds on the horizon. If we are to find a means of sustaining a vibrant economy amidst a wilderness ecosystem, we will need to forge a new consensus for a shared vision not just within the Adirondacks, but within our larger society.

We return to the lessons of this book with the hope that they may offer insight to help us come together in a shared vision for not just the Adirondacks but other areas facing similar decisions. While the central insight is not novel, it is fundamental: whether we speak of the Adirondacks, Alaska, or the developing world, philosophical agreement is the first step to moving forward. The Adirondack wilderness persists today because earlier generations came to broad philosophical accord and then political agreement on a vision for a Forest Preserve and the Adirondack Park. We will need to achieve that political accord once again. To do so, we will need to recognize the difference in perceptions between those who experience the full world and those who experience the empty world. That difference

354 | *Small Experiment in Conservation*

created the wedge issues of the past 40 years and is likely to be the cause of great change in the decades ahead. The shift in geography of economic activity and footloose income to rural environments, and the decreasing societal affinity for the natural environment, will precipitate a new debate about the value of wilderness. A new demographic group will inhabit the Adirondacks, and it is likely they will share the philosophical position of neither the contemporary environmentalist nor developer. Rather, a new philosophy will emerge.

The other insight pertains to the mechanism for implementing a shared vision. The implementation of a vision of sustainability will be inherently messy because we live in a democracy, and because we must make so many decisions without a complete understanding of either their economic or ecological implications. We will need a mechanism for synthesizing what is known and identifying what is not, objectively evaluating pros and cons in light of this knowledge and then moving forward with the best possible decisions. Ideally, we will need a means for testing some of the underlying assumptions to the decisions made, monitoring the outcomes of those tests, and improving the decisions with each cycle. The Adirondack Park Agency Act offers one model, among probably many, for implementing a vision of land use over a large area. Many people continue to disagree with the decisions made by the park agency over the years, and many object to the time often required to reach a decision, but decisions are made. In the process, the agency provides a forum for debate, clarifies and documents the issues, attempts various solutions, and finally integrates new knowledge to improve the decisions it makes. We can argue about the execution, but there is much to be said for the model.

The lesson about mechanism is also one of limitations. It is likely that a mechanism such as the Adirondack Park Agency Act can serve to move the park, and society, closer to the goal of a sustainable environment. To do so, though, means that the agency must find ways to integrate a complicated economic system and, one could argue, an even more complex ecosystem. If that is not daunting enough, the Adirondack Park Agency faces outside influences to these economic

and ecological systems that it cannot affect. Like all government agencies, it is vulnerable to political pressures, or interference, and that risk grows as economic stakes get larger. And, like all agencies, it lacks the authority necessary to control the destiny of the resources it is charged with overseeing. In this case, that is because the Adirondack region can be isolated, to its detriment, from the surrounding ecosystems and also because it is attached, again to its detriment, to the regional weather patterns and global climate. Thus, as much as the Adirondack economy seems at the whim of outside forces, so too is the health of the natural ecosystem.

As we said at the outset, the Adirondack region was the crucible of the American conservation ethic at the turn of the twentieth century. So it appears to be poised to serve that role again. Both philosophically and mechanistically, the fact that wilderness protection and at least modest economic development has worked in the past creates an enormous inertia going forward. It is likely that the Adirondacks will be the place where the debates of how to define, measure, and manage for sustainability will be vigorous. Once again, the decisions arising from the Adirondack experience are likely to shape, as much as be shaped by, new societal paradigms.

We end with an expression of deep respect for the prescience of earlier generations and key leaders in creating an opportunity for this generation, and those to come, to test the idea that sustainability is possible. The wisdom gained by the generation now beginning to pass from the scene and captured, in part, by the many voices of this book, is remarkable. We hope future generations can learn from it. Yet our guiding question—"Why does the Adirondack experiment still persist?"—is never fully answered because at the core of sustainability is the hope, and indeed the expectation, that generations from now, people will be asking the same question.

Afterword

Living Within Limits

BILL MCKIBBEN

The hand of man has been (relatively) light on the Adirondacks in the past. Yes, most of it has been cut over at one time or another, but in many cases just once. (And as historian Barbara McMartin has argued, even that was a light brush across hundreds of thousands of acres.) There are relatively few places on this continent that can point to a single encounter with human enterprise—certainly not the vast swatches of the American West perennially retransformed by cow and sheep, nor the plains plowed each spring, nor the offshore sea bottoms trawled with depressing regularity.

That relative wildness and pristinity are the key defining features of the park; the Blue Line is a psychological circle of a sort. It demarks a series of historical choices that have limited human impact on the landscape. Humans have reduced their demands on this place. Not entirely, of course, and perhaps not enough, as the current second-home development boom demonstrates. But *relatively*. To stand in the Pepperbox Wilderness or the Wilcox Lakes Wild Forest (and to know that you are one of maybe a dozen people standing in those places on that day), and to see that they have been saved not for their Yosemite-quality splendor but just *because*, is to understand the heart of the Adirondack experiment. Especially if you have stood that same day in North Creek or Old Forge and understood that the distance from the human world is neither great nor artificial. A sweeping (if relative) wildness, a recovered (if

relative) wildness, a wildness juxtaposed with the human—these are the hallmarks of this place.

But what will they mean a half-century hence? I think the Adirondack region is better equipped than most places to its mix of uses—some combination of enlightened government and enlightened philanthropy may be able to figure out some of the conundrums (high housing prices especially) that threaten this experiment. But it is no better equipped than any other place to survive the large-scale human impacts that will come as we rapidly warm the planet.

That approaching warming is by now conceded by all credible climatologists, who differ only on the degrees and rates with which it will manifest. Although there is an enormous amount of work to be done to slow global warming (obvious work—raising automobile efficiency, taxing carbon, building renewable sources of power), none of it will be enough to prevent large-scale climate change. The best estimate (not by any means the worst-case scenario) of the world's scientific establishment is that this century will see a temperature increase on the order of 5 degrees Fahrenheit globally averaged, a number that may well be somewhat higher at this latitude. That is a very, very large shift—the world would be warmer, should that happen, than at any time since before the start of primate evolution. We literally can barely imagine what such a world would be like.

Given a limited area like the Adirondacks, however, it is becoming easier for the computer modelers to make predictions. A team centered at the University of New Hampshire published in the fall of 2001 the most detailed forecast yet for northern New England and northern New York. Barring some strange surprise—say, a slowdown of the Gulf Stream from Arctic melting that paradoxically cools parts of the Atlantic coasts of North America and Europe—the picture of a superheated Adirondacks begins to emerge. It would not resemble the park that we know today. For one thing, the tree species that dominate our slopes would disappear. Hemlocks would no longer shade and cool our streams. The upland forests would no longer be dominated by birch, beech, and maple with their

330 | Great Experiment in Nature

magnificent autumn show. Instead, some mix of oak and hickory would likely move in from the south, an event that would among a thousand other consequences end that rite of spring, the sugar season. (A rite of spring that has already become a rite of late winter in recent decades; in fact, at this latitude spring already arrives about 7 days earlier on average than it did in 1970.)

Even more stunning, the season that we know as winter would essentially disappear. When it gets that warm it is far more likely to rain than snow, and what snow there is melts away fast. Lakes do not freeze, except ephemerally and at altitude. (Already the great low lake of the region, Champlain, has experienced unprecedented stretches of years when it fails to ice-over totally in the course of a winter.) The report concluded that although some kind of short alpine ski season might be eked out on manmade snow, both snowmobiling and cross-country skiing would become extinct.

The economic effects of such a huge shift would be large, of course—if winter becomes one long mud season, and the fall foliage turns a drab brown, who knows what will happen to the tourist economy. Too, the biological effects are likely to be enormous—how will trout populations survive heating waters? The most likely answer is, they will not, and similar stresses will be felt across the entire flora and fauna. But in this context I will leave those questions for others. (I have tried to answer some of them in a cover article for *Adirondack Life* magazine dated April 2002.)

What concerns me more here is how the *meaning* of the Adirondacks will change. To the extent that its meaning derives from a sense that it is pristine, Forever Wild, largely untouched by man at least in the Forest Preserve, then that meaning may be in for as rough a ride as the trout. The Blue Line is, obviously, no defense against climate change; in fact, it will be felt far more powerfully in the Adirondacks than in, say, Clifton Park precisely because people here pay attention to the “natural” world. Winter is a far more palpable concept in Saranac Lake than in Shenendehowa, and so its absence will be more profoundly felt. The American suburb, where most of our countrymen now live, is a device for making

the physical world disappear—who knows where its rivers run, or what its native species are? Only places like the Adirondacks still have a deep connection to the physical, and so the damage will be more blatant there.

Just as winter and fall are eliminated, so also may the sense of living someplace apart be eroded. If smog was the great environmental metaphor of the last century, you could escape it by leaving the city; this greenhouse smog will blanket everything. Thoreau wrote once that he could walk half an hour from his Concord cabin and come to a place where no man stood from one year to the next, “and there consequently politics are not, for politics are but the cigar smoke of man.” In some ways it will no longer make much sense to talk about the Adirondacks as “wild.”

But in such a world, paradoxically, wild will become more important than ever. *Relative* wild. It is true that the park will be heating up. But it is also true, barring hideous folly by the voters of New York, that the 3 million acres of Forest Preserve will still be free of development, and that the APA will, I hope, manage development in the rest of the park in exemplary ways. By contrast to the rest of the East, and indeed to most of the lower 48, it will remain an island of wildness, and that island will be all the more important, *if only to prove that we as a species are in fact capable of leaving something alone*. There will be great practical value in the unbroken forest, too, of course—as plants and animals stream northward against the rising heat it will be an invaluable refugium, and a stop on the underground railroad fighting extinction as it was once a stop on the underground railroad battling slavery. But in a world far more tinged even than our own with a sense of how badly humans have overrun their wise and proper bounds, the example of the Blue Line will speak volumes. It is not hard to imagine the bicentennial of the park’s founding, in the 2090s, in a world much chastened by the example of endless human overreach—the park will be one of those places of which we can still be proud, and from which we can take some clues about how to proceed on the other side of the environmental crises that mark our century.

The human communities of the park will also offer valuable lessons to the world around us, I think. It is at least possible that in a carbon-constrained world (or the post-fossil-fuel age envisioned by an increasing number of researchers focusing on "peak oil"), we will need examples of places less tied into the global economy, more able to fend for themselves. The Adirondack Mountains possess certain of these characteristics—some of its energy is locally derived from wood, for instance. Combined regionally with the Champlain Valley, the possibility for a more self-sufficient food and energy economy grows. Maybe more to the point, many of its residents manage still to take a great part of their satisfaction from contact with the world around them instead of from material acquisition. This trick—which Adirondack guides helped teach city swells a century ago in the first heyday of "ecotourism"—may be equally important in the world now dawning. Intact communities, relatively low consumption lifestyles, homegrown entertainment—these are distinctions that may seem more significant in a more stressed world. If the suburban dream begins to tarnish, we will need some other dreams to replace it. This could be one.

Global warming changes everything, obviously. It is the most pronounced change humans have made to the planet since we crawled down from the trees, and it is vanity to try and predict exactly how we will react. But those things that already distinguish the Adirondacks—a sense of wildness, and human communities embedded within that wildness—may become even more precious in the scary days ahead. At the least, it is crucial now more than ever to keep these mountains and these hamlets as intact as possible. They may be touchstones in the chaos—ecological and human—now heading our way.

STOP

ADIRONDACK TECHNOLOGY

NOTES

BIBLIOGRAPHY

INDEX