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Participation, Values and
Resource Management

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From Top-down to Participatory Planning: Conservation Lessons from the Adirondack Park, United States

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Introduction

The Adirondack Park located in Northern New York State of the United States of America (approximately 4 hours north of New York City) is a unique combination of protected State and privately owned land regulated by zoning laws (Figures 9.1 and 9.2). This combination of ownership models has made the Adirondack Park a unique application of land use planning compatible with large-scale biodiversity protection. By implementing a network of public and private lands, New York has been able to protect the ecological integrity of the largest park in the contiguous United States during the past 100 years. However, these gains in environmental protection were achieved at the expense of individual liberties of private landowners and local communities. This has led to repeated tensions between public agencies and representatives and between local stakeholders and citizens. One reason for these tensions is that today's Park has evolved from a rather top-down planning process that considered little input from local communities, who were left to bear the burden of real or perceived conflicts between a State agenda of environmental protection and a local agenda of economic development. More recently, both sides have become aware that the long-term viability of local economies within the healthy and functioning ecosystems of the Park will depend on a new era of community involvement and collaborative, participatory decision-making.

This chapter summarizes the significance of the Adirondack experience as an example of biodiversity protection. It offers an historical overview of the decision-making process responsible for today's patchwork quilt of the public and private lands within the Adirondack Park. It discusses recent develop-

ments in research and decision innovation that seek to bridge the knowledge gaps between various stakeholder groups, decision-makers, and those most affected by land use decisions. Four current examples of this bridge building process are discussed to illustrate the potential that community-based research and policy making offers for improving sustainable development efforts within the Adirondacks.

The Global Significance of the Adirondack Park

New York State was the breeding ground for the American industrial revolution. The timber resources of the northeast United States, the extensive waterway system providing transport to mid-western states and the birth of the 20th century's financial centre of New York City, all contributed to the accumulation of wealth and power characteristic of the Empire State. New York has been home to the Rockefellers, Vanderbilts and other oil, rail and industrial empires that became synonymous with a turn-of-the-century free-market ideology perhaps never before and never since experienced. This chapter of New York history is well known and continues to shape the discourse within boardrooms of Fortune 500 companies, the New York Federal Reserve and the trading floors of Wall Street and the New York Stock Exchange.

A lesser-known chapter of New York history stands in contrast to the well-known culture of human expansion, exploitation and domination. New York State is also home to the largest park in the contiguous United States. The century-old, 6 million-acre Adirondack Park of Upstate New York is larger than its better known cousins Yellowstone, Yosemite, Grand Canyon and Smoky Mountain National Parks combined. In fact, the American concept of wilderness and land conservation can be traced to the constitutionally protected New York Forest Preserve, upon which the Adirondack Park was built (the Adirondack lands within the Forest Preserve are highlighted in Figure 9.2). Created in 1892 through an amendment to the State Constitution, the New York Forest Preserve in the Adirondack and Catskill Mountains today stands as one of the strongest protections of land in the world (Brown, 1985; Terrie, 1994). Article XIV of the New York State Constitution reads in part:

'The lands of the State ... shall be forever kept as wild forest lands. They shall not be leased, sold, or exchanged, nor shall the timber thereon be sold, removed or destroyed.'

Throughout the 20th century, the development and lumbering restrictions set forth by Article XIV withstood many challenges from timber interests and hydropower projects, and more recently, large-scale tourism development interests (Schaeffer, 1989). Any change to the Constitution of New York requires the passage of amendments in consecutive State legislatures followed by a statewide public referendum. This rather rigorous process has made it possible for Article XIV to stand against such challenges. In fact, the signifi-

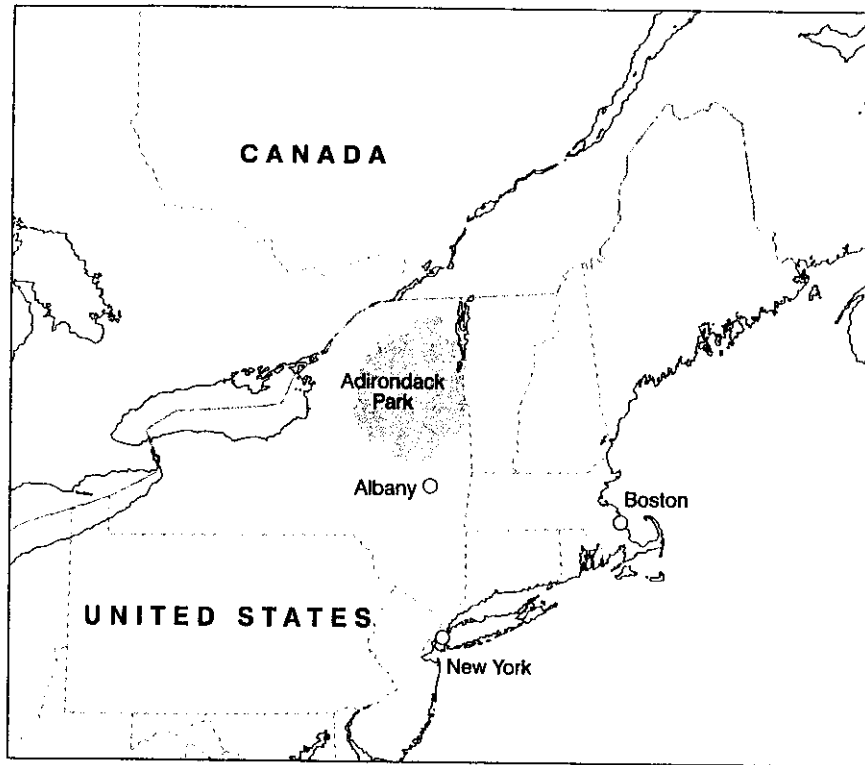


Figure 9.1 Adirondack Park of New York State

cance of Article XIV has extended well beyond the Park's boundaries. It is widely recognized that its language, and decades of legal experience in its defence, laid the foundation for the US National Wilderness Act of 1964.

Yet despite its strength, the New York Forest Preserve faces similar challenges to those faced by many national and international nature protection efforts. Like most conservation strategies, the Forest Preserve depends in large part on State government purchases (or seizures) of land and on the cessation of economic activity within protected land boundaries. Such strategies have proven effective at best for small parcels of land. However, government finances and the availability of land for sale typically limit them.

The Adirondack Park is no exception. Its boundaries were originally drawn with the ultimate goal of complete State acquisition. However, through the years, as the Park boundary expanded, land values increased, Adirondack towns and villages developed, and large tracts of land were retained in the private sector, it became clear that this ultimate goal was infeasible. The Adirondack Forest Preserve did continue to expand, but today accounts for just under half of the 6-million-acre Adirondack Park.

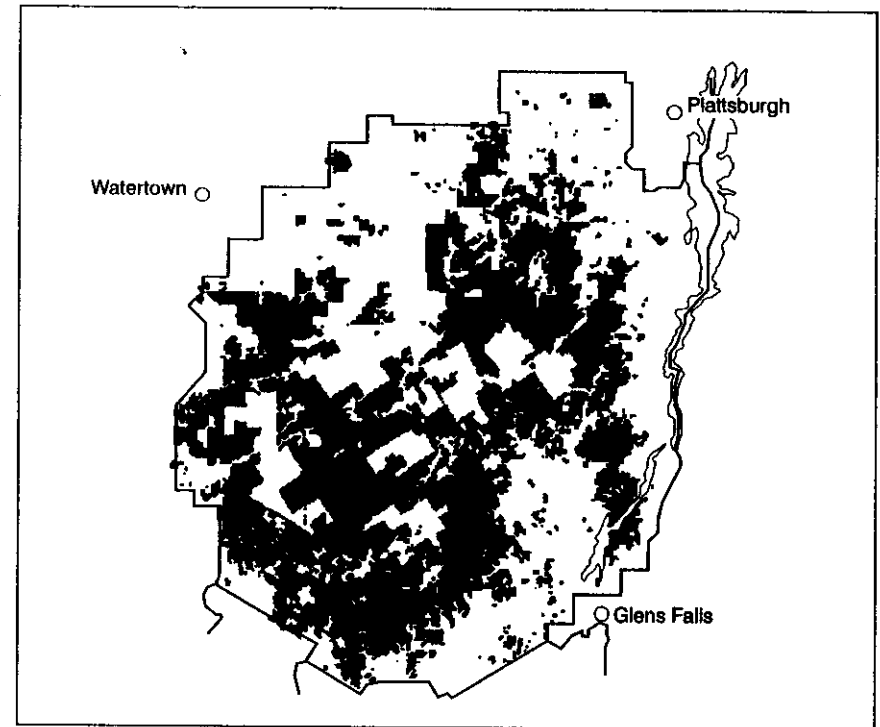


Figure 9.2 Adirondack Forest Preserve

While the level of protection afforded to the public Adirondacks is unique, the incorporation of private lands within a protected Park system sets the Adirondacks apart from the typical public park model. By including both public and private lands within the Park boundaries, comprehensive planning had to evolve in order to protect a large relatively intact ecosystem from incompatible uses on privately owned land.

Prior to the 1970s, public land in the Adirondacks was simply protected with no intent of incorporating recreational land use on protected lands into the Park's land use regulations. Yet given the Park's unique structure of private lands intermingled with publicly owned tracts of land, new forms of land use and protection were needed. Private lands consist of small tracts around hamlets, large open spaces owned by timber industries, a few remaining wealthy estates and recreation clubs.

Following the completion of interstate highway 87 in 1967, which runs through the eastern border of the Park connecting large population centres in New York City and Montreal, new threats to the Park's ecological integrity emerged. Public lands were suddenly accessible to a larger and demographically and economically more diverse segment of the northeast US population. New subdivisions and sales of private lands for second-home and seasonal

Table 9.1 State and private land classifications, 1992

APA classification	Private land (53%)	% of park	Compatible uses
State land (47%)			
Wilderness		17	Camping, hiking, canoeing, fishing, trapping, hunting, snowshoeing, ski touring
Primitive & canoe		1	Similar to wilderness uses
Wild forest		21	Similar to wilderness uses with the addition of some motorized vehicle access
Other		7	Water (6%), Pending (0.68%), State administration (0.01%), historic (0.01%), and intensive use (0.33%: ski centres, public campgrounds, developed beaches, boat launching)
	Resource management	28	Forestry, agriculture, game preserves, recreation, very low density development (42.7 acre average lot size)
	Rural use	18	Similar to resource management, low density development (8.5 acre average lot size)
	Low intensity	5	Low density residential development (3.2 acre average lot size)
	Moderate intensity	2	Concentrated residential development (1.3 acre average lot size)
	Hamlet	1	All uses compatible, no APA development intensity limit
	Industrial	<0.5	Existing industrial uses (ex/mining), future industrial development

Note: Based on personal communication with John Barge, APA and Collins (1994).

housing development, town expansions, and recreational land use development rapidly altered the character of the private land pockets within the Park. In reaction, New York State commissioned a study of the Adirondacks resulting in the creation of the Adirondack Park Agency (APA) in 1971. The APA was charged with the task of zoning the public Adirondacks for recreational use and the private Adirondacks for various intensities of development. The results of the newly formed APA's work were two comprehensive plans: the Adirondack Park State Land Master Plan (1972) and the Adirondack Park

Private Use and Development Plan (1973). Table 9.1 lists the public and private zoning classifications, current percentage of Adirondack land within each, and a brief description of use intensity by zone.

At the dawn of the twenty-first century, the story of the Adirondack Park is one of seeking to live the generally abstract concept of sustainability rather than conservation. People are trying to make a living within a protected area rather than keeping human use and nature protection neatly separated. Today's Adirondack Park is home to over 135,000 permanent residents in 105 towns and villages, and host to over 200,000 seasonal homes. Seventy million people live within a day's drive from the Park. Almost by accident, the region has evolved into an application of modern multiple land use models extolled by conservation biologists to protect large ecosystems through networks of cores, corridors and buffers (Erickson, 1998). McKibben (1995), Schneider (1997), Terrie (1997) and others have looked at the Adirondack experience in search of compromise between economic development and environmental protection. In the search for operationalizing vague principles of sustainable development, the Adirondack story is shedding some much-needed light on its application at a regional level.

The Adirondack Park Agency and Top-down Land Use Planning

The modern era of the Adirondack Park began with the enactment of the Adirondack Park Agency Act in 1971. The main purpose of the act was to establish an agency within the executive branch of the State Government that would be responsible for zoning and enforcing land uses compatible with public and private interests within the Adirondacks. Although the act resulted in master plans for both public and private land use, it was the private use plan and an accompanying park-wide map that stirred the most serious controversy since its inception. The APA plan recognized

'the complementary needs of all people of the state for the preservation of the park's resources and open space character and of the park's permanent, seasonal and transient populations for growth and service areas, employment, and a strong economic base, as well.' (APA Act, sec. 801)

However, despite this language, the local perception was one of the State Government protecting the land conservation interests of tourist and downstate residents at the expense of local Adirondack residents' economic interests and private rights. For instance, a 43-acre parcel of land that could once have been subdivided into numerous plots for sale or construction was suddenly limited to one principal building. Private local landowners' rights were severely limited for the sake of the larger social good.

The drafters of the APA act recognized and partly addressed this conflict between private and public interests by incorporating concerns for a local government voice. The APA commissioners consist of the state commissioner of environmental conservation, the state commissioner of commerce, the secretary of state and eight members appointed by the governor (APA Act, sec. 803). Among the eight appointees, five must be full-time Park residents and three must be non-Park residents. The act also called for the establishment of an Adirondack Park Local Government Review Board consisting of twelve members, each representing one of the twelve counties fully or partially located within the Park. The purpose of the review board was to advise and assist the APA in carrying out 'its functions, powers and duties' (APA Act, sec. 803-a). Most significantly, sec. 807 of the APA Act provided for agency review and approval of 'any local land use programme proposed by a local government and formally submitted by the legislative body of the local government'. Approval was subject to meeting a number of criteria essentially assuring that local programmes were at least as strong as APA regulations.

Despite such attempts to flavour the make-up of the APA with some local voices, the magnitude of its centralized decision-making authority and power sentenced the APA to tremendous local animosity from its inception. The perception has always been one of credentialled, outside experts talking down to local people. Appointments to the APA are highly political. The Local Government Review Board has always acted only in a review capacity, with no voting power. Only a handful of Adirondack towns have taken the necessary steps to write and seek APA approval for local zoning laws. Those towns interested in superseding APA regulations with their own have found the legal and administrative expense to be prohibitive. Thus, as much as the APA Act has been an unprecedented story of zoning over 3 million acres of private land, the result has also led to a lesson in polarizing stakeholders.

This polarization was magnified by the active participation of national environmental groups, such as the Audubon Society and Sierra Club, in designing Park policy. Table 9.2 is a snapshot of the types of non-governmental groups that have been involved in Park-wide issues. Many very organized, well-funded groups such as the Association for the Protection of the Adirondacks have been involved in Park politics throughout this century, while other organizations were formed only recently, in the modern APA era. Groups such as the Adirondack Solidarity Council, the League for Adirondack Citizens' Rights and the Adirondack Minutemen were formed with the sole mission of abolishing the APA. Their tactics were not limited to political discourse. Stories of personal threats, rock throwing and spray painting were common amongst first generation APA commissioners.

Amidst the hostility and defending numerous legal challenges to their zoning authority, the APA was able to slow the pressure for the subdivision of properties, but the practice of top-down planning has left a legacy of distrust in the Park that has subsequently hampered new top-down plans from the State. Despite zoning laws, sales of subdivided property in the Park tripled between 1982 and 1985, and then doubled again by 1988. These alarming

Table 9.2 List of private Park-wide interest groups

<i>Interest group</i>	<i>Central mission</i>
Adirondack 46ers	Promote and maintain recreation access and trails
Adirondack Council	Environmental and open space protection
Adirondack Development Corporation	Community economic development
Adirondack Land Trust (Nature Conservancy)	Environmental protection, land acquisition
Adirondack Liberators	Property rights advocacy
Adirondack Minutemen	Property rights advocacy
Adirondack Mountain Club (ADK)	Promote and maintain recreation access and trails
Adirondack North Country Association	Community economic development
Adirondack Research Consortium	Promote interdisciplinary research on the region
Adirondack Solidarity Alliance	Property rights advocacy
Association for the Protection of the Adirondacks	Protect the New York State Forest Preserve
Association of Adirondack Towns and Villages	Local government advocacy
Blue Line Council	Economic development
Citizens Group of the Adirondacks	Property rights advocacy
Earth First!	Environmental rights advocacy
Empire State Forest Products Association	Promote forest products industry
League for Adirondack Citizens' Rights	Property rights advocacy
National Audubon Society	Environmental protection, biodiversity preservation
Wildlife Conservation Society	Environmental protection, biodiversity preservation
Northern Forest Alliance	Alliance of environmental groups
Residents Committee for the Protection of the Adirondacks	Environmental protection
Sierra Club	Environmental protection, biodiversity preservation
Wilderness Society	Environmental protection, biodiversity preservation

trends spurred the creation of a second study commission, the Commission on the Adirondacks in the Twenty-First Century. The Commission reported that at full build-out under then current APA zoning laws, there would be 156,598 houses in resource management and rural use zones (see Table 9.1 for defini-

tions), and an additional 250,000 homes along shorefronts and roadsides in and around hamlets (Commission on the Adirondacks in the Twenty-First Century, 1990). This scenario was projected to increase the 1990 Park population by five-fold.

Following some time for public review and comment, at times witness to violent public outbreaks against the Commission's work, *The Adirondack Park in the Twenty-First Century* was released, including two volumes of technical appendices. The report contained 245 recommendations, including the addition of 654,850 acres to the Forest Preserve at an estimated cost of \$196 million, the purchase of transferable development rights in the range of \$27–42 million, and acquisition of conservation easements at about \$100 million. Peter Berle, President of the National Audubon Society and an active proponent of the original APA Act in 1971, served as the Commission's chairman. This appointment by the Governor had tainted the Commission's work with suspicion of a hidden, downstate environmental agenda. The backlash from Adirondack property rights interests was considerable. For instance, an anonymous group formed calling themselves the Adirondack Liberators, whose mission was to write threatening letters to Commission members (Dobbs and Ober, 1995). The coalitions that attempted to abolish the APA in the 1970s were born again.

Adirondack citizens and downstate New Yorkers alike began to feel that the State had overstepped its bounds. In 1990, for the first time in State history, New York voters failed to pass an environmental bond issue that would have provided the funds for significant additions to the Forest Preserve. Next, legislation based on the 21st Century Commission's recommendations was defeated in the New York Senate in four consecutive years. In 1994, New York's three-term Democratic governor who had created the 21st Century Commission was defeated by a Republican, pro-business platform with the help of a high voter turnout in the northern New York counties. The demise of a dominant top-down planning process in the Park was imminent.

Community Participatory Processes: A New Policy Era?

Given the tensions, controversies and political shake-up that resulted from the Adirondack Park's top-down protection efforts, decision-makers agreed that a more open and participatory process was needed for guiding the Park's future development and conservation strategies. For example, in the wake of the defeat of the 1990 Environmental Bond Act, New York citizens demanded a more clearly defined rationale for land and water conservation needs, and the means and strategies for their attainment. In response, in 1992 New York produced the first statewide Open Space Conservation plan with the input of Regional Advisory Committees jointly appointed by the State and local governments.

The first steps of moving toward a more participatory decision process were undoubtedly motivated by political expediency. Clearly, local participation can result in lower implementation and acceptance costs of potentially conflicting protection and development agendas. However, beside such political expediencies, the participation of those most affected by land use decisions has other advantages. First, local experts may add invaluable information about specific context attributes such as historical events, social characteristics of specific communities, or spatial and ecological specifics, which non-local experts may not be aware of. Second, an open communication process between mutually respectful individuals allows a discursive reason to become operative that goes beyond individual conceptions of reason and a discursive ethic that goes beyond preconceived ethical norms (Habermas, 1984, 1996; Apel, 1973, 1980).

The reason for this expanded discursive rationality is that discourse allows the larger social and environmental context of people's lives to become visible. Individuals make judgements and assess options not in isolation but within a network of communicative relationships and interactions (Dryzek, 1997; O'Hara, 1996; Ulrich, 1989). Individual perceptions and valuations are altered when these contextual relationships are expressed in a mutually accepted communicative process. Behavioural research, for example, has demonstrated that such communicative interaction changes decision outcomes. For example, the opportunity to discuss decisions has altered people's willingness to contribute to public goods (Caporael et al, 1989; Dawes et al, 1990).

Three types of context criteria may become evident in a discourse involving nature conservation and development decisions:

- 1 economic factors such as job creation and income generation;
- 2 socio-demographic factors such as the region's population density, age distribution and education; and
- 3 environmental factors such as pollution impacts, plant and animal species survival, and aesthetic changes.

Community-based indicators of development and sustainable development have generally reflected these three categories, varying with respect to specific indicator categories reflecting physical/chemical environmental, monetary and non-monetary economic, and social impacts (Cities International, 1996; Selman, 1996).

Communication between researchers and local stakeholders can aid the selection process of relevant indicator categories. Indicators can then be used to evaluate land use planning decisions from a local perspective while taking non-local conservation and protection interests into account. By using a flexible design and an open feedback process, the models can offer refined and integrated development scenarios as input for an informed decision-making process. Sustainable development options can then be identified, evaluated and adjusted rather than offered as the pretence of decision results. In this way, the interaction between credentialled experts and local experts allows for

a process of valuation and re-evaluation of development options in which unsustainable practices can be detected and corrected early.

Generally, it has been the outside expert community that has selected relevant indicator categories, as well as evaluated the impacts associated with alternative land uses. Often this expert-based valuation process, however, is not made explicit to those most affected by land use decisions. Instead, it remains hidden behind disciplinary assumptions and implicit valuation methods. Economists, for example, have generally sought to evaluate a selection of economic, social and environmental impacts of alternative land use options by assigning them a common monetary value. Similarly, planning and development interests may use property values, tax revenues or infrastructure as a reference point for evaluating development alternatives. Conservationists may use the impact on wildlife, species diversity, or open space as their primary reference point. By using one commensurate measure of value, or narrowly defined set of valuation criteria, to express the wide variety of quantitative and qualitative effects associated with different land use and development options, complexities are veiled and often simplified to the point of distorting reality. Valuable information is lost in the process and it becomes difficult to correct misperceptions. Assumptions about how different development and conservation options are evaluated become hidden from public scrutiny and are not openly communicated to local decision-makers and those most affected by development decisions.

In contrast, an open and non-coerced discourse of affected individuals and stakeholders invites participants to express their concerns and priorities in an integrated way. People can voice their opinions as citizens rather than as landowners, or as neighbours rather than environmentalists. Broader social interests can be brought to the foreground by admitting the complexities of local and non-local participants' life-worlds to the decision process. Sagoff (1998) coined the term *citizen preferences* to point to the social preferences operative in discourse processes. In this way, the communicative interaction between expert-based models and local-expert valuation may form a much needed basis for improving information about the decision norms and decision criteria that may be operative in land use decisions and land use conflicts.

Participatory Sustainable Development in the Adirondacks

Despite the advantages of participatory decision-making processes, not all processes are created equal. Renn et al (1995) offer an extensive discussion of a variety of discourse models, including citizen advisory councils, planning cells, citizen juries, citizen initiatives and regulatory negotiation. In the worst case scenario, discourse models have been criticized as being manipulative and dishonest and providing a thinly veiled cover-up for pre-decided decisions. To help avoid such a scenario, Renn et al (1995) stress the importance of evaluat-

ing different techniques of participatory decision-making based on clearly defined standards of competence and fairness.

Citizen advisory councils, for example, are relatively restricted to a selected group of participants who are generally expected to contribute a particular credentialled expertise to the valuation process. In contrast, citizen juries and planning cells tend to be less exclusive and generally represent a broad cross-section of the affected public. However, citizen juries tend to limit the valuation process to deciding between a limited number of pre-selected options. Acceptance and implementation barriers are typically associated with the selected options. Focus groups tend to select group participants from a broad spectrum of citizens, but generally organize participants into small groups of six to ten according to characteristics associated with typical demographic, socio-economic or other subgroup attributes. Focus groups can thus lack the broad representation of viewpoints that facilitate the communicative reason of discursive interaction. They also tend to be very research-oriented.

Citizen initiatives tend to be more action-oriented and are generally open to and inclusive of a wide variety of perspectives. Initiatives, such as roundtable meetings, generally try to inform as well as organize citizens on pertinent environmental and development issues. From this commitment to educating the public, citizen initiatives generally work hard at representing a spectrum of local, experiential and technical knowledge. This can create a powerful force to overcome competence barriers. Projects undertaken by citizen initiatives are often carried by the sheer energy of determined citizens with little institutional support. Citizen initiatives can take the form of activist groups who seek to identify and implement an agenda, or study groups focused on identifying solutions and educating the wider public on the available options. Both types of initiatives are often associated with a roundtable type process in which citizens meet in a format similar to a focus group but with a longer-term commitment to meetings over the duration of a particular agenda item (for examples see IREE, 1996 and Douthwaite, 1996).

Even after designing an appropriate participatory process, many challenges remain. For instance, decision-makers and agencies representing environmental policies or official development agendas may dismiss citizen initiatives as biased or representing limited local views. Efforts at establishing a more participatory process for the evaluation of public and private land use options in the Adirondack Park must therefore go beyond implementing mere local participation and be conscious of the biases to local participation innate in various types of participatory processes. Some examples of ongoing participatory processes in the Adirondacks are presented below. These examples particularly highlight the role of community input into informing and making use of regional research.

Adirondack Research Consortium

In 1994, a small group of academics and representatives of Adirondack non-governmental organizations and state policy organizations met to discuss

forming an interdisciplinary society committed to promoting and disseminating research on the region. At the time, extensive research in diverse disciplines was being conducted in the region with little communication to local stakeholders or researchers across disciplines. A local perception had evolved that viewed the academic research community as acquiring research from the region and only reporting the results to national and international meetings and journal publications. There was little incentive and few formal mechanisms to report research back to the Adirondack community.

As a result of this meeting, and with the support of regional colleges and universities with an active Adirondack research agenda, the Adirondack Research Consortium (ARC) was founded to address barriers to information transfer between diverse organizational, political and disciplinary boundaries. The ARC has since sponsored six annual conferences, helped develop the bi-annual *Adirondack Journal of Environmental Studies*, organized an electronic listserv discussion forum, and hosted a web page¹ to aid in regional research. The annual conference has accounted for the bulk of the ARC's activities, where diversity of disciplines and attendance has been the overarching goal. For instance, the third annual conference held in May of 1996 featured a forum with the chairman of commissioners and the executive director of the APA, executive directors of the Adirondack Council and Residents' Committee to Protect the Adirondacks and an Adirondack town supervisor. Paper session and forum participants totalled 62, including: 24 faculty and nine students from fourteen regional universities and colleges; nine representatives from state and federal agencies; fifteen people from not-for-profit organizations; and five representatives of local governments.

By promoting various communication mediums, the ARC has been effective at linking academicians, NGOs and policy-makers, mainly due to the fact that each of these levels is well-organized and can take advantage of electronic communication media. The link from the research community to the local towns and villages is less developed, and possibly inherently flawed due to its top-down nature, although a highlight of the fifth annual conference was a series of forums addressing community development issues which were well attended by citizen activists.

The ARC might be characterized as a citizen initiative; however, the initiative has come largely from a credentialed expert community. There is no pre-selected research agenda, only an obligation to lower the walls between disciplines, the research community and regional stakeholders. Aside from discussion forums, conferences have largely been organized into research reporting sessions where the expectation is to communicate in a non-expert language.

Oswegatchie Roundtable

In the northwest corner of the Park lies a largely undeveloped region in the Oswegatchie and Black River watersheds. This region has a similar land ownership pattern to the Park as a whole, with approximately one-third state and two-thirds private land. In 1996, the Wildlife Conservation Society

(founded in 1895 as the New York Zoological Society) helped initiate a series of roundtable meetings involving participants representing private landholdings, commercial timber companies, state and regional agencies, local governments, conservation organizations and research institutions. The goal was to design and implement a cooperative land stewardship research initiative to identify and implement ecologically and economically sound forest, water and land management policies and practices.

This is a fairly well-defined, sparsely populated region of the Park, creating a higher likelihood for reaching consensus on a land use agenda. Research stemming from roundtable discussions has contributed to better understanding of:

- 1 poor forest regeneration and productivity;
- 2 ecological and economic impacts of logging scale, intensity, frequency and regulations;
- 3 influence of long-term environmental change; and
- 4 consensus on sustainability criteria and their impact on local communities, business and the Adirondack citizen.

For instance, long-term research plots have been established on private lands to investigate contributing factors to sugar maple regeneration failure (Jenkins, 1995). Roundtable discussions have also provided input into an ongoing, highly politicized discussion of wolf reintroduction in the Adirondacks (Hodgson, 1997).

Lake George Watershed Research

Lake George represents the largest water body wholly within the Park at 32 miles in length and over a mile wide in some areas. The lake and surrounding communities represent the most accessible area of the Park to New York City and New England States, and have long been struggling with population and resource demands from recreation use. At one time considered as one of the world's premier vacation destinations, the region has been left with a legacy of ill-planned development and water quality issues.

The Darrin Fresh Water Institute in Bolton Landing, a research station of Rensselaer Polytechnic Institute, is located on the western shore of Lake George. Founded in 1967, the Fresh Water Institute has been largely concerned with monitoring changes in the lake's water chemistry. During its first 25 years of operation, this research station has produced over 100 graduate theses, 600 scientific reports and exposed more than 250 undergraduate students to a direct, hands-on environmental experience.

Much of this initial research focus was precipitated by local property owners' concern about the deteriorating water quality of Lake George and the resulting threats to the tourism-based local economy. While researchers at the Fresh Water Institute may select a specific water quality research focus and methodology, the Institute's fresh water focus is itself defined by local residents'

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Lake George represents the largest water body wholly within the Park at 32 miles in length and over a mile wide in some areas. The lake and surrounding communities represent the most accessible area of the Park to New York City and New England States, and have long been struggling with population and resource demands from recreation use. At one time considered as one of the world's premier vacation destinations, the region has been left with a legacy of ill-planned development and water quality issues.

The Darrin Fresh Water Institute in Bolton Landing, a research station of Rensselaer Polytechnic Institute, is located on the western shore of Lake George. Founded in 1967, the Fresh Water Institute has been largely concerned with monitoring changes in the lake's water chemistry. During its first 25 years of operation, this research station has produced over 100 graduate theses, 600 scientific reports and exposed more than 250 undergraduate students to a direct, hands-on environmental experience.

Much of this initial research focus was precipitated by local property owners' concern about the deteriorating water quality of Lake George and the resulting threats to the tourism-based local economy. While researchers at the Fresh Water Institute may select a specific water quality research focus and methodology, the Institute's fresh water focus is itself defined by local residents'

and property owners' interest in protecting the oligo- to mesotrophic lake's pristine water quality. More recently, the Institute's research agenda has moved from a pure science focus to one that considers both the natural and anthropogenic causation of water quality change. Research now considers both the measurement and the mechanisms for how negative impacts can be avoided without jeopardizing the region's economic viability (O'Hara and Vazquez, 1998; O'Hara et al, forthcoming).

The Institute's long-term presence in the community has allowed for fewer barriers between credentialled experts and local experts. However, despite creating the conditions for participatory decision-making, implementing a truly participatory decision process is not an easy task. The challenge is to balance access to decision-makers with a strategy of including a broader constituent of groups whose views are less represented or even excluded from the decision process (O'Hara, forthcoming). One way of navigating these challenges is by first identifying research agendas and then presenting research findings for scrutiny and possible redefinition to a select group of stakeholders. The process can further be open to broad-based participation by involving local media and citizen groups.

Economic Renewal Programmes

The Rocky Mountain Institute of Colorado has developed a particularly innovative participatory process called Economic Renewal (Kinsley, 1997). The process entails a series of town meetings where participants envision their preferred future. In the process, participants inventory the community's problems, needs and assets. Participants study successes from other towns and discuss ideas for projects to strengthen the community and its economy based on their own inventory of community assets. Initiatives are then designed that make the most sense for their particular circumstances. The intended result is the development of action plans for identified projects.

In 1996, Cornell University's Local Government Programme helped to coordinate the services of the Rocky Mountain Institute to run economic renewal workshops in the Adirondack villages of Indian Lake and Minerva. One of the explicit criteria of the process is to create an atmosphere that invites voluntary community participation. With sufficient citizen interest, a successful economic renewal programme can help identify a set of shared values amongst community stakeholders who may have been at odds with each other in the past. The ultimate goal is to build enough community capacity so that the services of an outside expert are no longer needed.

Indian Lake residents have had a fair amount of success with the economic renewal process. Project leaders were able to define the community's direction and legitimize actions to implement projects. A sample of resulting projects include a new youth centre, the remodelling of an old movie theatre into a centre for community events, a town beautification project, a craft cooperative and a community directory for townspeople and tourists. In addition, veteran business people are now assisting with start-up business plans.

Lessons to be Learned and Challenges to Come

These participatory research initiatives provide some encouraging examples of how to include local voices in research and policy-making. The Adirondack Research Consortium represents an attempt to improve communication both within the research community and between local stakeholders, policy-makers and academic institutions. The Oswegatchie Roundtables are helping to design a well-informed research and policy agenda for the northwest portion of the Park based on a long-term, participatory process. The Darrin Fresh Water Institute represents an encouraging partnership of an applied research station with watershed communities. Assistance from the Rocky Mountain Institute has helped to start a process of economic renewal in the original study communities that is spreading throughout the Park. Each of these examples recognizes the respective roles of credentialled experts and local experts, the power of local citizen participation, and the benefit of carefully designed participatory processes to future Park policy.

These initiatives are coming during another critical era in Park history. During the past two years, over 10 per cent of private Adirondack land has been for sale, most in large, undeveloped lots. For instance, 144,000 acres of land owned by the multinational pulp and paper company, Champion International, was on the market, the sale of which had been structured as part State acquisition and part conservation easement. Unlike the early 1990s, the State has acquisition money available through an Environmental Protection Fund established in 1996 and annually financed primarily by a tax on real estate transfers. A 1996 public referendum also passed a \$1.75 billion environmental bond act, of which \$150 million was earmarked for open space acquisition (Cox, 1998). The State also has in place a process to prioritize purchases (Kane et al, 1998).

These rapid changes in land ownership and use patterns are resulting in a new economic and stakeholder structure to Park communities, changes that are only beginning to be studied (Erickson et al, 1998). Given the complexity of sustainable development and the historical tension between conservation and development interests, the process of bringing together credentialled and local experts is critical in this new era. Neither community by itself has the technical expertise or the political know-how to ensure a lasting economy-ecology relationship. Participatory planning processes can promote an awareness of local dynamics and the importance of balance. Most importantly, this new policy era is supporting a critical realization of the necessity of context when considering economic, social and environmental dimensions of sustainable development.

Notes

- 1 <http://www.rpi.edu/~erickj/arc/archome.html>