

Empowering local communities to co-manage deer

William F. Siemer, Human Dimensions Research Unit, Department of Natural Resources, Cornell University, Ithaca, New York 14853, USA

Daniel J. Decker, Human Dimensions Research Unit, Department of Natural Resources, Cornell University, Ithaca, New York 14853, USA

Lisa C. Chase, Human Dimensions Research Unit, Department of Natural Resources, Cornell University, Ithaca, New York 14853, USA

Abstract: Co-management of white-tailed deer (*Odocoileus virginianus*) holds the promise of creating better management programs in many situations, but agencies may be reluctant to encourage co-management if they doubt the capacity of a community to take on management responsibilities, especially on a continuing basis. In Cayuga Heights, New York, the New York State Department of Environmental Conservation worked with Cornell University and Cornell Cooperative Extension to help a community organization create informed public dialogue about local deer management. Using a consensus-building conceptual framework, we analyzed the planning process that created this dialogue. Process participants believed that use of a third party facilitator and access to expertise outside the community contributed to empowerment of the local community and a more effective working relationship between stakeholders in the community. This experience demonstrates how a wildlife agency in partnership with other entities can help build capacity that communities will need to become deer management partners. We suggest that agencies can increase community capacity by: (1) linking community involvement processes to formal decision-making authority and (2) developing a network of facilitators and people with expertise in biological and social science to support consensus-building initiatives.

Key words: co-management, consensus building, deer management, New York, process facilitation, stakeholder involvement

Introduction and problem statement

Managers and suburban stakeholders across the United States are witnessing deer population increases in metropolitan areas. As deer become abundant, public concern about deer-related problems increases. Problems such as deer-car collisions and damage to landscape plantings grow as deer density increases. Elevated concerns about deer-related impacts often lead to controversy about how to manage deer in a local municipal area.

Examples of contentious deer management issues are now common in metropolitan areas across the country.

"Co-management" approaches are generally defined as arrangements where authority and responsibility are shared between the wildlife agency and others (e.g., federal, state, or local government agencies, nongovernment organizations, community groups, resource users) (Schusler 1999). Wildlife management professionals are now

taking a co-management approach to some metropolitan deer management situations (Lund 1997, New York State Department of Environmental Conservation 1998). Management of deer in the Town of Irondequoit is perhaps the best known of several co-management examples from New York State (Chase et al. 1999).

Trial efforts around the nation suggest that co-management holds promise as an effective way to reach equitable and lasting decisions about the management of deer in residential settings. However, managers recognize that a range of challenges must be overcome to implement co-management approaches effectively (Decker 2000, Schusler 1999). One of those challenges is making sure that communities have the capacity to accept responsibility for making or implementing management decisions. Professionals in a range of settings have expressed doubt that communities have such capacities (Chase 2001, Chase et al. 1999b, Pomeroy and Berkes 1997).

In any given situation, management agencies will tend to be skeptical about co-management approaches until they become convinced that the communities in question have the capacity, or can develop the capacity, to serve as partners in management. Case studies of effective community capacity building may provide insight that can be used to address some of the concerns managers have about ways to encourage co-management of deer in metropolitan areas. The deliberative process initiated in 1998 in the community of Cayuga Heights, New York, offered us an opportunity to develop such a case study.

In Cayuga Heights, the New York State Department of Environmental Conservation

(DEC) worked with Cornell University (CU) and local Cornell Cooperative Extension (CCE) educators to help a community organization create informed public dialogue about local deer management. In this paper, we analyze a two-year planning process in Cayuga Heights. Our analysis is guided by a consensus-building conceptual framework proposed by Susskind and Cruikshank (1987). Based on our analysis, we argue that use of a third party facilitator and expertise outside the community contributed to a more effective working relationship between parties and empowered the local community to accept new management responsibilities. We conclude the paper with a brief discussion of ways that wildlife agencies can build community capacity for local co-management of deer.

Site description

The Village of Cayuga Heights is located in the Township of Ithaca, Tompkins County, New York. Cayuga Heights is a relatively affluent residential community that borders the city of Ithaca. Census figures indicate that the village had 3,613 residents in 1990 (U.S. Department of Commerce 1992:27). Most of the residences in Cayuga Heights are single-family dwellings. The village also contains some multiple-family dwellings, including a retirement residence complex that was constructed during the mid-1990's on the only large, undeveloped parcel remaining in the village at that time. With the exception of a cemetery and a small park overlooking Cayuga Lake, the village contains no open space accessible to the public.

The Village of Cayuga Heights covers an area of about 2 square miles. It is situated on hilly topography east of Cayuga Lake, one of the Finger Lakes in central New York. The

village has numerous small woodlots covering side slopes as well as ravines unfavorable for home construction or maintenance as open space. Cayuga Heights borders Cornell University, and many Village residents are employed as faculty or staff at Cornell. Mean income and education levels for the village are higher than those found in Tompkins County as a whole.

Building consensus for deer management in Cayuga Heights

What follows is an analysis of the Cayuga Heights consensus-building process that unfolded between the summer of 1998 and the fall of 2000. Susskind and Cruikshank (1987:95) conceptualize consensus building as a three-part process: prenegotiation, negotiation, and implementation. The Cayuga Heights process was coming to the end of the prenegotiation phase in the fall of 2000, when this case description was completed.

Susskind and Cruikshank (1987:95) describe five key aspects of the prenegotiation phase "the period prior to entry of a facilitator/negotiator; the entry of the facilitator/negotiator; representation of stakeholders; drafting protocols and setting an agenda; and joint fact finding". We evaluate the Cayuga Heights process along each of these dimensions, based on our own observations as process participants, insights from a 90-minute interview with the process facilitator, and insights from the alternative dispute resolution literature.

Activities prior to entry of a facilitator

Deer management emerged as a public issue in Cayuga Heights due to heightened concerns about deer-related problems among

some Village residents. In the spring of 1998, a group of about a dozen village residents, concerned about deer damage to gardens and landscape plantings, mobilized a petition drive related to deer management in the Village of Cayuga Heights. They gathered hundreds of signatures on a petition calling for action (by DEC) to address signatories' concerns about negative interactions with deer. In June 1998, the same individuals convened a public meeting to discuss deer-related problems and deer management in the Village. Not long after the public meeting, the residents who had organized the petition drive approached the Village Mayor and asked to be appointed as a citizen committee to study the deer situation in the Village. The Mayor officially sanctioned the Committee in August of 1998, with their self-defined charge of studying the deer "problem" in the village and developing recommendations for the Mayor and Village Trustees.

Entry of a facilitator

"One of the challenges to using consensus-building approaches is simply finding a way to get started" (Susskind and Cruikshank 1987:94). Entry of a facilitator or mediator is often helpful, but interjecting a facilitator can also be problematic. In this case, the Deer Committee got off to a quick start because a facilitator was invited to join the process.

Why did entry of the facilitator take place so smoothly? In the following quote, Sharon Anderson, an Environmental Educator with Cornell Cooperative Extension (CCE) of Tompkins County, attributes her entry as a facilitator to a combination of factors that included awareness of CCE among community leaders and an ability to serve needs identified through a survey of Village property owners.

...In this instance, it started because there was a person, I believe he serves on the Town Board... who is familiar with extension, is familiar with our office in particular, and saw that there was a role for Extension in this whole process and invited us to participate.

...So we already had an invitation from the group to participate in some way.

...the group at this point wasn't cohesively formed. It was at this point just a group of residents that were concerned, who were circulating petitions, who then were wanting themselves to be appointed as an official deer study committee and it was at that point...I contacted them and let them know that I was interested in being involved if there was a role for me,

... I contacted one of the people who had been very actively involved and who I had been doing e-mail with and I asked if I could meet with him and chat about what was going on. It was real clear from talking with him, for example, when I asked about the agenda for the first meeting, they hadn't thought about it...So I kind of got in at that point with suggesting some possible directions, some things that could be discussed, and he was very appreciative of that and invited me to come to the first meeting. And one of the things that I talked about was the importance of public participation in the process and so I was asked to present that as well as talk to them a little bit more generally. So that's how I initially got invited. And it was a little bit of an off and on, I did that, I came to a couple of meetings, and they sort of said "no thank you, we're not interested." And I said okay, I'm here if you want anything. And then after the survey that you and Lisa worked on [see section on fact finding], I don't know if I was invited or

whether I invited myself back to hear the results of that. I think I invited myself back. And because the survey said people wanted some public participation and some education as well, well then they thought well maybe there was a role for me. And so that's when I really came on board with coming to the meetings regularly and starting to see how I could be of help...

As we discuss further in the section on joint fact finding, Anderson went on to serve several educator functions for the Deer Committee. After DEC staff and the Deer Committee asked Human Dimensions Research Unit (HDRU) staff at Cornell to assist with a situation analysis, the Deer Committee then began interacting closely with HDRU staff. According to Anderson, those interactions and the findings from the situation analysis convinced the Deer Committee that greater community involvement was needed to inform their recommendations to the Village Trustees. One of the decisions they made at that point was to invite Anderson to provide professional assistance with design and facilitation of future citizen involvement processes. Through her efforts, the Deer Committee came to have direct and repeated interactions with DEC staff and the State Wildlife Specialist for CCE.

Anderson was initially invited to help the Deer Committee learn about deer damage prevention and deer management. She met with the Deer Committee repeatedly and, at the group's request, set up community-wide events that provided opportunities for information exchange and education about deer, deer management, and actions individual homeowners could take to prevent deer damage to landscape plantings and gardens. She provided these services at no cost to the

committee (these services were provided to the Village as residents of Tompkins County). Through these interactions, she established a trusting relationship with the Deer Committee members and demonstrated that she had the skills and resources to serve the Committee as an educator.

Anderson came to the Cayuga Heights process with previous experience and training as a facilitator. She had worked with local groups such as the Tompkins County Water Resources Council and the Jackson Community Association to facilitate collaborative problem solving initiatives related to water and watershed issues in Tompkins County. She was able to inform the Deer Committee of these and other experiences related to process facilitation, as well as her training and experiences as an Extension educator. This assured the Deer Committee that she had the necessary skills to facilitate broader public involvement in the Cayuga Heights process.

Representation of stakeholders

Representation of stakeholders is a particularly vexing problem in consensus-building approaches. As Susskind and Cruikshank (1987:101) point out, "productive negotiations cannot begin until two problems are solved: figuring out which groups should be represented, and choosing representatives empowered to speak for the groups they claim to represent." They argue that the mediator has a responsibility to address issues of representation. In the Cayuga Heights process, a third party facilitator did indeed address some of the classic problems of representation, with positive results.

Representation on the Deer

Committee. All original members of the Cayuga Heights Deer Committee had participated in the petition drive and so represented a relatively narrow and homogenous set of perspectives on deer and deer management. Input from CCE and HDRU staff helped convince the Deer Committee that their recommendations to the Village Trustees would be more likely to result in wise, fair, efficient, and stable management actions (Susskind and Cruikshank 1987) if based on a broad spectrum of community concerns and interests. Anderson describes how she and others worked to expand representation of stakeholder interests.

...one of the things I feel best about is that I was able to get the group to open up the membership that really started with a group of people, all of whom had concerns about the deer population because of damage to their gardens and landscaping.

... I've tried to make it clear to them that I don't have a vested interest in the decision. I have a vested interest in the process they use. And so I guess I lobbied hard on that one [on expanding representation]. And in as many different ways as I strategically could and thought could be effective, which usually wasn't going in and saying you have to do this, but why do you have to do it? What might be the consequences? DEC would like it if you do this. You'd more likely get a [deer management] permit if you do it. You're more likely to be protected from lawsuits with decisions you make if you do it. There's a lot of different techniques. So I did finally get them to say 'yes, we will open up the group.' They were very afraid that if they opened up the group that the process would get very contentious. That people would come on board that had different views than them and the

process would grind to a halt. There was a lot of fear involved and that was one of the things that I know you [HDRU staff] also brought in, about why it was good to have diversity and more participation.

...at first the [stakeholder] list they came up with was very broad, it included things like dog owners because of concerns with deer-dog conflicts. Grandparents, because grandkids come and play in their yard. Just all kinds of things. And then from there it was narrowing it down, identifying it a little bit more ... to look at key people [stakeholders] that were missing. It was mainly...there was no sportsman on the group. And there was no one who had anything remotely close...to an animal rights or "no deer should be killed" perspective. So that was the first thing ... we had two people who were invited to join with more of an animal rights perspective. One gentleman has continued with the group, the other woman decided she was just over-committed ... and stepped down.

...They, for whatever reason, seemed resistant to having a sportsman on the group and came up with a lot of different excuses why that couldn't happen... so I talked to Dave Riehlman [DEC, Region 7 Deer Biologist] about it, I shared that information with the group, and I perhaps overstepped my bounds a little bit, but it seems to have come out okay. Dave called me and said I have the name of someone (because one of their "excuses" was they didn't know of anybody; there weren't any sportsmen in Cayuga Heights.)

... So I called this guy and he was all excited and said 'sure, I'd love to come.' And then I thought, oh, I really shouldn't have done this without talking to the [Deer Committee] Chair, so I immediately called the Chair and apologized profusely. But it turned out okay

because this gentleman has joined the group. I think it's been a nice addition to the group, and I think again, just from DEC's perspective, they will probably be a little bit more comfortable with our process."

Anderson went on to describe how even this slight expansion of representation opened opportunities for the kind of real learning, deliberation, and civic discovery that Reich (1988) and others (Forester 1992) believe to be central to the effective resolution of public disputes.

... the one gentleman who comes with an animal rights perspective... has been great. He's a wonderful addition to the group... I think it's opened up a new perspective for some of the people in the group

... I don't know what the negative stuff about the sportsmen were... but I think again, there's been a good relationship with the gentleman who's been coming and that that's been a positive thing. I think the group has learned a lot, even though it hasn't been a big part of the meetings, but they've learned a lot about hunting and probably they are much more respectful of hunters, I would suspect, now because of his involvement.

...the committee being broader, it's changed the way they think. It's changed the way they're approaching other people. It's changing how they react.

... I think it will end up in a better decision, even though we haven't gotten there yet.

Creating a process for broader public input. Staff associated with CCE and HDRU informed the Deer Committee that, in other suburban communities where deer management

emerged as an issue, multiple stakeholders with different perspectives and interests came forth as deer management actions were proposed in those communities. CCE and HDRU staff encouraged the Deer Committee to seek input from unrepresented stakeholder groups before it made recommendations to the Village Trustees.

DEC staff introduced even more compelling reasons for broad public involvement. They related to the Deer Committee their policy in such circumstances was that DEC would not grant special permits to remove deer from the Village until the Village presented DEC with evidence of broad community recognition that some deer-related problem(s) existed. This clarified for the Deer Committee the need to avoid acting unilaterally with regard to requesting special deer management permits from the state. DEC policy may have been the most important influence that caused the Deer Committee to seek broader public involvement. Presented with what appeared to be a nonnegotiable stipulation from DEC, the Deer Committee accepted that broad public input would be necessary before a recommendation should be offered/presented to the Village Trustees.

Anderson worked with the Committee to design a process for gathering public input (Anderson et al. 2000). The Committee eventually designed a process that included input from several sources: (1) a mail survey of Village property owners (Chase et al. 1999a); (2) a Committee fact-finding process; (3) a public meeting where people participated in small group discussions; and (4) a written survey distributed to people who attended the public meeting.

Representation of interests. In the fall of 2000, it was too soon to say whether all key stakeholders had been adequately represented. However, there were compelling reasons to conclude that the presence of a third party facilitator and other expertise had helped the Deer Committee to create a more representative process than they would have created on their own.

Susskind and Cruikshank (1987:103) suggest that groups ought to conduct a "conflict assessment" to ensure that important stakes or interests are represented. They also suggest that a consensus-building process should include stakeholders of four types: (1) those with legal standing; (2) those with the power to draw political representatives into the process; (3) those who have the power to block implementation of an agreement; and (4) those with sufficient moral claim to generate public sympathy. The Deer Committee did not conduct an exhaustive effort to represent all possible interests, but they did include some representatives in all four suggested by Susskind and Cruikshank (1987). Those with legal standing included property owners in the village. The Committee itself was sanctioned by the Village Mayor and presumed it had the power to draw the Mayor and Village Trustees into the process. DEC representatives were involved for multiple reasons (i.e., they were a source of expertise regarding deer and deer management; they had legal standing regarding deer management; and they represented an agency with the power to block decision implementation). Those with animal welfare concerns represented a group with sufficient moral claim to generate public sympathy.

Drafting protocols and setting an agenda

Susskind and Cruikshank (1987) suggest that before negotiations begin, the negotiating parties have to agree on how they will work together and what they will discuss. Anderson assisted with both of these tasks, but the Deer Committee was formed with an action objective in mind and that gave them a focus for their activities. Their charge was to make recommendations to the Village Trustees on the matter of deer management in the Village.

Anderson helped the group develop ground rules for how they would conduct their internal affairs (e.g., they agreed to listen for understanding, respect the person speaking, and proceed by consensus). It is worth noting, however, that the facilitator found this to be "an unusually congenial group" who simply interacted together well. Deer Committee members expressed an openness to new ideas and showed respect for differing viewpoints. There was no need for the facilitator to intervene between discussants at Deer Committee meetings.

Protocols on dealing with the media.

The Deer Committee worked with CCE and HDRU staff to coordinate interaction with the media. In one instance, the Committee Chair released information to a local newspaper without consulting with other committee members. This resulted in very little public reaction, so the Deer Committee's work was not threatened by this event.

Protocols at the public meeting. The facilitator helped the Committee develop an agenda for the public meeting, and she did have to intervene at the public meeting to establish protocols. At several points during the public meeting, a group of 4 people continually

interrupted and challenged the meeting speakers. At one point, the meeting seemed to be getting out of control, with participants shouting at each other and the speakers. The facilitator regained control of the meeting by: reasserting the ground rules for the meeting; emphasizing that she was interested in all input from those in attendance, indicating that she was only interested in the process, not the outcome(s) resulting from the process; indicating a willingness to convene additional meetings or fora where different speakers and viewpoints could be heard; giving a few parties 5 minutes to state their interests and concerns; and establishing a priority on getting through the meeting agenda as planned by the Deer Committee. These actions precipitated a round of applause from most of the meeting audience and the remainder of the meeting continued on schedule. The people who had been interrupting then continued to make contributions to the meeting, including the small group discussion, but they did not make any further attempts to disrupt or block the proceedings.

Joint fact finding

Joint fact finding is a process within the prenegotiation phase wherein stakeholders work together to establish a mutual understanding of what is and is not known about a given issue. Susskind and Cruikshank (1987:115) suggest that assumptions and opinions can change "in the face of believable information." But for such change to take place, stakeholders must go through a process of recognizing and scrutinizing their assumptions, based on an information base they create collectively. Because people change positions on issues, Susskind and Cruikshank (1987:115) believe, "it is essential to specify the information, and the sources of information,

that a group will accept as a valid basis for rethinking." If well done, joint fact finding can help stakeholders minimize discussion of basic facts and move the focus of debate to real differences in interests, or different interpretations of agreed-upon facts. Joint fact finding can also help establish a positive working environment in which stakeholders can interact during the negotiation stage (Susskind and Cruikshank 1987).

The Deer Committee met 27 times over two years (9/98 to 10/00) to gather information and deliberate about their situation and the ways that other suburban communities have responded to concerns about deer-related problems. Cornell Cooperative Extension (CCE) personnel and DEC staff provided the Deer Committee with information about deer and deer management. DEC staff also provided them with information about laws, statutes, and policies that would be brought into consideration if deer population reduction were recommended. To facilitate the Deer Committee's work, DEC provided partial funding for Cornell's Human Dimensions Research Unit (HDRU) to survey Village property owners about their experiences with deer, opinions on deer management, and preferred modes of involvement in deer management decisions. Staff associated with HDRU, CCE, and DEC worked closely with the committee to synthesize and interpret survey findings and their implications for the Village. Data from the survey were shared in a brief report (Chase et al. 1999a) that was: (a) discussed at length with the Deer committee; (b) mailed to all 438 survey respondents; (c) circulated at the Village Clerk's office; (d) made available on the World Wide Web by the Cornell News Service; and (e) publicized through newspaper articles in Lansing and Ithaca (adjoining municipalities).

Information provided by noncommittee members who had biological, wildlife management, or social science expertise played a valuable role in empowering Deer Committee members and other stakeholders with the information they needed to sustain thoughtful deliberation about deer management in Cayuga Heights. However, as Anderson describes, it was the work of the Committee members themselves that gave the group a sense of ownership and trust in the information gathered.

...[The second Committee Chair] was feeling some frustration...people weren't coming as much and he wasn't sure where they were going and one of the things I suggested was he really needed to involve the committee more ...so that they ...had more investment in the group ... So I suggested that they not meet during the summer but that he find a way to engage them and out of that conversation he came up with a plan where he had people break into small groups and do their own research project over the summer and then they would be the expert on whatever the topic was. So one was expertise on what other communities had been doing, one was on what controls people could do as individuals as opposed to the community level, and there was a third group... for concerns [about deer-related problems]... So they all had assignments ...it gave them something they could then talk to the group about. They all presented reports when we came back in the fall.

By the fall of 1999, Deer Committee members were prepared to share the information they had gathered and obtain more input from the community. They held a public meeting in October. Over 200 people attended the meeting, where they watched a deer management video, listened to a

presentation of results from the DEC-sponsored mail survey of Village property owners, received a published abstract of the Cornell survey findings (Chase et al. 1999b), and listened to Deer Committee members summarize their findings. About 115 people remained for the second half of the meeting and provided input through small group sessions. Attendees had the opportunity to provide additional input through written two-page questionnaires. The facilitator played an important role in planning, arranging, coordinating, and executing this meeting. She brought in CCE as a co-sponsor, which covered the meeting costs and provided the insurance coverage necessary to hold a public event. She also developed a written summary of results from the survey of meeting attendees.

In November 1999, the Deer Committee made its first formal statement to the Village Trustees. The committee concluded that there was widespread concern in the Village over the rising deer population and associated deer-related problems. They reported that there was substantial majority support for reducing the deer herd in the Village. However, they also reported that consensus did not exist among residents on a preferred method for reduction of the deer herd. They concluded that a majority of those favoring reduction preferred the use of a contraceptive method rather than shooting the deer. They found that a majority of those who attended the public meeting would accept the use of lethal means to cull deer if reproduction control was not found to be a feasible management option. Of the possible culling methods discussed, the Deer Committee concluded that bow hunting over bait would find the most support.

The Deer Committee reported that the feasibility of both culling and contraception in the Village was uncertain and they concluded that the success of either approach would depend on the ability of operatives to gain access to a sufficient number of strategic sites within the Village. They also concluded that cooperation from residential property owners in the Village was essential to the ultimate success of either management option.

The Deer Committee determined that they needed more information on the feasibility of key management options as a basis for making an informed recommendation to the Village. Thus, they formally proposed that the Village Trustees fund a study that would increase understanding of the biological feasibility of controlling the number of deer in the village through either deer reproduction control or culling of deer. Specifically, they requested that the Village fund a study by Dr. Paul Curtis (Department of Natural Resources, Cornell University) to estimate the size and movements of the deer herd in Cayuga Heights. Such knowledge was considered essential background prior to design of any specific management interventions.

The Deer Committee met with the Village Trustees in November of 1999 to present their formal proposal. Three participants in the October 20 public meeting also attended and made statements to the Trustees. These participants opposed any lethal deer management in the Village and made statements asking the Village not to fund the feasibility study proposed by the Deer Committee and to disband the Deer Committee and address deer issues by holding public hearings. The Trustees responded to the Deer Committee with questions about: (1)

the mechanics of the proposed feasibility study (e.g., exactly what would be done, what permits would be required, and what landowner permission would be necessary); (2) whether immigration of deer from outside the Village would negate the benefits of any population control activities within the Village; and (3) the representativeness of findings from the Cornell survey of Village property owners and the informal survey of participants in the October 20 public meeting.

The Village made no final decision about the request to fund a feasibility study during the November 20 meeting, but they reacted negatively to the proposal. The negative reaction from some of the Trustees took Deer Committee members by surprise. It became apparent that at least some Trustees were unwilling to recognize the Deer Committee's work as a legitimate representation of community interests. Deer Committee members left the meeting believing that, without further action before the Trustee's meeting the following month, the Trustees would formally reject the Deer Committee's proposal.

In December, the Deer Committee undertook several actions to address comments and concerns that the Village Trustees raised in the November 20 meeting. They prepared and distributed several documents to the Trustees. These included: a synthesis of public comments and survey results from the public meeting and a revised (smaller scale) feasibility study proposal. They asked Cornell staff to prepare a statement addressing the Trustee's concerns about the validity and reliability of the results from the survey of Village property owners. They asked DEC staff to participate in a meeting with the Trustees to clarify the statutory and

legal considerations associated with the feasibility study, as well as management alternatives that would utilize firearms, archery equipment, or deer contraceptive technologies. They asked Dr. Curtis to meet again with the Trustees to address questions about technical aspects of the proposed study and the current availability of techniques to control deer reproductive potential at a small scale. The Deer Committee also continued to work with the individuals who made statements at the Trustee's meeting on November 20, inviting them to help organize a public meeting to be held in September 2000 that would provide a forum for the further expression of views on deer management in the Village. Individually, Deer Committee members attempted to build community support for their proposal that the Village fund a study to learn more about the size and movement patterns of the local deer herd.

On December 20, 1999, the Deer Committee met again with the Village Trustees. At that meeting, the Trustees made a decision to provide partial funding for a revised feasibility study. The study was initiated in January and continued through the spring of 2000. It involved tagging 50 deer and fitting about 20 deer with radio collars. The feasibility study was completed in cooperation with Village residents who permitted the researchers to capture and observe deer on their residential properties. Observations by the researchers were supplemented with input from Village residents who were asked to report sightings of deer using an electronic deer sighting report form listed on a well-publicized world wide web site. At the time of this writing, a final report from the deer management feasibility study was expected in October, 2000. The Deer Committee was making plans for a fall

2000 public meeting, where the study results would be released and Village residents would be asked to continue deliberation about potential deer management actions in the Village. The Deer Committee was planning to submit a final report and recommendations to the Village Trustees in early 2001.

Was consensus building worth the effort?

The Cayuga Heights process was time and resource intensive for CCE, DEC, and the members of the Deer Committee. In retrospect, each participant in such a process must ask, was it worth all the effort? Perhaps more importantly, staff within public agencies must ask themselves, would we do this again in another suburban community?

The Cayuga Heights process did not stimulate immediate action by the Village to address residents' concerns about deer-related problems. Even so, the consensus-building experiment that has unfolded there over a period of two years has produced tangible benefits that may ultimately contribute to resolution of this public dispute about deer management in the Village. For example, the facilitator, DEC staff, and Committee members all came away from the prenegotiation stage with a perception that the process thus far had been positive and beneficial. The facilitator believed that positive, respectful relationships were created between CCE and the Village, DEC and the Village, and the Deer Committee and DEC (Anderson et al. 2000). Those improved relationships may create opportunities for continued negotiations in the future. Several key ingredients laid the foundation for the benefits that were created through this process (Table 1).

Susskind and Cruikshank (1987) suggest that consensus-building approaches can result in a better process of decision-making, better relationships between negotiators, and better substance in the decisions made. The prenegotiation phase of the Cayuga Heights process strengthened the working relationship between a state wildlife agency and local deer management stakeholders. It also sustained a pace and duration of discussion about deer management that many other suburban communities have not been able to achieve. It elevated the level of community discussion and created opportunities for broad-based input from a variety of stakeholders. These benefits -- better relationships and a better process for deliberation -- are relatively straightforward, but profoundly important in creating the capacity for local communities to effectively assume more responsibility for local deer management.

Discussion

What can we learn from the Cayuga Heights process?

The Cayuga Heights process doesn't offer state wildlife management agencies a failsafe recipe for addressing thorny suburban deer management issues. Approaches like the one taken in Cayuga Heights will not be appropriate in every situation and at the very least, need to be tailored to fit the local needs and capacities of any given community. Nevertheless, the process used in Cayuga Heights yields some general lessons that can be of value to state agency staff as they continue to experiment with consensus building approaches as a means to empower local stakeholders to become partners in suburban deer management.

Table 1. Key contributions that four process participants made to the creation of benefits in the Cayuga Heights consensus building process.

Participants	Factors that may have contributed to process success
The Facilitator	<ol style="list-style-type: none"> 1. The facilitator was involved with the group from the beginning. 2. Assistance was provided free; no reimbursement was expected. 3. The facilitator built a trusting relationship with the Committee. 4. The facilitator demonstrated process facilitation skills. 5. The facilitator was not associated with the regulatory agency.
Outside Experts	<ol style="list-style-type: none"> 1. The Committee had access to technical expertise of several kinds. 2. Technical advice was provided at no cost to the Committee. 3. Experts maintained open communication throughout the process. 4. Experts met face-to-face with Committee members multiple times. 5. Sources of expertise were viewed as credible and trustworthy.
Deer Committee	<ol style="list-style-type: none"> 1. Members maintained an openness to new information. 2. Members were willing to be active information seekers. 3. Members were willing to invest substantial time and energy.
DEC staff	<ol style="list-style-type: none"> 1. Staff met repeatedly with the Committee to clarify law, statutes and policies that would provide the sideboards for community action. 2. Staff did not serve as a direct source of information on potential management actions. 3. Staff and written information from DEC were perceived as trustworthy. 4. Staff did not assume the roles of facilitator or mediator.

Link informal processes to formal decision-making authority

The Village Trustees' initial reaction to the Deer Committee's action proposal was unexpectedly negative. Even though some Trustees had attended a few Deer Committee meetings and received continual updates on the progress of the Committee, they may not have developed a sense of ownership in the Deer Committee's work and they may not have accepted the Deer Committee as a legitimate voice for the Village. The initial reaction of the Village Trustees illustrates the critical need to link informal involvement strategies with formal decision making

authorities. For example, across New York State, DEC has engaged in a deer task force approach in which these elements are formally linked. DEC sets parameters for each task force, but it also agrees in advance to implement the recommendations of each task force (Curtis et al. 1995). By contrast, the Deer Committee never established strong linkages to the Village Trustees, despite the facilitator's repeated urges for the Committee to develop such linkages. As Anderson et. al. (2000) suggests, this may turn out to be a crucial shortcoming of the process.

...I've been trying most recently to get them to deal with the realities of the political

situation in that community. So they're doing all this wonderful work, which is great, I really think they're doing a terrific job, the only piece I feel missing is them touching base with the Board of Trustees and really being very strategic about how they work with the trustees and how they bring the trustees along and how they get the trustees invested in this whole process and the solution. And I think if this process fails it will be because that piece is missing."

Develop a statewide network of facilitators to support consensus-building initiatives.

This case illustrates that facilitators don't always serve as "neutral" parties, and they don't have to be neutral to be successful. Facilitators like Anderson, who find themselves in the front lines of contentious deer management issues, can be effective even when they behave as change agents. This is especially evident in our case when the intervention includes a motivation to encourage a fair decision, an interest in broadening stakeholder involvement, a willingness to challenge participants to consider their best alternative to a negotiated agreement, or an attempt to bring new options to the attention of participants.

The experiences of the Cayuga Heights Deer Committee illustrate the potential contributions a third-party facilitator can make to community-based co-management of deer. A third-party facilitator can help communities expand stakeholder representation, establish protocols and agendas for community decision-making processes, and become participants in the process of creating a body of shared knowledge on which to base local decisions. In other words, third-party facilitation can greatly enhance a community's

capacity to successfully complete the prenegotiation phase of a consensus approach to deer management.

The Village of Cayuga Heights was fortunate to take advantage of a skilled process facilitator who happened to work in their county's Extension system. Without access to a process facilitator, many communities may not be able to build the capacity to use consensus-building approaches effectively. Third party facilitation isn't appropriate in every case, but it can be a great asset to consensus-building processes in many instances. From a state wildlife agency perspective, it provides an attractive way to avoid asking agency staff to play multiple and sometimes contradictory roles in a process. This may help minimize public concerns about potential conflicts of interest for agency staff. The Cayuga Heights case illustrates that it can be advantageous to separate the roles of educator and facilitator. We would argue that embodying the roles of facilitator and regulator in different entities allowed CCE and DEC personnel to be more effective, and minimized the potential for perceived conflicts of interest on the part of CCE or DEC.

When state agency personnel initiate or participate in consensus-building approaches, they should consider whether it makes sense to involve a third-party process facilitator. Given the benefits of working with such facilitators, state wildlife agencies should consider using their resources to develop third-party facilitation capabilities throughout the state. Cornell Cooperative Extension staff, community dispute resolution centers at the local, state, and national level (e.g., Program on Environment and Community, Cornell Center for the Environment; U.S. Institute for Environmental Conflict Resolution), and

private consulting firms already support a pool of trained facilitators. State wildlife agencies might address facilitation needs by strengthening relationships with these organizations rather than through programs to train additional facilitators within their own ranks.

Develop a statewide network of experts to support consensus-building initiatives

The quality of information and types of information used by working groups can influence their deliberations (Lauber and Knuth 2000). State wildlife agencies and communities should strive to support collaborative processes with information resources and professionals who can supply expertise in natural and social sciences. The Village of Cayuga Heights was geographically positioned to take advantage of a statewide deer management expert and a group of social science researchers who developed a situation analysis for the community. In many cases, communities will not have ready access to such expertise. State wildlife agency staff and community leaders should look for opportunities to identify or develop sources of expertise with which communities can work when wildlife management issues arise. Having biological and human dimensions expertise located in personnel outside the state wildlife agency could be a particularly important asset to communities. Trained municipal wildlife management specialists would be a great asset in these situations. Wildlife agency staff and community leaders should look for opportunities to develop such community capacity in many different areas over a period of years.

Acknowledgments

We thank J. W. Glidden, M. D. Lowery, G. F. Mattfeld, and D. E. Riehlman for their assistance throughout all phases of research in Cayuga Heights. We thank S. K. Anderson for providing a personal interview, and J. F. Forester for reviewing our manuscript. This manuscript is one product of research funded by the New York Federal Aid in Wildlife Restoration Grant WE-173-G Job 146-III-3b, the EPA STAR Graduate Fellowship Program, the Morris K. Udall Scholarship and Excellence in National Environmental Policy Foundation, the Cornell University Agricultural Experiment Station Project NYC 147403, and the Cornell University Fellowship Office.

Literature cited

- Anderson, S., P. Curtis, and K. Sullivan. 2000. Public participation in deer management. Cornell Cooperative Extension Conference (CCE) 2000: Renewing Our Commitment to New Yorkers, Cornell Cooperative Extension Service, 6-8 June 2000, Ithaca, New York, USA
- Chase, L. C. 2001. Democratizing wildlife management: designing effective stakeholder involvement strategies. Dissertation, Cornell University, Ithaca, New York, USA.
- Chase, L. C., D. J. Decker, and T. M. Schusler. 1999. Innovations in stakeholder involvement: what's the next step? *Wildlife Society Bulletin* 28:208-217.

- Chase, L. C., W. F. Siemer, and D. J. Decker. 1999a. Deer management in the village of Cayuga Heights, New York: Preliminary situation analysis from a survey of residents. Human Dimensions Research Unit Series Publication 99-1. Department of Natural Resources, Cornell University, Ithaca, New York, USA.
- Chase, L. C., W. F. Siemer, and D. J. Decker. 1999b. Suburban deer management: A case study in the Village of Cayuga Heights, New York. Human Dimensions of Wildlife 4:59-60.
- Curtis, P. D., R. J. Stout, and L. A. Meyers. 1995. Citizen task force strategies for suburban deer management: the Rochester experience. Pages 143-149 in J. B. McAninch, editor. Urban deer: a manageable resource? Proceedings of the symposium of the 55th Midwest Fish and Wildlife Conference, 12-14 December 1993, St. Louis, Missouri, USA.
- Decker, D. J., T. M. Schusler, T. L. Brown, and G. F. Mattfeld. 2000. Co-management: an evolving process for the future of wildlife management? Transactions of the North American Wildlife and Natural Resources Conference 65: 262-277.
- Forester, J. F. 1992. Envisioning the politics of public-sector dispute resolution. Studies in Law, Politics, and Society 12:247-286.
- Lauber, T. B. and B. A. Knuth. 2000. Citizen participation in natural resource management: a synthesis of HDRU research. Human Dimensions Research Unit Series Publication 00-7. Department of Natural Resources, Cornell University, Ithaca, New York, USA.
- Lund, R. C. 1997. A cooperative, community-based approach for the management of suburban deer populations. Wildlife Society Bulletin 25:488-490.
- New York State Department of Environmental Conservation. 1998. Co-management proposed for Islip deer: Public survey, interagency cooperation announced. Islip Deer Initiative, New York State Department of Environmental Conservation, Region 1, Suffolk County, New York, USA.
- Pomeroy, R. S. and F. Berkes. 1997. Two to tango: the role of government in fisheries co-management. Marine Policy 2:465-480.
- Reich, R. B., editor. 1988. The power of public ideas. Ballinger, Cambridge, Massachusetts, USA.
- Schusler, T. M. 1999. Co-management of fish and wildlife in North America: a literature review. Human Dimensions Research Unit Series Publication 99-2. Department of Natural Resources, Cornell University, Ithaca, New York, USA.
- Susskind, L. and J. Cruikshank. 1987. Breaking the impasse: Consensual approaches to resolving public disputes. Basic Books, New York, New York, USA.