

Part II: Cases

Chapter 4

Large Scale Conservation in the Connecticut River Watershed: Moving from Competition/Fragmentation to Collaboration/Integration

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ABSTRACT

As conservation organizations move away from small-scale efforts and increasingly engage in planning at an ecosystem or watershed level, new methods of thinking and practice are needed. Analyzing conservation efforts in the Connecticut River watershed provides insight into the challenges faced by other large scale conservation initiatives. The persistent policy problems faced by conservationists in the Connecticut River watershed include the structure of decision making arenas, goal legitimacy and substitution, and overreliance on scientific management. Shifting toward conservation policies that better secure the ecological health of the watershed, maximize opportunities for social justice, and augment democratic practice requires that participants interact in novel ways. The three interventions recommended for improving participant interactions (decision seminar, problem orientation workshop, and practice-based learning) can be implemented by regional participants or future researchers.

Key words: *large scale conservation, policy sciences, conservation planning, Connecticut River Watershed, decision process*

INTRODUCTION

As conservation organizations move away from small scale efforts and increasingly engage in planning at an ecosystem or watershed level, new methods of thinking and

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practice are needed. In the Connecticut River watershed in the northeastern United States, conservation organizations, both governmental and non-governmental, are experimenting with innovative approaches to conservation at larger scales. In spite of these organizations' well-meaning efforts, it is widely agreed among participants in the region that successful long-term conservation of the Connecticut River watershed has yet to be realized. Several persistent policy problems exist and contribute to a poorly functioning decision process.

This paper provides a contextual overview of large scale conservation in the Connecticut River watershed and identifies major process-oriented challenges faced by participants. The recommendations presented in this chapter are oriented toward all people interested in this subject. However, the recommendations are just as practical for participants interested in increasing the effectiveness of the watershed's policy process and conservation.

Standpoint and methods

The authors of this chapter embarked on a rapid assessment (March 24-28, 2004) along the Connecticut River to gain knowledge of this system (Figure 1). The observational standpoint of the students performing this analysis is reflected in the recommendations that follow. Therefore, it is appropriate to briefly scrutinize the standpoint and methods employed, in order to form a more complete understanding of this analysis.

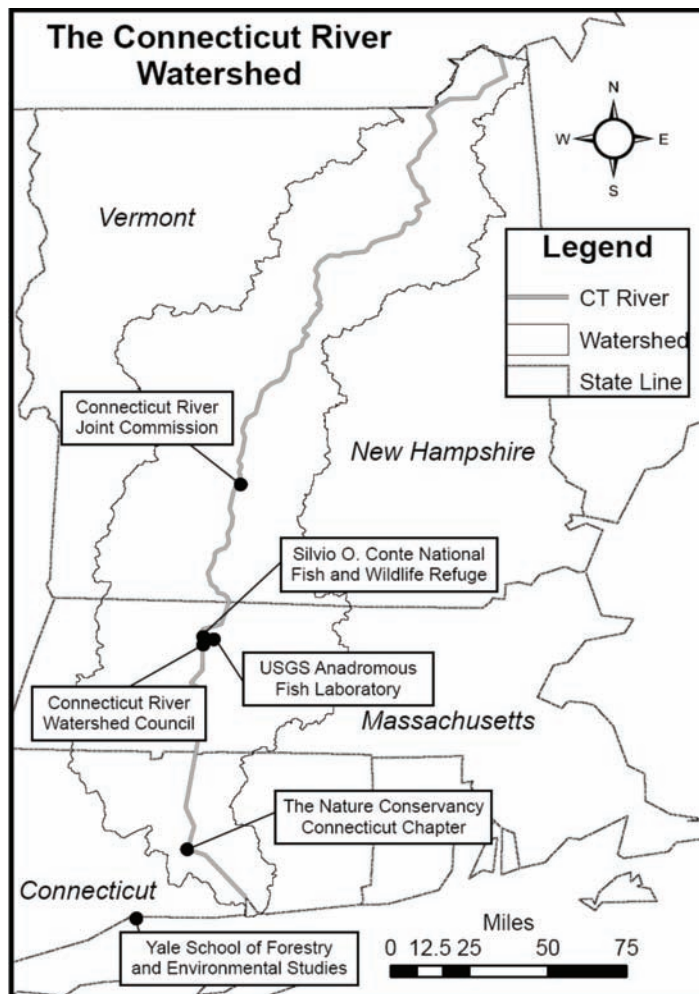
Certain base values prevailed among the student evaluators. Students were primarily enlightenment- and skill-driven, eager to "test out" and further develop their skills and knowledge as policy analysts in a real world scenario. In other words, students were interested in bringing their learning and experiences to help improve conservation efforts focused on the Connecticut River. A rational, academic vantage point prevailed, which, when combined with a relative lack of historical or contextual understanding of the Connecticut River system and its conservation actors, resulted in a tendency to apply generalized understandings to this large, complex natural system. Our outside vantage point also offered some advantages enabling us to perceive and analyze the system as a whole rather than individual parts.

The policy sciences' framework and propositions were used to guide our inquiry (see Lasswell 1971, Lasswell and McDougal 1992, Clark 2002). Information for this appraisal was collected from multiple sources. Students arranged informational sessions with five organizations engaged in large scale conservation of the watershed (Table 1). These meetings consisted of presentations by the host organization followed by a period of questions and discussion. During the meetings, students gained insight into the history of the various organizations, the challenges they face, and the conservation strategies they employ. A basic content analysis of materials and websites of each organization was conducted to compare institutional values, symbols, and goals to understand the context of this region.

The Connecticut River watershed was selected as a case study by the authors of this chapter because of the large area represented and the diverse set of environmental, social and economic issues faced by its inhabitants. In contrast to long-term, more

detailed studies, a rapid assessment is a research tool that allows an analyst to gather and process a significant amount of information in a short period of time (del Campo and Clark 2009). The aim of this method, from a policy sciences perspective, is to develop a snapshot of the likely challenges faced and possible means of intervention (Clark and Ashton 1999, 2004). Our intent was to explore the strategies used by different organizations attempting to conduct large scale conservation efforts within the Connecticut River Watershed. Although our travel and meetings did not present us with a complete picture of the region, many useful insights were unearthed. Over three days our class met with representatives from five groups: The Nature Conservancy (TNC), the U.S. Geological Survey Conte Anadromous Fish Laboratory (USGS), the Connecticut River Watershed Council (CRWC), the Connecticut River Joint Commissions (CRJC) and the U.S. Fish and Wildlife Service Silvio O. Conte Refuge (USFWS).

Figure 1 Locations visited during the Connecticut River Rapid Assessment



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Table 1 Main characteristics of organizations visited during Connecticut River appraisal

	CT River Watershed Council (CRWC)	CT River Joint Commissions (CRJC)	U.S. Geological Survey (USGS)	USFWS, Silvio O. Conte Refuge	The Nature Conservancy (TNC)
Type of institution	NGO	Governmental (state)	Governmental (federal)	Governmental (federal)	NGO
Enforcement	Non-regulatory	Non-regulatory	Non-regulatory	Regulatory (inside Refuge)	Non-regulatory
Lobbying capacity	High	Low	Low	Low	Low
Principal funding mechanism	Private donations and grants	State funding	Federal appropriations; clients	Federal appropriations	Private donations
Recognition by other organizations	High visibility	High visibility	High visibility	High visibility	High visibility
Level of partnership with each other	Moderate	Moderate (focused in VT and NH)	Minimal	Moderate	High, but on their terms
Flexibility to change	Medium	Resistant	Limited only to biophysical context; institutional constraints	Limited only to biophysical context; institutional constraints	Medium

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CHALLENGES FACED

The Connecticut River is New England's largest river system and was recently designated one of fourteen American Heritage Rivers (EPA 2006). The watershed encompasses over 11,000 square miles of land throughout four states: Connecticut, Massachusetts, New Hampshire and Vermont (CRWC 2006). Several endangered

species exist within the watershed, a contributing factor in the decision to list the tidal wetlands in southern Connecticut as “Wetlands of International Importance” under the Ramsar Convention (CDEP 2004). In addition to its ecological importance, the watershed has a rich cultural heritage. Rural farming villages and urban commercial centers have relied on the watershed for over 250 years (Delaney 1983). As urban sprawl, habitat fragmentation, and non-point source pollution increase throughout the region, conservationists are looking for ways to preserve this ecosystem. While many regional conservation organizations and natural resource management agencies are focused on improving the watershed—and the definition and concept of improving varies between organizations—few have developed effective strategies for navigating the complex political and social dimensions.

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Participants in the Connecticut River system are focused on solving a range of challenges that they believe are contributing to the degradation of the ecosystem. These challenges include, but are not limited to: impaired water quality, invasive species, wetlands loss, acid rain, dams, native species decline, and loss of historical culture. Addressing these challenges is a necessary component to maintaining the health of the watershed, but simply solving these ordinary problems is far from sufficient. In contrast to the challenges focused on by the regional organizations, this assessment looks at the functional, process-oriented challenges faced by participants in the region that act as barriers to lasting conservation solutions.

We sought to assess the policy challenges faced by participants and the goals and specific values for each group visited. Persistent decision process problems faced by the various stakeholders were also identified (Table 3). These problems range from biophysical concerns (e.g. point source pollution, invasive species) to cultural (e.g. clashes of world views, methods of conservation) to decision making (e.g., transboundary management, technocratic vs. democratic control). The scope of our analysis focuses on the constitutive challenges faced to secure a process allowing the watershed’s community to find common ground.

Goals

Understanding a public policy problem requires a detailed understanding of the common expectations of a community. Problems do not exist independent of human interpretation; they are conflict between a desired state of affairs (goals) and the current or projected future conditions (Clark 2002). The five organizations visited were asked what an ideal Connecticut River Watershed would look like (Table 2). All five organizations support the general objective of “securing the health of the Connecticut River Watershed,” while fully realizing that this statement is subject to multiple legitimate interpretations. For example, four out of the five organizations

Table 2 Organizational perspectives visited during Connecticut River appraisal

Formula for conservation	Advocacy + Education = Conservation	Community partnerships = Maintaining cultural heritage	Biodiversity + Good science = Good management	Education + Science + Land acquisition = Sustainable management			
Vision / objectives	1) Promote restoration, conservation, wise development, and use of the natural resources 2) Protect and conserve fish and wildlife 3) Promote and encourage an understanding among citizens (need to conserve)	1) Advocate and ensure public involvement in decisions with affect "their" river and "their" valley 2) Create a citizens' river corridor plan 3) Describe the cultural heritage of the Valley	1) Help visualize the desired future condition [of the CT River] 2) Publish the tools that will "give managers and planners the ability to 'see' in a dynamic way the present and future conditions of the watershed."	1) "to involve the people of the watershed, especially landowners and land managers, in environmental education programs and cooperative management projects" (only during initial phase through public hearings) 2) "Cooperative strategies and a landscape viewpoint will be required to protect the natural diversity of the watershed"			
Symbols	Dams Fish and fish ladders Atlas Logos River steward(s) CT River (the river) "Working in partnership with people to protect the Connecticut River"	Cultural heritage CT River (their river) Logos; Book "The catalyst for cooperatively meeting the Valley's challenges is the Connecticut River Joint Commissions, who seek a strong and vibrant economy while capitalizing on the natural wealth of this place."	Anadromous fish USGS Logo "Science for a changing world"	Fish and wildlife Invasive species Migratory birds Maps USFWS Logo "The Silvio O. Conte National Fish and Wildlife Refuge is no ordinary Refuge!" Roman columns (formula)			
Values (entry points into the organization)	Rectitude and wealth (resources)	Respect	Skill and wealth (resources)	Enlightenment			

Table 3 Basic overview of decision making by organizations visited during Connecticut River appraisal

		<i>Organizations</i>			
		CRWC	CRJC	TNC	USFWS
Entry point in Decision Process (Clark, 2002)	Intelligence, promotion, invocation.	Appraisal, promotion, application, and quasi-prescription.	Intelligence, promotion, invocation.	Intelligence, prescription, application	
Organizational Effectiveness (As judged by other participants)	Less now than in prior years.	They are meeting their own standards, but not necessarily furthering the goal of large scale conservation along the CT River.	Their projects are ad hoc and largely opportunistic. They are perceived in a negative light due to funding conflicts.	Their projects are ad hoc and largely opportunistic.	
Positive roles	They are a well-established organization, with moralistic standards.	They have a good reputation for "conservation" in their area, and high social standing.	With wealth, overall reputation, power and social standing, they are in a great position for positive change.	They have great vision and ideals.	
Persistent problems	Disorganization within, uncertainty in where to go, lack of respect and wealth.	They have no desire to expand, perhaps exemplifying a disconnect in reaching a common goal.	The 800-lb gorilla-complex.	Lack of promotion and integration of social aspects.	

surveyed understood this goal primarily in terms of improving the biophysical aspect of watershed. In contrast, the Connecticut River Joint Commissions (CRJC) interpreted it as focused on the overall quality of life for the human inhabitants. These multiple interpretations do not prevent us from using this shared statement, as the various interpretations are not mutually exclusive.

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Persistent problems

Each organization visited believes they have been successful in undertaking a variety of on-the-ground projects and activities that relate to their priorities for the Connecticut River. For example, the USGS implemented a successful program, over the last 10 years, to reintroduce anadromous species into the Connecticut River watershed (<http://www.lsc.usgs.gov/CAFLindex.asp>). The Connecticut River Joint Commission has concentrated on creating an historic understanding of the northern portion of the watershed to promote a shared sense of community and caring for the river (<http://www.crjc.org/partnership.htm>). These are just two examples of many success stories encountered. However, despite the effectiveness of any single organization's strategy, there is broad agreement that conservation in the Connecticut River system is far from realized.

Using the shared goal statement as a basis for our identification of policy challenges, three persistent policy problems facing participants in the conservation of the Connecticut River watershed were identified: arenas, goal substitution, and the scientific management paradigm. These problems are not organization specific; they are institutional challenges that have caused difficulty in "securing the health of the Connecticut River Watershed" as a whole.

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Persistent problem #1: Arenas

One of the major limitations to achieving successful conservation in the Connecticut River system is the current structure of the arena. Arenas are physical places, or zones of interaction, where participants engage each other to reconcile their interests (Cherney et al. 2009). These situations include town hall meetings, litigation,

informal discussions/meetings, financial markets, and many others. Situations can be understood functionally in terms of their geographic, temporal, value-orientation, and (inter)crisis components (Lasswell 1971). An arena that aims to serve the broad public interest will ideally be open to broad participation (McDougal et al. 1981).

It is widely agreed that the Connecticut River watershed arena is highly fragmented. The current political fragmentation is evident in the division of the watershed into the jurisdiction of four states, over 300 cities, and various federal agencies. The fragmentation is also apparent in the history and traditions of the region, in particular New England's concept of "home rule." Home rule is a governance tradition where a central authority devolves both authority and control to a regional or local level. Fragmented systems of authority and control are often desirable in a policy setting, because they orient governance toward shared local interests (Brunner et al. 2005).

This fragmented, decentralized system may have been an ideal form of governance in the historical context of the region. However, the narrow and localized focus restricts both access and consideration of issues to the concerns of the communities immediately adjacent to the Connecticut River. To achieve the large scale conservation related goals for the watershed, some level of communication and coordination amongst participants is necessary. For example, controlling actions of participants in Vermont can potentially affect participants in Massachusetts, who can potentially affect participants in Connecticut. The converse is also true. Consequently, it is desirable from a common interest perspective for participants in Connecticut to have access to a forum in Vermont where they can contribute to policy making, and vice versa.

Political fragmentation causes a barrier to effective policy by creating a situation where the diverse set of participants within the watershed are unable to mutually engage each other in an effort to reconcile their interests and find common ground. The desire to overcome fragmentation is evident in the numerous plans developed by participants for managing the Connecticut River Watershed, including the most recent by the Connecticut River Watershed Council (CRWC). These plans advance a holistic vision and prescriptions for the region. However, according to both The Nature Conservancy (TNC) and CRWC, every plan created ends up "sitting on the shelf." This is not surprising given the fragmented arena. Fragmentation contributes to plans being created by a limited number of participants as compared to the watershed's large community to which the prescription is to be applied.

Persistent problem #2: Goal substitution

While common ground exists between the goals of the five organizations visited, all organizations are hindered by issues of goal legitimacy and substitution. As previously identified, each organization has a slightly different vision for what an ideal Connecticut River watershed would look like. These visions are not mutually exclusive. However, the various organizations have set themselves up in a competitive manner to determine whose vision (goals) are "correct" for the region. This competition is manifested in values of power (who can actually effect change), wealth (who can raise more capital), and respect (who is seen as the leading organization).

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This competitive dynamic is a contributing factor leading to goal substitution (focusing on an intermediate goal often to the detriment of an overriding goal), and is most evident in the relationship between TNC and the CRWC. TNC, an international NGO with substantial monetary resources, entered into the Connecticut River policy arena much later than CRWC, an organization whose sole purpose is to secure the future of the watershed. From the CRWC's perspective, TNC, as an internationally recognized organization, has attempted to wrestle control of the conservation arena and is not attentive to the rich regional history of the watershed. The CRWC sees this as a deprivation of respect for their effectiveness as a conservation organization, a deprivation of power due to their inability to get a seat at the table next to TNC, and a deprivation of wealth due to the competition for conservation funds. As a result, the CRWC spends considerable time and resources trying to increase their monetary base and profile as a conservation organization. In other words, rather than trying to cooperate with TNC on shared goals, the CRWC is focused on developing and meeting indicators that demonstrate their organization's superiority to TNC.

While it is possible for healthy competition to benefit conservation activities, this dynamic contributes to goal substitution by orientating organizations away from high-priority goals, such as their mission statement, and instead narrows the focus to low-priority goals. As a result, organizations such as CRWC measure their success in terms of monetary funds raised, number of donors or members, positive mentions in popular media, and other easily quantifiable attributes that they can compare against those of their perceived competitors, rather than judging their success by improved conservation outcomes.

This type of goal substitution is further evident in the failure and unwillingness of organizations to terminate ineffective conservation programs. Termination is often viewed as a symbolic organizational or conservation failure, rather than a restructuring of the decision process. For example, the USGS claims that it is interested in developing interdisciplinary indicators to better understand the system as a whole, but is resistant to revising the current set of indicators beyond biological or hydraulic data, which portray the agency in favorable terms. There is concern that adding social variables may decrease or threaten their claims of success.

Persistent problem #3: Scientific management paradigm

The perspectives of participants in the Connecticut River system have a significant effect on the quality of management policy, and thus conservation outcomes. Perspectives of participants in the region can be understood through their identity (formulae, doctrine, and symbols), expectations, and demands (Lasswell 1971, table 2). With the exception of the CRJC, all of the organizations visited use an expert-

driven approach, based in biology, in an attempt to achieve successful conservation outcomes.

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This expert-driven approach is characteristic of scientific management. Scientific management is a paradigm—a specialized myth used to justify certain practices and claims—based in positivism (Brunner 2006). This style of management is well entrenched in popular scientific and policy culture, where reductionism and replication to develop generalizable laws of nature are regarded as the standard method by which people should understand and operate in the world. While attractive for studying isolated technical phenomenon, this management paradigm has proven insufficient to resolve complex policy issues (Brunner et al. 2005), such as the Connecticut River Watershed. The reductionist mentality is prone to overlook or discount critical components of context in a policy setting, often because some factors are not easily quantifiable.

The USFWS is a prime example of how this management paradigm hinders effective conservation in the Connecticut River system. In the development of the Silvio O. Conte Refuge design, this government agency realized that social and political factors are a necessary component in creating an effective reserve. However, the USFWS staff fell back almost entirely on their technical backgrounds to complete the reserve plan, ignoring what they recognized as critical components to be integrated. They justified the exclusion of social components and indicators from their plan (e.g., value dynamics and demands) simply because these factors are “difficult to quantify and measure.”

This trend is similarly evident in the other four organizations visited. They tend to frame issues using simplistic, expert-defined problem definitions (whether it be hydraulic, biological, or economic), and, consequently, focus on technical problems at the expense of solving basic constitutive problems. Such a problem definition may be advantageous for one particular organization (for reasons of goal substitution, funding, and the perception of political support); however, it fundamentally excludes legitimate participants, such as non-expert citizens, from the arena.

LOOKING TOWARD THE FUTURE

Based on the trends, conditions, and problems described above, it is possible to envision a number of likely future scenarios for conservation in the Connecticut River watershed.

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Business as usual

In this scenario, the most likely of the three, current trends and conditions are carried into the future without significant alteration, and problems of urban sprawl, habitat fragmentation and non-point source pollution gradually but consistently become more chronic in the Connecticut River watershed. Each organization will continue to undertake on-the-ground projects and activities reflecting its perspective of successful resource conservation, without a larger constitutive decision process to streamline efforts, or to integrate organizational strengths and resources for greater impact. Though there will be occasional partnerships and collaborations, the underlying competition for power, wealth and respect will preclude more integrated conservation solutions. The major environmental organizations will continue to focus on intelligence-gathering and the promotion of their institutional doctrines resulting in narrow, expert-defined problem definitions. Without a larger, coordinated effort improving the cumulative social and decision making processes, it is unlikely that the *Business As Usual* scenario will achieve the overarching goal shared by the river's environmental groups: improving the overall health of the Connecticut River Watershed.

Competition and fragmentation

In this scenario, both the cumulative and the individual conservation activities of the river's major environmental groups are hampered by parochialism, competition for scarce economic/funding resources, and by struggles for power and respect. Both the social and the decision processes become less contextual, integrative, and effective on the watershed scale. For example, the current unease between the Connecticut River Watershed Council and The Nature Conservancy grows into a malignant competition. The CRWC then shifts valuable organizational effort from outreach to fundraising, in an effort to replace key funders "stolen" by TNC. TNC finds its ecoregional approach hampered at the local level by suspicious or hostile community leaders who have seen CRWC pushed aside and local contextual issues largely ignored. Or, in another illustrative scenario, the largely successful but geographically-restricted Connecticut River Joint Commissions avoids "exporting" its success stories and templates to groups on the lower river, instead maintaining a narrow focus on its backyard (as currently outlined in the CRJC legislative mandate). Here, the watershed's ability to benefit from local innovation and experimentation, and to integrate conservation solutions at a larger level, is virtually eliminated. The result, in both the short and long-term, is that sprawl, habitat fragmentation, and non-point source pollution along the river increase unabated; and, perhaps as important, community and social justice opportunities are severely hampered by regional and organizational competition.

Collaboration and integration

The final, and most promising, scenario is one in which the leading environmental groups of the Connecticut River find need for and implement a larger, more collaborative and integrated approach to conservation. This may be led by any number of groups: the Connecticut River Watershed Council might acquire the resources or power, The Nature Conservancy might find that sharing or distributing power, respect and wealth to a larger group of stakeholders is more productive than is its current approach. In any case, the major groups engage in a constitutive decision process, which more effectively and contextually identifies problems, describes trends, analyzes conditions, projects developments and creates, ranks, and selects alternatives for achieving the common goal. In this case, the arena and consequently the social process are clarified and improved; solutions are contextual, and failed efforts are instructive but terminated. The relative strengths of the different environmental organizations are harmonized and brought to bear upon the river's biophysical problems, including urban sprawl, habitat fragmentation and non-point source pollution. The overall health of the river improves, and through time, the opportunities for social benefit and justice are created and spread throughout the watershed geography.

RECOMMENDATIONS

In order to encourage movement towards the *collaboration and integration* scenario, three different, but related strategies are proposed: decision seminar, problem orientation workshops, and practice based learning. A common theme of these recommendations is encouraging a problem oriented approach to conservation in the watershed. While these alternatives are oriented towards the participants involved in the Connecticut River Watershed, they also specifically address ways that future students can continue to engage in this case. These recommendations provide the entry points to encourage each of the organizations to work towards a common purpose, especially if they perceive that they will be enriched through this process.

In order to encourage movement towards the collaboration and integration scenario, three different, but related strategies are proposed: decision seminar, problem orientation workshops, and practice based learning.

Decision seminar

It appears that the groups interviewed share a common desired future condition of improving the social and biological conditions of the Connecticut River watershed. Unfortunately, this goal is highly prone to substitution by the five organizations, and there is a lack of agreement on how to achieve this outcome for the watershed. This deficiency in the policy process provides an opportunity for Yale to lend its skill and

knowledge by coordinating a policy clarification and exercise called a decision seminar (Willard and Norchi 1993). A decision seminar is an ongoing, group-based exercise that helps participants problem solve in a policy-oriented, multi-method, and contextual manner (see Burgess and Slonaker 1978, Muth 1987, Willard and Norchi 1993). This seminar helps participants find and maintain a common problem definition: a set of goals, trends, conditions, projections, and range of alternatives.

Muth (1987) lists six operational procedures that are necessary for a decision seminar to occur. First, a dedicated nuclear group of participants is essential to maintain the seminar through time. Second, a permanent local site is necessary to be a symbol for the exercise and to house the material used. Third, audio-visual aids are needed to remind the problem solving group of its progress and its goals. Fourth, outside experts are crucial to increase the knowledge of the participants. Fifth, a detailed record-keeping system is required to document the continual changes in data. Finally, a research system is vital to add to and update the data on which the group relies.

An outside group, such as a future Yale class, could try to organize and coordinate such a seminar. Most of the organizations and individuals involved in the conservation of the Connecticut River watershed see a need for a larger understanding of the problem. The individuals involved in this case are highly motivated and dedicated to this effort. If approached in a manner playing to their core values, all of the institutions involved in this appraisal would likely be willing to participate in such a seminar. This sets the stage for a nuclear group of participants. It is recommended that the students find ways to secure and sustain the other five operational procedures described above, and to create a termination strategy for Yale's involvement as the facilitator of the seminar.

Problem orientation workshop

Organizations pursuing conservation in this watershed often compete and do not address shared goals. One method for finding common ground between the participants would be to organize a workshop centered on problem orientation. In order for the groups to effectively work together in a collaborative fashion, they need to develop a good understanding of their own perspectives as well as the perspectives of the other participants. By exploring the following questions, the workshop participants can attend to the five tasks of problem orientation:

- 1) What do we want to achieve?
- 2) How well have we done so far?
- 3) What has influenced these circumstances?
- 4) What will happen if things go on as they have?
- 5) What must we do to achieve what we want?

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Students from the Yale School of Forestry & Environmental Studies could play an important role in organizing this type of workshop and serving as facilitators. Students could employ a Q-methodology in order to reveal common ground between the participants. In a Q-workshop, participants are asked to generate responses to questions about problem definition, goal clarification and potential strategies for meeting goals and then the participants are asked to rate the degree to which they agree or disagree with the responses (Brown 1980, 1993). An analysis is subsequently performed to place the participants into factor or cluster groups based on their responses.

Potential outcomes of this workshop are greater insights into the similarities and differences between the participants and a better working relationship between the participants. If successful, the workshop could produce a shared problem definition and new opportunities for future collaboration, such as the creation of a “Connecticut River Congress” as suggested by CRWC.

Practice-based learning

In order for large scale conservation efforts to be successful within the Connecticut River watershed it will be necessary for stakeholders to combine efforts and work toward mutually compatible goals. Although all of the organizations involved with conservation in the region have partnerships and programs that have individually been successful, coordination at a larger scale has not occurred. This stems, in part, from the lack of clarified goals among all of the organizations. The creation of a joint initiative provides a unique opportunity to overcome this problem and there are several mechanisms already in place that would help facilitate its creation. For example, the CRJC, the CRWC and the USGS all expressed interest in developing an atlas for the region. Although the CRJC intends to focus only on Vermont and New Hampshire, and the USGS is focused on biophysical elements, their desire for a similar output is a first step in aligning interests. In addition, the Connecticut River Watershed Initiative, being developed by the USGS and researchers at the University of Massachusetts, provides a newly created vehicle for bringing together stakeholders and a diverse set of interests. Although the current focus is on biophysical elements, they have expressed an interest in developing a framework and tools that incorporate other perspectives and values.

Creating a pilot project and using a practice-based approach will enable the organizations in the region to test out different conservation strategies and create new arenas at a smaller scale before trying to translate these approaches into a watershed-based approach. Students from the Yale School of Forestry & Environmental Studies could also play a role in implementing this recommendation. They could highlight best practices in the region and then serve as mentors to the various organizations, helping them to encourage similar practices among their constituents. In doing so, the students would essentially be providing these groups with an entry point for appraisal.

However, conservation work in the Connecticut River watershed tends to be a patchwork of efforts, in which projects are often fragmented with limited functional linkages.

CONCLUSION

All of the organizations appraised in this paper have successfully undertaken conservation activities using a variety of formulae to achieve the overarching goal of maintaining a healthy watershed. However, conservation work in the Connecticut River watershed tends to be a patchwork of efforts, in which projects are often fragmented with limited functional linkages. Under these circumstances, a major concern is that the Connecticut River groups will continue along the *Business As Usual* path. However, it appears that there is much common ground between the organizations surveyed, even if they do not fully recognize it at the moment. While competition can spur innovation, the overriding goal among these organizations is a healthy ecological and social system, not institutional continuity or plaudits. Achieving their common interests can best be accomplished by working toward the *collaboration and integration* scenario. In order to shift the future trajectory of conservation in the watershed, three alternative measures were provided. These measures can assist the organizations in finding common ground, creating a functional network, and transforming the ineffective patchwork approach to a coordinated approach at a larger scale. It is important to recognize, however, that these large scale recommendations complement rather than replace the ongoing watershed conservation strategies and practices. Given the existing social and political conditions, such as home rule and parochialism, a top-down regulatory approach is unlikely to be successful. Each organization has an important role to play in its respective arena. We hope our recommendations will assist in creating a new, large scale arena which embraces a more bottom-up approach. Finally, through the sharing of the common vision, pooling of collective wisdom and experiences, and establishment of a joint initiative, the Connecticut River stakeholders are more likely to find true lasting solutions to the broad set of challenges facing the river system. Our hope is that this report, though limited in research scale and scope, provides the platform for an improved dialogue and concerted actions among players involved in the conservation and management of the Connecticut River watershed.

Achieving their common interests can best be accomplished by working toward the *collaboration and integration* scenario.

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