

**FROM COLLABORATION TO KNOWLEDGE:
PLANNING FOR REMEDIAL ACTION IN THE GREAT LAKES**

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(ABSTRACT)

The goal of planning is to use knowledge to determine action. Planning theory has focused specifically on how the process of achieving this occurs. Two dominant theories prevail: rational comprehensive and communicative planning theory. The former relies heavily on the scientific method as a model for acquiring knowledge from which the correct action can be determined. The latter suggests that collaborative processes that engage stakeholders in decision-making offer distinct advantages to achieving both knowledge and action through consensus processes.

This study looks at how knowledge is developed in collaborative planning processes used in ecosystem management. Knowledge is defined as more than simply data and information. It includes the tacit elements that underlie and give meaning to the data and information. As such, it requires processes that are more communicative in nature. At the same time, ecosystem management practices are rooted in the natural sciences and rely heavily on rational, instrumental reasoning to determine management plans. This combination of rational and communicative approaches provides for an interesting setting in which to understand the interaction of the two and to determine if there are advantages to conceptualizing planning in one way or the other.

The study targets the remedial action planning done in the Great Lakes since 1987. Forty-three Areas of Concern were established throughout the basin, and in each, a stakeholder planning committee established. The committee was charged with developing a plan for remediating the water quality of the area. Over the past fourteen years, they have struggled through many circumstances to accomplish this with varying degrees of success. As each utilized slightly different procedural approaches and faced different obstacles, they provide an excellent laboratory for comparison.

The study offers an analysis of the elements of the process and the implications of the different ways of approaching the various steps and stages. The analysis focuses on revealing what needs to be intact prior to collaborating, how information is collected, shared, and utilized, and how decisions are made and formalized in these processes. It focuses specifically on the information itself, communication issues, structural elements, and factors outside the process and how these all work together to enhance or inhibit collaboration. Following a detailed analysis of the process, a model for doing ecosystem management based on knowledge is developed and the basic principles of the model suggested.

Collaboration is often theorized to accomplish far more than simply improved knowledge for decision-making. Some believe it will improve democracy, equality, and accountability. The study concludes with a brief reflection on these possibilities.

DEDICATION

To **Julia**, my eternal soul mate,
whose faith and encouragement have made this and all my dreams come true;
for the miracle you are and the miracle you have helped me to become.

To **Katelyn, Rachel, Sarah, and Emma**,
Without your love and support, I would never have been motivated to endure this process;
It is for you that I dream of a better life, a freer and more equitable world with an enhanced
appreciation and respect of God's wondrous creations.

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This process has been simultaneously cognitive, interpersonal, and intrapersonal. I have learned to make meaning of knowledge, I have come to better understand my relationship to others, and I have developed a greater sense of my own identity. I believe such a description captures the true measure of a great education. There are many to whom I am indebted for having so graciously afforded me such a luxury.

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Chapter 1: From Collaboration to Knowledge

1.1 Knowledge in planning

Planning deals with “how knowledge is linked to action” (Friedmann, 1987). It is inherently future-oriented, linked to problem solving (Forester, 1989), and specifically associated with the activity of an organizational entity such as (and most commonly) the government (Healey, 1981). Planning’s role is to guide and/or regulate certain activities or objects, such as the regulation of land use (Healey, 1981). It encompasses such diverse professions as project and program managers and evaluators, public administrators, policy analysts, and professional planners at all levels of government (Forester, 1989).

The knowledge used in planning is typically gathered through the use of a broad spectrum of analytic approaches including a spectrum from ethical considerations to physical engineering techniques (Mazza, 1996). By virtue of the fact that planning problems are almost always rooted in the activities of people, planners must deal with the practical, political, organizational, economic, social, cultural, physical, and psychological dimensions of the issues they address (Forester, 1989). In democratic societies planners are also mandated to allow the public’s participation in these processes. This can both assist and complicate such analyzes (Forester, 1989). Knowledge collected is eventually used to shape decisions on the actions of these organizations (deNeufville, 1987).

If planning is the quest to use knowledge to determine action, then to begin one must have an understanding of what constitutes knowledge. This is a question hardly answerable here; it has been a central focus of intellectual endeavor for millennia. A pragmatic understanding of what “knowledge” means, however, is necessary in order to achieve some understanding of what constitutes planning. Often in planning literature the words information and data are used synonymously with knowledge. Knowledge, while related to both, is neither. In order to understand knowledge it is important to understand this difference and the relationships that are necessary in order for knowledge to emerge from data and information.

Knowledge begins with a set of symbols (Probst, Raub, & Romhardt, 2000). In our society these include the Greek alphabet, Arabic numerals and other like symbols. In and of themselves symbols hold very limited value. They represent sounds and quantities, which are useful only when used in conjunction with other symbols linked via acceptable practices of syntax. When used as such they constitute a higher order of knowledge: data (Probst et al., 2000).

Data are much more complex than symbols because it is descriptive, objective, discrete, and often structured (Davenport & Prusak, 1998). Planning is a data intensive discipline. Planners often want things quantified, identifying how much of something there is. Planners like things described, offering a verbal image of the perceived circumstances or setting. But quantifying and describing does not make sense of those things, it merely provides the raw material from which more cogent questions of why something is occurring can be developed. This distinction is important because too often it is assumed that the “data speak for themselves” when in fact data offer no meaning independent of the observer.

When meaning is attributed to the data by an observer, which actually occurs from the very second that the observer determines to use it, information emerges. Information has the purpose of imparting importance and relevance to data. Davenport and Prusak (Davenport & Prusak, 1998) observed five ways that data is converted to information:

- *Contextualized*: we know for what purpose the data was gathered.
- *Categorized*: we know the units of analysis or key components of the data.
- *Calculated*: the data may have been analyzed mathematically or statistically.
- *Corrected*: errors have been removed from the data.
- *Condensed*: the data may have been summarized in a more concise form.

Data thus considered is given form (i.e. information = data *in* formation). As such it has the power to shape, convince and provoke thinking (Huseman & Goodman, 1999). Planners inevitably view data as information because it is almost always taken in the context of its usefulness to problem solving. For example, one may know that there is a certain quantity of a pollutant in the water (data). It is more useful to know that this quantity of pollutant is related to certain adverse outcomes such as illness in a particular region (information). But information alone still falls far short of planning's needs. Planning requires that information be assessed in terms of action. It is this process that constitutes knowledge.

Knowledge is information laden with experience, judgment, intuition and values (Huseman & Goodman, 1999). As Davenport and Prusak define it:

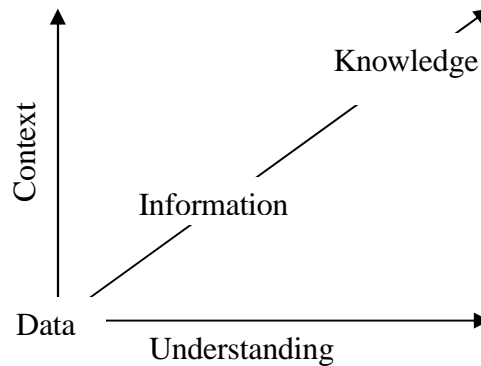
Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the mind of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms. (Page 5)

In the same way that certain processes work upon data to create information, other processes work upon information to create knowledge. These can be summarized as:

- *Comparison*: how does information about this situation compare to other situations we have known?
- *Consequences*: what implications does the information have for decisions and actions?
- *Connections*: how does this bit of knowledge relate to others?
- *Conversation*: what do other people think about this information?

Knowledge is at the heart of what planners are endeavoring to achieve and embedded in the structures in which they operate. This is why making the distinction and recognizing the power of knowledge is so critical. The planning enterprise is not merely about the translating of information into action; it is also about understanding the translation process itself. Translation invokes the personal attributes of the translator, his or her values, experience, and judgment. It is also about understanding why planning institutions operate as they do. Understanding this combination of interpretive understanding and the structural context, gives a deeper meaning to what is actually occurring when planners speak of utilizing knowledge to determine action; how they actually put information to use. Figure 4-1 below demonstrates this relationship.

Figure 1: Role of Context and Understanding in Knowledge



It is important to distinguish between two fundamental ways that knowledge is perceived: knowledge as an object and knowledge as a process (Sveiby, 1996). The first perspective is that knowledge is an object. As such it can be identified and captured and made available through various media. This view of knowledge is closer to what I have called information above. It assumes some level of explicitness and boundedness. This is what is normally found in written form. The entire information technology boom is focused on knowledge from this perspective. Many who study knowledge thus promote the simple codification of knowledge into some form of database for the purpose of exchange.

The second perspective takes knowledge to be more of a process than an object. It assumes that there are tacit forms that can neither be captured easily nor bounded. These forms of knowledge clearly exist but only in the minds of those that possess them. They are utilized, often unconsciously, when needed by the individual and can be identified by demonstrating a greater aptitude by people possessing them at certain tasks. A simple example might be a basketball player. He or she has an increased knowledge of how to shoot the ball into the hoop but this form of knowledge cannot be made readily available to others through written medium. The basic skills can be outlined but the mere reading of the description does not transfer the knowledge from the player to the non-player. It is this knowledge, the “know-how” so to speak, that I refer to here when I refer to knowledge. This conception of knowledge recognizes that even knowledge as an object elicits the use of tacit understandings that alter the interpretation of the object itself; again demonstrating that knowledge is more accurately portrayed as process. Throughout, as I refer to knowledge, it is not merely the dissemination of information I am referencing but rather the sharing of know-how amongst participants in a planning process.

1.2 Planning theory

Theories of planning have specifically focused on providing a guide for what constitutes good planning practice in this complex domain (Friedmann, 1995). Sandercock has pointed out, “as each new theory emerges, it seeks to redefine precisely what it is that planners ‘do’... in terms of approach, process, and allegiance” (Sandercock, 1998) (page 87). For our purpose here, planning theory is important in that it provides direction in terms of the nature of the process for acquiring knowledge to be utilized in the determination of public actions. The two broad competing models that provide direction in terms of process are the comprehensive rational theory and the communicative theory. The latter of these serves as the basis for the cases used in this study. To

understand it, and its assertions, the former must first be understood in terms of its practice and critiques.

1.2.1 Rational planning

Early planning theories derived largely from the thinking of Enlightenment philosophers and scientists (Bauer & Randolph, 2000). The rationalism of Descartes' *Discourse on Method* has been of particular importance (Forester, 1993a). He called for a systematic process whereby a problem could be investigated, alternatives for solving it evaluated, and ultimately a course of action determined. In such a view of planning, a planner's role is to link specifically "scientific and technical" knowledge to action (Friedmann, 1987). To accomplish this the planner must be objective, operating independent of the political world in which public decisions occur (Innes, 1995). The planner must also take a comprehensive view of the problem; consider it from all angles (Forester, 1989). This view suggests that knowledge is simply a series of measurable 'facts', which can be elicited and understood through the correct method of discovery (deNeufville, 1987) (Forester, 1993a). Once all the facts about a problem are known, the optimal solution will become apparent (Faludi, 1996).

According to Andreas Faludi (Faludi, 1996), the first discussion of the so-called rational model of planning appeared in *Politics, Planning, and the Public Interest* (Meyerson & Banfield, 1955). Meyerson and Banfield suggest a four-step process as follows:

1. Analysis of the Situation: consider all the facts
2. End Reduction and Elaboration: determine where you want to get and what it will take
3. Design of Courses of Action: determine alternatives
4. Comparative Evaluation of Consequences: compare outcomes of each alternative.

Meyerson and Banfield assert that this method, if followed, would achieve the most "nearly rational" decision (Meyerson & Banfield, 1955) in (Faludi, 1996).

This depiction of planning has been often criticized. First, to consider all the facts assumes that the problem is well-defined, a full array of alternatives is available, full baseline information exists, the consequences of each alternative is clearly known, the preferences and values of citizens are known, and that planners possess sufficient time, skill, and resources to address of the this information (Forester, 1989). In reality, planners face a much more uncertain picture with restricted resources, inadequate time, and limited skills. This has led some to conclude that a planner's rationality can be, at best, "bounded", or limited (March & Simon, 1958). Rather than selecting the optimal solution a decision maker can only "satisfice", or select the first satisfactory solution (Perrow, 1972). In this view, planning can, at best, be approached incrementally, muddling through each small step before proceeding to the next (Lindblom, 1959).

A related critique of planning as a rational enterprise is that planning problems and facts do not speak for themselves but are defined by the planner (Forester, 1993a). Most issues addressed by planners are expressed in metaphors and analogies, the meaning of which vary from person to person and change over time (Stone, 1997). Some problems have even been dubbed "wicked problems" because their shifting problem definitions make them difficult to address (Rittel &

Webber, 1973). Even when planners agree on the meaning of specific data, or facts, they may disagree about the significance and appropriate application thereof (Ozawa, 1991).

Third, some others have suggested that instrumental rationality and objectivism are repressive. Through the bureaucratization of rationality, a part of the richness of human experience is lost being replaced with an essentially technical view. Bureaucratization may also result in the concentration of political power, leaving few options available for those outside the bureaucracy to influence any given solution. Further, the techniques of scientific analysis demand a specific set of standards and practices that may disallow the validity or perceived legitimacy of any other method of analysis (Dryzek, 1990). Thus while scientific rationality purports to offer the correct vantage point from which to view and analyze the world, it inherently limits what can be viewed and analyzed. This has been called the “policy paradox” (Stone, 1997).

Finally, planners often utilize data in a manner different than expected and advocated by rationalist proponents. First, data is often used selectively to support an already determined, often politically motivated, position. Second, research findings are often invoked late in the process or are discarded because they are not perceived to be relevant to the problem, as it has been defined. Third, even if data is important, relevant, and timely, this does not ensure its use. Data will enjoy various levels of influence, often not based on its quality or the importance but rather on its use by a planner in analysis (deNeufville, 1987).

In spite of these quandaries, rational-comprehensive models remain the dominant approach to planning in Western societies (Beauregard, 1996). Defenders of the model suggest that the limitations are evident but not catastrophic to its usefulness. As Andreas Faludi (Faludi, 1996) has suggested:

Such adaptations reflect awareness of the limitations of the human mind. Indeed, the rational model cannot be followed, and adaptations are needed. But the model can provide a yardstick for determining whether decisions are correct. This interpretation of the model is not affected by criticisms leveled against it in the literature, and so-called alternatives are no substitute for it. However, account may be taken of the problems of rational planning by defining decision situations with such limitations in mind. (Page 69)

One need only consider the potential of ‘irrational’ decision-making to understand this position. In essence, the depiction of the rational model as infallible is a straw man; no advocate for rational processes to planning would ever construe the process as proceeding perfectly as depicted in the model above. Adaptations are necessary but do not undermine the need or desire for a rational process. In fact, the critiques offered against the model are in themselves reflections of the desire to be as rational as possible.

The question is how to best achieve a rational process. If the model is not perfect then how should it be adjusted to best achieve rationality? This begs the question of what constitutes rationality in the first place. Some have suggested that it can be best understood and achieved through the better educating of the civil servant, both in technical competence and in popular will, so as to ensure that those with mandates to choose on behalf of the larger public will do so only after giving the most careful consideration to all aspects confronting them (Storing & Bessette, 1995). With experience and training the designated leader will be able to make the best choice on behalf of the general populous and that choice, by virtue of lengthy contemplation should be recognized as rational.

Others have not been so willing to allow the bureaucrat this kind of confidence. In 1965, Alan Altshuler (Altshuler, 1965) offered a similar and important critique of the rational, comprehensive model in planning as presented above. In response to his critique, Judith Innes (Innes, 1996) demonstrated how a collaborative model of planning can answer these theoretical shortcomings. In short, through collaboration between stakeholders, the public interest can be discovered and willed. Also, by involving this diversity of interests, the planner can acquire the necessary knowledge, authority, and influence to implement the plan through stakeholder agreement. This approach thus defined rationality as emerging from the consensus of competing stakeholders and the process of achieving such rationality must be collaborative. Table 1-1 outlines the detailed critique and responses provided in these two analyzes.

Table 0-1: Collaborative Response to Comprehensive Planning

| Altshuler's Critique of Rational Comprehensive Planning | Innes Response: Collaborative planning |
|--|---|
| Assumes public interest can be discovered. | Through collaborative processes participants jointly discover the public interest through discourse. |
| Must develop hierarchy of collective goals as basis for measuring public interest. | Seeks a shared frameworks for problems and moves toward a strategy in a qualitative, discursive manner – no measurement is necessary. |
| Must be expert in public interest. | Group choice represents the public interest. |
| Planners lack knowledge and experience to create workable strategies. | The diversity of participants allows for the sharing of knowledge and experience by both experts and practitioners. |
| Planners do not have power to enforce coordination. | Coordination is achieved not through enforcement but through agreement amongst participants. |
| Comprehensive plans are too general and thus prohibit debate. | Stakeholders debate each general principle from the practical application to their limited interests and do not incorporate until satisfied that it meets these interests. |
| Politicians prefer constant influence and interest groups prefer piecemeal acceptance. | Interest groups get representation through out the process and elected officials: (1) feel confident the outcome is more politically viable because of the input, and (2) feel obligated to accept it because of multiple parties involved. |

The quandary of what constitutes rationality and what processes best achieve it will no doubt be central to the discussion of planning for a long time and is beyond the scope of this study. But the debate is real and important questions emerge about any process that is suggested for planning. In the Chapter Six, these questions will be looked at in greater detail. The importance here is that the planning processes pursued in the cases discussed throughout this study adopt the latter of these two conceptions; that rationality is best achieved through consensus processes. The goal then is to understand how knowledge emerges from planning approaches of this nature.

1.2.2 Communicative planning

Collaborative models, like those suggest above by Innes, rely on a new theoretical paradigm that has begun to gain prominence amongst both planning practitioners and theorists. It represents a paradigm because it is not merely an extension of the previous model but employs new concepts, methods, and provides a different frame through which to study planning (Innes, 1995). As it is in its infancy there are many loose ends and unanswered questions. This has led some in planning to discount its existence as a theory at all (Innes, 1995). But for the last two decades the literature has been increasingly filled with the work of those whose theoretical prospective is clearly from a new school of thought (see page 184 of (Innes, 1995) for a comprehensive list). This new perspective emerges from the study of what planners actually do in practice (Forester, 1989). The result is a much messier depiction of planning but a much richer understanding of what it means to plan.

This new paradigm has been called interpretive (Healey, 1997a), argumentative (Fischer & Forester, 1993), and communicative (Innes, 1995). It focuses on the fact that a planner's job consists primarily of interacting, communicating, and talking with people (Forester, 1989; Innes, 1995; Innes, 1998). As Forester (Forester, 1989) has shown, planners "describe ... indicate ... designate ... explain ... alert ... point out ... specify ... suggest ... notify ... and ask for" (page 18) and that such "talk and argument matter" (page 5). The systematic, rational analysis described above is important in that it is "talk", but it is only one kind of talk and represents a rather limited view of planning when viewed as the sole element of a planner's job (Innes, 1995). Communicative planning theory, as it will be referred to here, provides a perspective of planning based on "talk".

Social construction of knowledge

Communicative planning theory rejects the conceptualization of knowledge as an accumulation of facts that exist in and of themselves, having been discovered through appropriate methods. Rather, this approach advocates the position that all knowledge is socially constructed (Healey, 1997a). Proponents assert that facts are always context specific and understood only through the experience and understanding of individuals and the meaning given them by the groups to which the individual belongs. Over time the reality of these constructs becomes "hardened", particularly as generations pass and children adopt the construct as reality through socialization rather than through their own construction. It is important to note that the constructed reality begins then to define how and what future constructions of knowledge emerge. Whereas humans first construct reality and its subsequent knowledge, reality and knowledge then constructs humans through social processes (Berger & Luckmann, 1967).

The importance of this conceptualization of knowledge in terms of planning is that if knowledge is socially constructed, the task confronted by, and the tools and skills required of planners must be much more sophisticated than those implied as utilized by rational planners. Planning is not simply the compilation of facts and figures, but rather, and more importantly, the interpretation of those facts and figures in a social context. The ambition of communicative planning theorists is to provide the tools, skills and analytic frameworks needed to improve the practice of planning so understood.

Communicative planning theory posits that planning is a process of linking knowledge to action but it acknowledges that the procedural steps of planning, as they are depicted in the rationalist model, simply cannot be distinguished in practice because they occur simultaneously (Innes, 1995). There is not a learning stage, deciding stage, acting stage. Rather, all occur together in actual practice.

Nature of communicative knowledge

The conception of knowledge as technical information that somehow reveals appropriate action, communicative planning theory dismisses. Instead a much more sophisticated conception of what knowledge is emerges, one that is more in tune with how we as humans actually think about our actions. This is not to understate the central value of technical information or the process of obtaining it. But it is to acknowledge that what is important about technical planning is not simply the so-called “findings”, but the organizational routines and practices that go into producing, analyzing, presenting, and discussing such information (Innes, 1988).

To understand what is meant by knowledge in this way one need only consider how ordinary people communicate with one another. It would be unusual indeed to have a conversation with someone wherein each sentence was offered with citation and supporting evidence. Humans speak to each other in what has been called “stories” (Kaplan, 1993). We speak to demonstrate, conceptualize, and share. Our narratives contain bounteous amounts of information about our culture, our preferences, and our personalities. The hearer perceives these innately rather than explicitly and is constantly making sense of and judging the content sub-consciously. The meaning of what is said is thus a function of our social processes and shared understandings (Berger & Luckmann, 1967). Someone of another society, for example, would struggle to capture all of the subtle meanings of what and how we say things because they lack the underlying social constructions necessary to garner full understanding from our words. Technical information is often reported, or at least depicted, as avoiding these issues of interpretation by being “objective” (Dryzek, 1990). In reality, people are hard pressed to identify, let alone remove such filters from our ears and minds. From a communicative perspective, technical jargon is merely a different set of symbols that restrict access by the ordinary person to the dialogue. In practice the knowledge used is not exclusively technical. As Innes (Innes, 1995) has pointed out, “The study of practice shows that what ordinary people know is at least as relevant as what is found through systematic professional inquiry” (pp 185). Knowledge in communicative planning includes both information and social context as depicted through the stories utilized to impart it.

These stories become embedded not only in our understandings and dialogues but also in our institutions. Our rules, procedures, and policies surface from our stories and, over time begin to take on a life of their own becoming distinct of the stories that created them (Stone, 1997). They are taken for granted, self-justified, and unquestioned most of the time (Innes, 1995). Knowledge of these institutions carries power (Healey, 1997a) and is as vital to planning as any technical information might be but has typically been overlooked because it is so much a part of who we are. In communicative planning theory, understanding the influences that shape our decisions is as crucial a form of knowledge as the information we hold up as justification for those choices. Technical data derives its credibility from tacit knowledge and from the unspoken warrants we share as a members of specific communities.

Issues of power

Power structures are also central to communicative planning theory. As can be presupposed, the existence of power structures also becomes an important form of knowledge that must be considered in planning. There is power in the possession of information (Forester, 1989). It seems to be a human tendency to defer to those who have more “facts” than we do. In the planning domain that often means the planner. Given this, planners and other information providers must be careful not to distort the information they possess by being cognizant of how they frame the information, what they call attention to, and who they empower with it. Forester (Forester, 1989), borrowing from Habermas (Habermas, 1984), suggests that to prevent inappropriate distortion of information planners must speak (1) comprehensibly, (2) sincerely, (3) appropriately for the context, and (4) accurately. Any deviation in one of these areas results in a distortion of the information and a misuse of power. A communicative view of planning considers an acknowledgement of this orientation as being as vital to the act of planning as any technical knowledge that might be presented.

Communicative rationality

The heart of the communicative approach to planning is derived from the critical theory developed by Jurgen Habermas (Habermas, 1984). The dismissal of rational methodologies as inadequate begs the question: how does one then choose the appropriate action? In response to this question Habermas has proposed what he calls: communicative action. Such action takes place only once the planning has been done in an appropriately communicative manner. Like the scientific method, communicative action has a process of its own which leads to a communicatively rational choice. The process is what Habermas calls the “ideal speech situation”. Innes (Innes, 1995) provides the following simplified version of this:

1. All major points of view must be involved in any choice;
2. All participants must have access to all relevant information;
3. Participants must be able to participate as equals in terms of their ability to influence the outcome.

By following this method, decisions can be made not only technically rational, but also morally and emotionally rational. By elevating the latter two objectives to the equivalent status of the former, it is supposed that communicative planning theory better approaches what humans actually do when they engage in planning. Notably, one might question whether Habermas’ “ideal” is any more attainable than the rational model. This question is often dismissed by suggesting that, while it too is subject to criticism on the basis of idealism, it seeks a higher, more rational outcome and therefore is superior regardless of such critiques (Webler, 1995).

Collaborative approaches

If planning is to be achieved through a communicative process, new processes and procedures need to be introduced. The basic categorical name that has been given to the methods of planning based on communicative planning theory is collaborative planning, alluding to the collaborative nature of communicative processes.

Early engagement of "all relevant and significant" (Innes & Booher, 1999a) stakeholders in the processes of problem definition, planning, implementation, monitoring, and evaluation is at the

center of collaborative planning. Stakeholders include those who perceive they will be affected by any policy decision (Bauer & Randolph, 2000). In the past, traditional public involvement techniques created adversarial roles for stakeholders (Ozawa, 1991) where one side would be declared the winner and the other the loser. Collaborative processes conversely create a setting within which stakeholders are expected to abandon entrenched positions and seek to find common ground through discourse (Margerum, 1999). Many of these positions are created because environmental issues are both complex and uncertain thus requiring that decisions be made based on more fundamental values. Collaboration is designed to deal explicitly with these political and value differences (Selin & Chavez, 1995). As stakeholders discuss potential approaches to policy and their individual interests, social or collaborative learning (Innes & Booher, 1999a) occurs. Participants become more aware of the interests of other parties involved in the collaborative process and of the substantive issues surrounding the decision. This learning and interaction also leads to the development of shared (Innes & Gruber, 1994) or social, intellectual and political capital and trust (Innes & Booher, 1999a).

The relationships among parties involved are often changed as a result of participation in the collaborative process. New networks, institutions, and practices are formed as a result of relationships and communication within collaborative practice (Innes & Booher, 1999a). These new institutions, many yield improved inter- and intra-agency, jurisdictional, and sector (private and public) coordination (Innes, 1995).

An explicit part of collaborative processes is the relinquishing of some degree of control by authoritative actors/officials to other participants (Bauer & Randolph, 2000). This may include some share of the self-organization of the process including the establishment of ground rules, objectives, tasks, working groups, and discussion topics (Innes & Booher, 1999b). With this sharing of power also comes the necessity for a shared sense of responsibility and agreement on means (Margerum, 1999). Participants must share credit for success in planning and implementation. They must also jointly acknowledge the failures in the process (Bauer & Randolph, 2000).

Collaborative planning approaches also place an emphasis on achieving a solution by consensus when feasible (Margerum, 1999). This encourages those in collaborative efforts to engage in a process of resolving conflicts through negotiation and mediation (Gray, 1989). The intent is to avoid the necessity of litigation by incorporating as many relevant interests as possible in the policy decision (Bauer & Randolph, 2000). Collaboration is designed to encourage the integration of a wide range of creative solutions to problems, such as flexible regulation, economic incentives and compensation, negotiated agreements, voluntary actions, and educational programs (Bauer & Randolph, 2000). These reflect the diversity of the stakeholder participants both in terms of technical and emotive/value-based knowledge. All collaborative efforts seek to use dialogue and group processes to develop creative solutions that may not otherwise have emerged. It is essential to successful collaboration that all participants have the necessary time to participate, to build trust, to learn, to resolve disputes, and to create solutions (Bauer & Randolph, 2000).

Strong and sound information exchange is an important component of collaborative environmental planning, whether the information is scientific or value-based (Bauer &

Randolph, 2000). This information must be both manageable and commonly accepted by all parties to be of value. Information that is misleading or extremely difficult to understand will undermine the intent of a collaborative process (Margerum, 1999). An effort to integrate all information sources is necessary, whether scientific or value-based. This includes a "contextualized" understanding of environmental problems, one that is not reductionist in its approach. The information is not simply for the purpose of categorization, but is primarily to derive proactive efforts to prevent and resolve problems (Bauer & Randolph, 2000).

Collaboration intends to be an ongoing process that continues to involve the participation of stakeholders indefinitely. As such, the process must be adaptive, iterative, and open (Bauer & Randolph, 2000). As understanding and values change, so must the process. As new knowledge gained from experience is jointly learned, the capacities developed through this learning must be incorporated into future decisions.

1.2.3 Collaborative Techniques in Environmental Planning

Environmental planning offers an interesting subdiscipline of planning from which to examine collaborative planning approaches. Environmental planning decisions range in character from emergency decision-making to extremely long-term forecasts. By analyzing the nature of these decisions, we can develop more appropriate, effective applications of collaborative processes.

Tonn, English, and Travis (2000) have defined six different decision-making models utilized by planners and policy-makers for environmental decision-making. The nature and knowledge of the problem characterize these models. Table 1-1 offers the six possible models and the criteria under which they are utilized.

Figure 0-2: Decision Making Modes for Environmental Planning (Tonn, English, & Travis, 2000)

| Decision-making mode/ implementation criteria | Emergency action (EA) | Routine procedures (RP) | Analysis centred (AC) | Elite corps (EC) | Conflict management (CM) | Collaborative learning (CL) |
|--|------------------------------|--------------------------------|------------------------------|-------------------------|---------------------------------|------------------------------------|
| Knowledge of problem | Very low to very high | High to very high | Very low to medium | Medium to high | Medium to very high | Very low to low |
| Potential for conflict | Very low to very high | Very low to low | Medium to very high | Very low to medium | Medium to very high | High to very high |
| Magnitude of consequences | Medium to very high | Very low to low | Medium to very high | High to very high | Medium to very high | High to very high |
| Response time | Immediate to days | Immediate to days | Weeks to years | Days to months | Weeks to years | Months to years |

Figure 1-2 suggests that collaborative planning is most effective under circumstances where the knowledge of the problem is low. The inclusion of stakeholders enhances the opportunity to coordinate and combine multiple sources of information. Collaboration is particularly effect under circumstances where joint information gathering is possible and the issues requiring such activities

are foster interdependence (Gray, 1989). These situations are often ripe for conflict because of the number of potential stakeholders and the limited understanding of the situation. A strong incentive is required to bring about such an approach and its inherent difficulties. Therefore, the consequences of failing to act must be reasonably high. Any effort to accomplish such a task must not be time sensitive as the inclusion of stakeholders and the need to gather sufficient knowledge can take a significant amount of time.

Collaborative approaches, because of these same characteristics, might not be appropriate for decisions that require emergency actions. Under such circumstances, response time must be rapid and collaborative processes cannot normally meet this demand.

1.3 Ecosystem management

Within environmental management, the use of collaborative planning approaches has been increasing for about twenty years now. By combining systems thinking in regards to the relationships with nature and communicative planning theories, a process known as ecosystem management has emerged.

The birth of “ecosystem ecology” is attributed to British ecologist Arthur Tansley who in 1935 defined an ecosystem as “the whole system in the sense of physics including not only the organism-complex, but also the whole complex of physical factors forming what we call the environment of the biome – the habitat factors in the widest sense” (Cortner & Moote, 1999). Ecosystem science emerged subsequently as a conglomeration of sciences, from biology to the social sciences. As resource managers and ecosystem scientists began to collaborate in the early eighties due to such natural disasters as the fire in Yellowstone and the Mount St. Helens eruption, the linking of ecosystem science and policy became more explicit. The process of collaboration also took hold as the dominant form of planning within natural resources agencies. The result was the development of ecosystem management (Cortner & Moote, 1999).

1.3.1 Elements and Objectives of Ecosystem Management

The primary focus of ecosystem management is the *ecological integrity* of the natural system. That is, the alleviation of physical stress on the natural structure and function of the ecosystem is the primary goal of ecosystem management (MacKenzie, 1996). Humans are part of this interactive system and are fundamentally dependent on ecosystem integrity as such (Becker, 1996). The ecosystem is a self-sustaining system governed by such characteristics as interaction, synergy, feedback, and interconnections (MacKenzie, 1996).

All biological, physical, and chemical matter exists in a complex relationship of interdependence within an ecosystem, thus a *holistic orientation* must be taken in any resource management effort. All elements must be planned for in unison rather than in a separate, reductionist manner (Cortner & Moote, 1999). This requires a systematic, interdisciplinary ecosystem science-based approach (Franklin, 1997).

The Ecosystems are defined by a natural ecological boundary. Institutional arrangements and the policy process must be adapted organized to accord with this boundary instead of within traditional political jurisdictional boundaries (Becker, 1996). Effective ecosystem management requires that institutions (laws, organizations, policies, management practices) be *flexible and adapt* well to

changes in social values, ecological conditions, political pressures, available data, and knowledge (Cortner & Moote, 1999). It is recognized that “all management decisions are based upon limited information, with significant degrees of uncertainty as to the outcomes and, further, that new knowledge will accumulate, altering basic assumptions and modifying predicted outcomes” (Franklin, 1997).

In all of these characteristics, it resembles the rational comprehensive model, which makes sense as it is based in the natural sciences. What makes it unique, as an approach to natural resources management is that it also includes a *collaborative decision-making process* involving all stakeholders in order to balance social and ecological values as well as integrate interdisciplinary knowledge (MacKenzie, 1996). Proponents of this approach view scientific concepts, including “healthy” and “ecosystem”, as essentially value judgments (socially defined) that are no more “rational” than non-instrumental values (Cortner & Moote, 1999). Further, advocates contend that those who are most affected by ecosystem disintegration are those best suited to establish a system to manage, monitor, and evaluate the ecosystem (Franklin, 1997).

1.4 Summary

Knowledge is a process through which information and values, experience, skills, and so on integrate. Planning specifically intends to link knowledge to action for the betterment of society. As such, knowledge should be a central component in planning theories. Early theory was based on the scientific method and failed to incorporate some of the more sophisticated human dimensions that are particular to planning and policy-making. Contemporary planning theorists have adopted Habermas’ theory of rhetoric to describe how, by accounting for and including the moral and emotional dimensions of the human experience, the planning process can become more human in its approach. To achieve Habermas’ goal of communicative rationality, planners and analysts have developed a model of planning called collaboration, named for its emphasis on collaboration between government and affected stakeholders. Ecosystem management has employed collaborative planning as a model through which a new more adaptive, holistic approach to natural resources preservation and restoration is accomplished. As these processes are still young and an understanding of them is still emerging, some theorists question whether, in the American political economy, the goals of collaboration are achievable. This study focuses specifically on one of the first and perhaps the largest examples of ecosystem management in the world to garner insight into both the theory and practice of collaborative environmental and how knowledge is created in such processes.

Chapter 2: Context of Remedial Action Planning

2.1 A Profile of the Great Lakes¹

Located in the heart of North America, the five Great Lakes (Lake Superior, Lake Huron, Lake Michigan, Lake Erie, and Lake Ontario) represent the largest fresh surface water system in the world. Spanning over 750 miles east-to-west, the lakes have played a significant role in the history and development of both Canada and the United States. The lakes and their associated tributaries served as a critical transportation route through which the continent was initially explored, then settled, and ultimately developed. As a result, presently one-tenth of the United States population and one-quarter of the Canadian population live within the Great Lakes region, about 43 million people.

2.1.1 Physical Profile

The lakes cover more than 94,000 miles². They contain approximately 20 percent of the world's fresh water supply, and 95 percent of the surface fresh water in the United States. Outflow of water from the system is relatively small, less than 1-percent per year. As a result of this pollutants that enter the system are retained and accumulate over time. Lake Superior, for example, has a retention time of 191 years. Therefore, in spite of the size of the lakes, population growth, and the extensive development throughout the basin has degraded the water quality over the years.

Given the basins large size, physical characteristics such as climate, soil, topography, and geology vary widely throughout. In the southern reaches of the region, the climate is substantially warmer and soils more fertile for agriculture than in its more northern parts. The northern portions tend to have substantially decreased growing seasons and are dominated by coniferous and mixed forests. These characteristics structure the kinds of pressures that these regions face – the south being more urbanized with rural lands dominated by agriculture and the north facing less urbanization-related pressures but a larger presence of mining and logging operations. This variety has complicated the efforts to try to establish basinwide management efforts.

2.1.2 Social Profile

European explorers and settlers arrived in the area in the early 1600's. This brought about dramatic changes in the Great Lakes ecosystem as hunting fur-bearing animals eventually gave way to logging, fishing, and agriculture. By the early 1800's most of the deciduous forests in the south had been clear cut and replaced with farmland. This resulted in an increase in water pollution in the form of sawdust and sediments. In the early 1900's with the rapid advent of industrialization industrial wastes were regularly deposited, usually untreated, into the lakes. Sewerage was also discharged into the waters and led to a breakout of typhoid and cholera in the region. At this same time, an increased use of chemicals in agriculture and their subsequent entrance into the water system through erosion led to increased eutrophication.

¹ A more comprehensive overview of the Great Lakes region can be found in "The Great Lakes: An Environmental Atlas and Resource Book" (Environment Canada. & Agency, 1995) from which most of the information in this section is drawn.

The economic value of the Great Lakes was well recognized by early imperialists. The English, French, and Dutch all had a stake in settling the regions around the waters. However, it was the British who gained the upper hand, eventually driving the French from the region. They were able to maintain control of the entire area until the end of the American Revolution when the United States was able to capture the land south of the lakes, establishing the water system as the boundary between the new republic and the British loyalists in the north. This boundary was solidified when an attempt by the Americans to invade Canada in 1812 with the specific intent of capturing the entire Great Lakes region failed. This failure ensured Canada's eventual emergence as an independent nation and a subsequent need for binational management of the Great Lake waters.

2.2 Binational Management

The early pressures put on the lakes by increased population and development led to the establishment of the International Waterways Commission in 1905. This body was created primarily to advise both Canada and the United States on water levels and flows. One of its first official recommendations was that the two governments should consider establishing a stronger institution with a broader scope of responsibility. International Joint Commission (IJC) resulted from this recommendation. The IJC mandate included a general advisory role over all uses of boundary water as well as performing the research necessary to make appropriate recommendations and to serve to resolve disputes over water issues.

In spite of extensive research by the IJC throughout the decades thereafter, the degradation of the lakes continued virtually unchecked until the late 1960's. In response to a general concern for the environment brought about by such dramatic events as the infamous fire on the Cuyahoga River in June of 1969, legislators finally began to move towards controlling chemical releases into the Great Lakes and their tributaries. IJC studies gained special prominence during this period. Of particular importance was a 1964 study that suggested that phosphorus loadings needed to be decreased in order to halt eutrophication in the lakes and that this could only be accomplished by reducing local sources of phosphorus. This eventually led to the signing of the Great Lakes Water Quality Agreement (GLWQA) of 1972.

2.2.1 Great Lakes Water Quality Agreement²

On April 15, 1972 Canadian Prime Minister Pierre Trudeau and United States President Richard Nixon signed the first version of the Great Lakes Water Quality Agreement binding both nations to protecting the water quality of the Great Lakes. The basic focus of the document was the reduction of phosphorus deposition in the lakes. In 1978 the Agreement was revised, creating a much broader emphasis "to restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystem" (Canada & Agency, 1999). The new focus was initiated to reduce the occurrence of persistent toxic chemicals in the water.

In 1985 the IJC identified and designated 42 sub-regions of the Great Lakes as Areas of Concern (AOC). This process of study and designation was undertaken in consultation with federal, state, and provincial agencies. One additional area was subsequently added bringing the total number of

² (Environment Canada. & Agency, 1995)

AOCs to 43. Each area was selected because it represented a region of the watershed that had experienced substantial environmental degradation. In 1987 these designations were formalized in a second revision of the GLWQA called Annex 2.

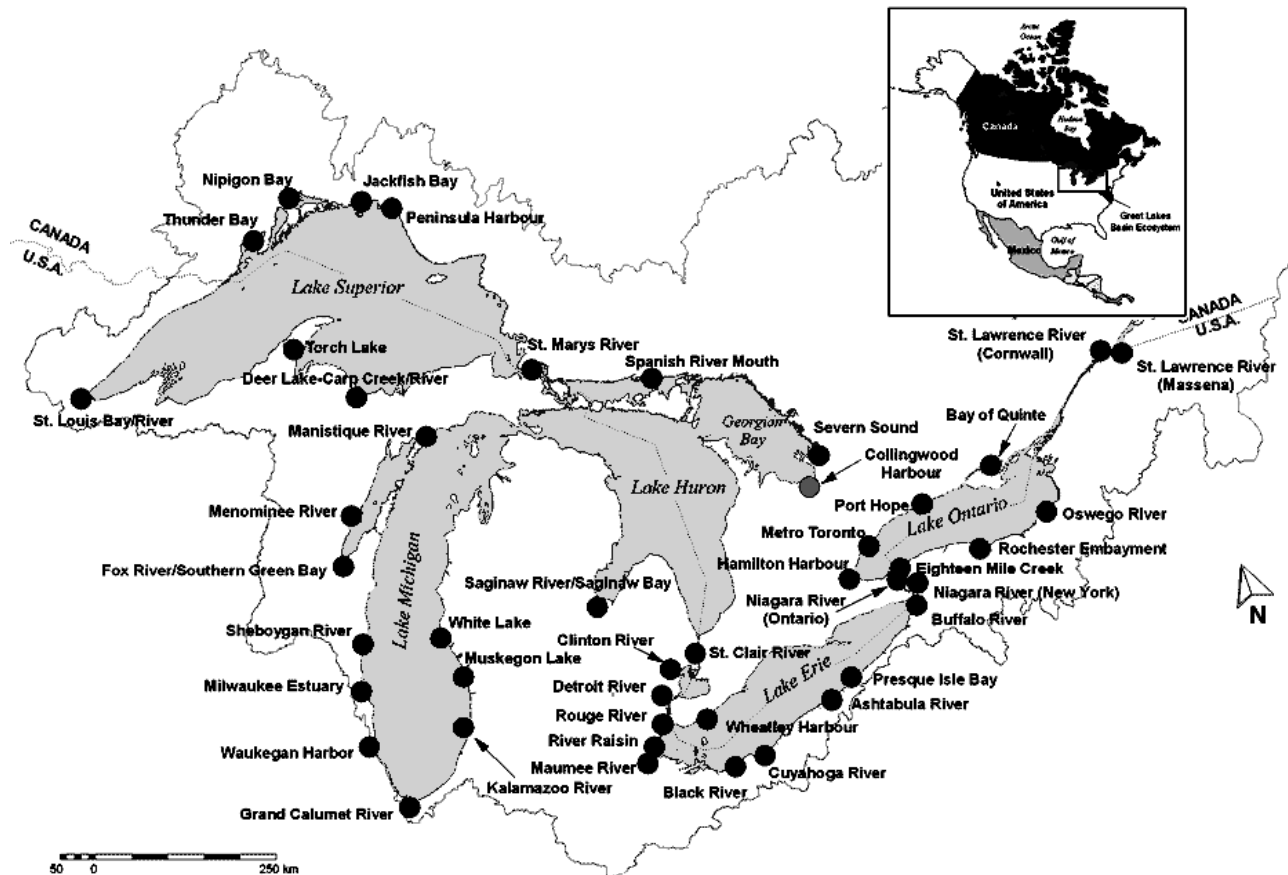


Figure 0-3: Areas of Concern

2.2.2 GLWQA Annex 23

Annex 2 provided a systematic program for restoring and protecting the Areas of Concern. The principal mechanism for accomplishing this was the development of a Remedial Action Plan (RAP) for each AOC. The RAP was to be developed in three stages:

- Stage 1: Problem Definition
- Stage 2: Recommended Plan and Implementation Strategy
- Stage 3: Implementation Monitoring and Reporting

During Stage 1 of the RAP sought to identify the “beneficial use impairments”. Each AOC was analyzed for those water uses that were not available to the public due to degraded water quality. Annex 2 identified the possible impairments as follows:

³ (Environment Canada. & Agency, 1995)

- (i) Restrictions on fish and wildlife consumption;
- (ii) Tainting of fish and wildlife flavour;
- (iii) Degradation of fish wildlife populations;
- (iv) Fish tumors or other deformities;
- (v) Bird or animal deformities or reproduction problems;
- (vi) Degradation of benthos;
- (vii) Restrictions on dredging activities;
- (viii) Eutrophication or undesirable algae;
- (ix) Restrictions on drinking water consumption, or taste and odor problems;
- (x) Beach closings;
- (xi) Degradation of aesthetics;
- (xii) Added costs to agriculture or industry;
- (xiii) Degradation of phytoplankton and zooplankton populations; and
- (xiv) Loss of fish and wildlife habitat.

Each AOC was required to demonstrate that each of the beneficial uses was not impaired in order for the AOC to be “delisted”, or considered restored. When beneficial uses were determined to be impaired, the AOC was to identify the extent and source of the impairment.

During Stage 2 of the RAP process, AOCs were required to outline what remedial actions should be undertaken in order to restore those beneficial uses that were impaired. This “Recommended Plan” was to be based on a common vision that a stakeholder committee (described further below) determined. The second part of Stage 2 developed what was usually called an “Implementation Annex.” This document outlined the responsible parties for the implementation of each of the recommendations.

Stage 3 established the criteria for determining when each of the impaired beneficial uses was restored and implementation monitored in order to determine when the AOC should be considered restored and therefore delisted. This step was established to ensure that those recommended actions determined in Stage 2 were effective in meeting the end aims. Each RAP was to be revised on a biannual basis and adjustments made as needed to make the effort as successful as possible.⁴

To accomplish this three-stage process the IJC mandated that each of the AOCs establish a Remedial Action Planning committee (RAP committee) consisting of public and private stakeholders. These were to be organized under the jurisdiction of the state or provincial environmental agency. RAP committees were charged with the responsibility of completing and overseeing the process outlined above. As each AOC is unique in its problems and potential remedial approaches, each was required to develop its own plan and to submit it to the IJC for approval. Beyond the directives outlined above, the RAP committees were also given the specific guideline that each RAP should take an ecosystem approach and encompass the concerns of all

⁴ Each AOC went about this process slightly different. Some did not define it as I have outlined it here. The basic elements were essentially the same but slight modifications were apparent. The most common of these was the combining of Stage 2 and 3. This was typically due to the state or provincial interpretation of the agreement.

stakeholders. Each RAP committee was involved in establishing its own structure and specific functions. RAP committee varied from state-to-state and even somewhat within individual states in composition and organization.

2.3 Status of the Remedial Action Plans

The early phases of the RAP process were dotted with much activity, enthusiasm, and success. This included the early delisting of the Collingwood Harbour Area of Concern in 1994. While enthusiasm ran high, it became clear early that the stakeholder committees used in the RAP process were going to take much longer to organize than originally anticipated and therefore the process would take longer than originally envisioned. In the mean time, the general political environment of the Great Lakes region became increasingly pro-industry and anti-environment. The RAPs, while continuing to function due in large part to the insistence of those involved in the process, began to experience decreasing funding and interest from the governments with which they were affiliated.

Continued cuts in funding for the program led many of the RAPs to seek non-profit status in order to be able to raise funds through alternative ways. The status of the Remedial Action Plans has become somewhat nebulous as a result. Many of the RAPs have opted now for a combined Stage 1 and Stage 2 instead of separate documents, in spite of the fact that this approach has not been approved formally by any of the governments involved or the IJC. Some RAP committees have completed Stage 2 according to participants but have not submitted it for review and approval by the IJC. Many have simply ignored the documents-requirement and moved directly to implementation, or Stage 3. Even the IJC is hard pressed to identify the status of each RAP. As near as can be determined one RAP, Collingwood, has completed all three stages and achieved delisting as an AOC, a dozen or so others have completed their Stage 1 and 2 documents and moved to establish their delisting criteria. The rest have all completed the Stage 1 document (although it may not have been officially accepted by the IJC). The IJC (IJC, 2000), in its most recent Biannual Report expressed concern with the time the process is taking and fact that AOCs are not following guidelines very well, but maintain a focused commitment to see the process through implementation in spite of the obstacles. IJC even seemed willing not to pursue the specific document requirements if the RAPs continue to move in the direction of remedial actions. While the RAP process has clearly slowed and adapted to new political realities, the dedication of those who have been involved for a decade and a half will likely keep it creeping towards its goals. The IJC has suggested, "This situation need not result in a lack of implementation, merely slower implementation" (IJC, 2000).

Chapter 3: Studying the Collaborative Process

3.1 Purpose of the Study

Chapter 1 defined the role of planning as linking knowledge to action (Friedmann, 1987). The purpose of this study is to understand better the first half of this equation: knowledge in planning. In her landmark⁵ article “*Information in Communicative Planning*”, Judith Innes (Innes, 1998) argued that “it is essential that the academy learn how information functions in the practice of planning, both for normative purposes – to define practices that are ethical and effective – and for analytical purposes – to understand and explain how and why plans and policies are made” (pg 60). She went on to suggest that our interest should be in: (a) identifying the types of information used, (b) the role of each type of information, and (c) the ways that information becomes embedded in practice and institutions. Her particular emphasis was the role of information in the domain of communicative, or collaborative, approaches to planning.

Ecosystem management seeks specifically to accomplish the goals of communicative planning (Duane, 1997). The Remedial Action Planning in the Great Lakes is an example of an ecosystem management that includes both diversity of approach and longevity of effort. It provides an excellent laboratory to understand more fully the role of knowledge in collaborative, natural resources/environmental planning approaches.

3.2 Rationale of the Study

In the early 1970’s when the Environmental Protection Agency (EPA) was established and many new era of environmental statutes and regulations were developed, the principal focus was on restricting the amount of pollutants emitted from large sources (factories, treatment facilities, etc). National emission and clean up standards, along with permitting systems, were created. As a result, air and water pollution has been substantially reduced over the succeeding decades. The challenge facing regulators today is how to deal with the remaining pollutants, many of which derive from a large number of small emitters who, in most cases, cannot be readily traced directly to the discharge because it is in the form of runoff or exhaust. These “non-point” sources of pollution require a very different regulatory approach because it would be virtually “impossible to permit, inspect, and levy fines on these millions of dispersed sources” (John & Mlay, 1999) (pg 354). Agencies are thus turning to voluntary, local agreements created through collaborative planning exercises to deal with these problems.

In recent years the EPA has encouraged local control over environmental protection and emphasized community and individual involvement in local environmental efforts because it has become clear that local people are often more aware of those issues than government employees can be. Carol M. Browner, EPA Administrator under President Clinton, has explained it this way:

[W]e need to involve many, many more people in protecting their own health and their own environment. We need to learn from the public health model of educating and empowering communities. There is no doubt in my mind that an informed local community can do a better job of

⁵ Winner of the National Planning Awards Best Article award for the Journal of the American Planning Association in 1999.

protecting the local environment than a distant bureaucracy (Browner, 1994, quoted in (Finnegan & Sexton, 1999).

The budget cuts experienced by the EPA and their state level counterparts since the early 1980's have exacerbated the need to involve additional, voluntary assistance as well. Whereas agency people were often housed close to various sites, reduced numbers of government workers has made them more distant from these locations.

Governments have sought to engage the public more directly out of necessity due to the complexity of the issues and the magnitude of the task, but also because citizens have increasingly demanded to be involved. Many in the public and the academy demand citizen participation on the basis that it makes government decision-making more democratic.(Webler, 1995). Additionally, increased levels of environmental understanding combined with new access to public information regarding toxic releases has made it possible for citizens and environmental groups to implicate those directly responsible for such releases. Public pressure has compelled companies to reduce pollutants emissions (Murdock & Sexton, 1999). The effectiveness of these new efforts has prompted the development of new institutional mechanisms by which agencies and the public can cooperate.

All of these factors have contributed to a trend towards increased public engagement with environmental decision-making and to the use of collaborative approaches in planning. Whether mandated by such legislation as the National Environmental Policy Act of 1970 (NEPA), the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA), the National Forest Management Act of 1976 (NFMA), and various other federal, state, or local laws and international treaties, or entered into voluntarily, the movement is definitely towards more collaborative, bottom-up approaches (Selin, Schuett, & Carr, 1997). This study contributes to the understanding of these emerging approaches to citizen involvement in environmental planning.

3.3 Questions Guiding this Study

The following questions guided this study:

1. How is knowledge identified and acquired?
 - a. What knowledge is important to collaborative environmental planning?
 - b. What is the process for identifying and acquiring it?
 - c. What factors influence the efficient and effective identification and acquisition of relevant knowledge?
2. How is knowledge shared and used?
 - a. What is the best way to share each kind of knowledge?
 - b. What communication issues are important to collaborative environmental planning?
3. What factors influence the effective sharing and use of knowledge?
4. How is knowledge valued and rank-ordered for planning purposes?
 - a. What role does each type of knowledge play in the planning process?
 - b. What is the relationship between various forms of knowledge?
 - c. How is knowledge evaluated and what leads to its acceptance?
 - d. How are values incorporated into the planning process?
 - e. What factors influence how knowledge is valued and rank-ordered?
5. What constitutes good planning practice in terms of knowledge?

3.4 Significance of the Study

Why conduct a qualitative study on collaborative environmental planning? Qualitative methods allow the researcher to understand the experience of individuals from their personal vantage point, within the context of the research context (Merriam, 1998). These observations are necessary for developing a more complete understanding of what constitutes good collaborative practice. The intricacies of such approaches are still being defined and understood so their close examination can add much to our understanding to collaboration.

3.4.1 Contribution to Knowledge

The RAPs provide an exploratory setting with tremendous potential for teasing out some of the important dimensions of the theoretical and practical issues related to collaboration. They were among the first to engage in collaborative environmental planning and have been doing so for over fifteen years. While other studies have looked at a few select sites, none has looked at them in as comprehensive a manner as provided here. This study examines twenty-five different sites and their related planning processes. While each operated under the same mandate and instruction, each site had sufficient flexibility to pursue various approaches. By comparing the perceptions of those involved in terms of how each of the components operated within the overall process, much was learned about how the pieces fit together as well as the relative significance of each piece.

3.4.2 Relevance to Public Policy

The government is increasingly under pressure to be more transparent. This has required that the public become more involved in government decision-making. Additionally, having already dealt with the obvious sources of environmental contamination over the past thirty years, the problems government must now address require a higher degree of local community involvement and support. As a result policy-makers are adopting collaborative processes more frequently. This study offers a framework for doing this using the experience of the RAPs.

3.5 Assumptions

Several important assumptions underlie this study:

- Rationality alone is incapable of explaining what planners do (Innes, 1998).
- Collaboration, as a means of accomplishing communicative rationality, is a legitimate approach to planning.
- The process of planning has direct implications for the knowledge, or substance, of planning.
- Planning is an identifiably distinct process from implementation and can thus be studied independent thereof.
- The directive of the International Joint Committee was sufficiently clear to permit all sites to seek the same end by similar, but different, means.

3.6 Limitations

The case explained here began fourteen years ago. This raises questions regarding the ability of people to accurately recall their perception of events over a long period of time. It is possible that some of what was reported was misrepresented due to poor recollection. Some of the individuals interviewed also appeared to be using the research as a tool to air their grievances with the process.

Others were obviously trying to advocate for it, often on the basis that the success of the program was part of their professional responsibility. These biases were noted if they became apparent but some were not so easily distinguished. Finally, the study sought to cover as many of the sites as possible in order to capture a variety of different processes. This meant that data was reviewed across processes of a similar structure and not necessarily within the exact same site. It is possible that the experience of a single site could be misrepresented as a result.

3.7 Type of Research

This study employs a qualitative research approach. Qualitative research “is an effort to understand situations in their uniqueness and the interactions there” (Patton, 1985 in (Merriam, 1998)). Rossman and Rallis (1998) suggest that there are eight characteristics of qualitative research:

1. *Takes place in the natural world*: the research is conducted through data collected through experience, not through experimental methods.
2. *Uses multiple methods that are interactive and humanistic*: these include interviewing, observing, and gathering documents.
3. *Focuses on context*: the social world is analyzed as a holistic, interactive, complex system rather than as manipulated variables.
4. *Systematically reflective researcher*: the researcher is aware of how he or she affects the inquiry.
5. *Sensitive to personal biography and how it shapes the study*: the idea of the objective researcher is rejected in favor of accepting the personal perspective of the researcher as valid.
6. *Is emergent rather than tightly prefigured*: the intent is not to test the applicability of a theory but to develop theory through a complex nonlinear process of induction.
7. *Uses complex reasoning that is multifaceted and iterative*: it does not restrict itself to induction but may also incorporate deductive reasoning, inspiration, “and just plain old hard thinking” (pg10).
8. *Is fundamentally interpretive*: data does not speak for itself but is filtered by the researcher both when it is heard and expressed.

Some suggest that qualitative means merely “any type of research that produces findings not arrived at by statistical procedures or other means of quantification” (Strauss & Corbin, 1998). In this study even that data which is quantitative in nature is used interpretively rather than statistically. As Dryzek (Dryzek, 1990) has suggested: “Quantification as such, then, is no evil. It only becomes so in the uses to which it has been put by opinion researchers and others committed to causal explanation of social and political behavior” (pg 174). Quantification is not used here to identify causal mechanisms.

3.8 Conceptual Framework

Figure 2-1 represents graphically the conceptual framework used to guide the initial stages of the study. It is merely a guide that outlines the basic components of the study and their theorized relationships. It is important to note that this framework evolved substantially during the study. The framework in its final form is presented as part of the findings.

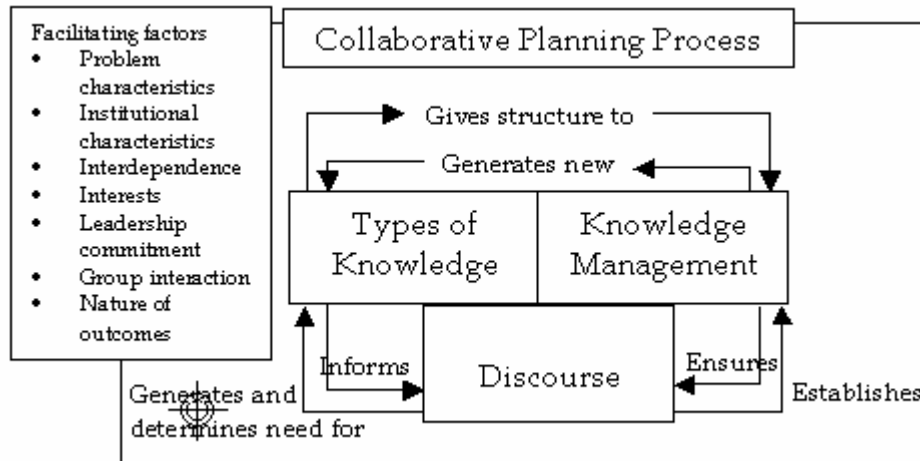


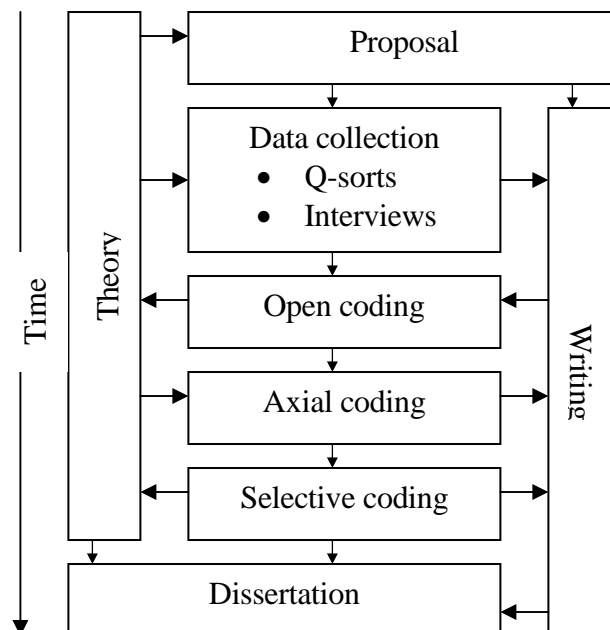
Figure 0-4: Knowledge Development in Collaboration

Figure 2-1 offers a “competence” view of the collaborative planning process. In this view, competence building requires three components: knowledge, experience, and application. To make this applicable to collaborative planning the experience was suggested to be the process of exchanging knowledge (knowledge management) and the application was suggested to be discourse. Facilitating factors were taken from Hood, Logsdon, and Thompson (Hood, Logsdon, & Thompson, 1993).

3.9 Procedures for Data Collection

Figure 2-2 below is a graphical depiction of the process used to collect and analyze data. The basic framework used for the development of the methodology is referred to as “grounded theory” (Strauss & Corbin, 1998). It has been adapted somewhat for the purpose of this study as will be described below.

Figure 0-5: Data Collection and Analysis



8. How something sounded/felt to me.
9. My past experience with the issue.

Concourse for Knowledge Management

Knowledge management experts within organizational learning suggest that there are eight building blocks, or processes, that knowledge undergoes when utilized by an organization: goal setting, identification, acquisition, development, sharing/distribution, utilization, retention, and evaluation/assessment (Probst et al., 2000). Figure 2-4 suggests the interrelationship of these eight. Table 2-3 provides a brief description and measurement of each.

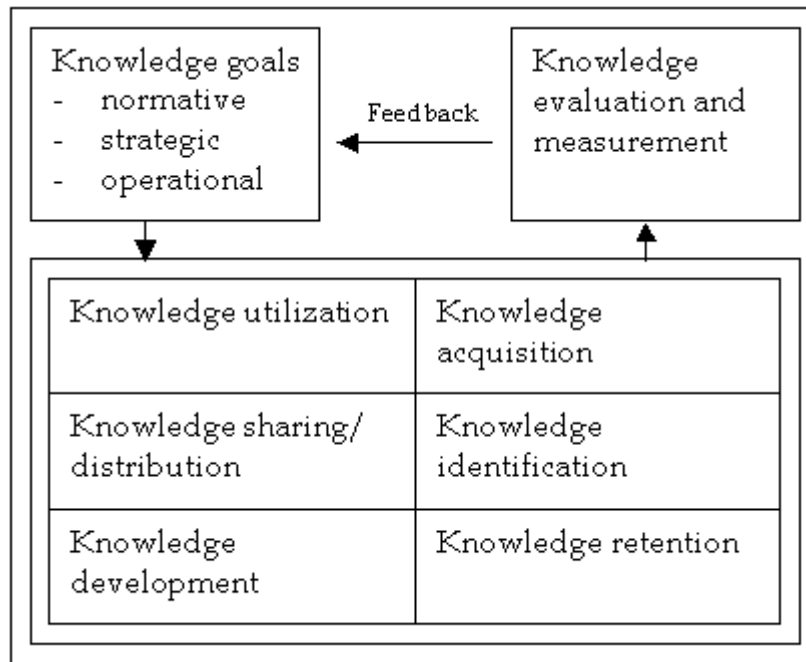


Figure 0-7: Knowledge management building blocks

Table 0-2: Knowledge Management Building Blocks Description

| |
|--|
| <i>Knowledge goals:</i> What do we need knowledge to accomplish? What knowledge do we need? |
| <i>Knowledge identification:</i> What knowledge do we possess or can we access? |
| <i>Knowledge acquisition:</i> Where can we get knowledge we don't have? |
| <i>Knowledge development:</i> How can we improve the knowledge we have and acquire? |
| <i>Knowledge sharing:</i> How can we facilitate the transfer of knowledge among individuals? |
| <i>Knowledge utilization:</i> How can this information help us make a decision? |
| <i>Knowledge retention:</i> How do we keep what we have learned? |
| <i>Knowledge evaluation/assessment:</i> Do we know enough? Is what we have any good? |

Based on these categorizations and the pretesting procedures defined below, the following set of statements was developed for the concourse for knowledge management:

1. Outlining what information we needed up front.
2. Discussing/knowing what each group member knew about the issue.

3. The opportunity to clarify information.
4. Receiving training and/or attending workshops.
5. Keeping notes and reviewing minutes.
6. Agreeing on/discussing what information meant and how it helped us.
7. Seeking out information jointly with others in the group.
8. Assessing the limitations of the information we had.
9. Giving everyone the opportunity to share information and ask questions.

Concourse for Communication

Universal pragmatics is a theoretical explanation of how people use language to produce collective understandings and mutual agreements (Webler, 1995). Habermas, (Habermas, 1984) its creator, and many other theorists Dryzek, 1990 #91], (Healey, 1997a), (Innes & Booher, 1999b) have applied it to policy and planning. Habermas argues first that there are four basic speech acts: communicative, constative, regulative, and representative. Each of these speech acts makes a specific type of validity claim, or an assertion. These assertions implicitly presuppose that the speaker can provide an argument were they challenged. It is this redeeming argument of an assertion that constitutes and defines a discourse. Put more simply, every statement made within a collaborative process represents some form of discourse. Each discourse utilizes different types of knowledge depending on its assertion.

Habermas also identified four different types of discourse: explicative, theoretical, practical, and therapeutic. Table 2-2 summarizes the speech acts, their validity claims (assertions), and the corresponding type of discourse. Explicative discourse deals specifically with matters of comprehensibility. A discourse can be evaluated based on how well the participants understand each other's words (i.e. definitions) or even how they agree upon the appropriate use of those words. Theoretical discourse deals specifically with the facts in question; are they true and correct. A discourse can be analyzed based on whether the facts met some agreed upon criteria (i.e. do they meet the standards of reliability and validity?). Practical discourse revolves around norms; what constitutes appropriate social interactions? A discourse can thus be evaluated based on its acceptability to the common sense of the group or it may be measured against widely advocated norms such as laws. Finally, therapeutic discourse addresses issues of sincerity, authenticity and truthfulness or trust. A discourse can thereby be evaluated in terms of whether participants believed each other (Webler, 1995).

Underlying the basic discourse exchange is the assumption that participants are actually communicatively competent (i.e. participants are able to understand each other). Habermas (Habermas, 1970) has offered a set of elements that are useful in assessing this. They are: cognitive competence, speech competence, pragmatic competence, and role competence. According to White (1989 in (Webler, 1995)) these can be defined as follows: cognitive competence – mastery of the rules of formal logic; speech competence – mastery of linguistic rules; pragmatic competence – mastery of pragmatic rules; and role competence – mastery of rules for interaction. To understand discourse in the development of knowledge requires that these more elemental levels of communication be evaluated as well.

Figure 0-8: Theory of Universal Pragmatics (Webler, 1995)

| Discourse Type | Speech Act | Validity Claims |
|----------------|----------------|-------------------|
| Explicative | Communicative | Comprehensibility |
| Theoretical | Constantive | True/Correct |
| Practical | Regulative | Normatively right |
| Therapeutic | Representative | Authentic |

Based on these categorizations and the pretesting procedures defined below, the following set of statements were developed for the concourse for communication issues:

1. Whether I understood/ comprehended what was said.
2. Whether it was stated logically.
3. Whether I thought it was good/right.
4. Whether it was well said grammatically.
5. Whether I believed that it was correct/true.
6. Whether it was consistent with my own thinking.
7. Whether it made me feel comfortable.
8. Whether I thought it was offered sincerely.
9. Whether it was discussed and clarified or simply stated without feedback.

Concourse for Influencing Factors

The final area in which Q-methodology was performed was that of influencing factors. Hood, Logsdon, and Thompson (Hood et al., 1993) offer their taxonomy as a summary of previous frameworks and models related to collaboration. Unlike the three previous elements, these factors influence learning indirectly. They are important in that they have impact on the collaborative planning process generally. As this is a rather lengthy analysis, only a brief summary of each factor will be provided at this time.

1. *Problem characteristics*: The nature of the problem at hand can facilitate the learning process: (1) Severity of the potential impacts, (2) Complexity of the fundamental causes, (3) Amount of resources available to address the problem.
2. *Institutional characteristics*: The nature of the collaborative group can facilitate learning: (1) Stability of the relationships amongst participants, (2) Flexibility of the structure, (3) Conflict over goal priorities and means.
3. *Interdependence*: The perception that participants must work together can influence learning.
4. *Interests*: The level of interest that the stakeholder has in the outcome can influence learning.
5. *Leadership commitment*: The commitment of those who are in charge of the collaboration can influence learning.
6. *Group interaction*: Issues of group interaction can affect learning in collaboration. At the group-level issues such as culture, norms, and relationship to the outside world can influence learning. Subgroup dynamics, such as subgroup identification, shared vision and goals, can change the experience for some participants. Interpersonal issues, such as communication style,

leadership traits, trust, and interpersonal conflict may also influence learning in the collaborative setting.

7. *Nature of outcomes*: Finally, the perceived or actual outcomes can influence learning. First, learning is enhanced if groups perceive they are accomplishing what they set out to do. Second, if the core group is able to sustain itself indefinitely, learning can be enhanced. Third, having the opportunity to do more than originally intended may influence learning. Finally, personal rewards and outcomes that will directly affect the individual participant will influence learning.

Each of these factors has an ability to alter the nature of a collaborative exercise. In order to understand how knowledge might be altered through collaboration, the influence of each of these factors needs to be understood. Each might enhance or distract from the individual participant's ability to learn new knowledge.

Based on these categorizations and the pretesting procedures outlined below, the following set of statements was developed for the concourse for the influencing factors:

1. Commitment of the leadership of the RAP.
2. Person in possession of the financial resources needed.
3. Preexisting relationships between participants/ organizations.
4. Differences in personal/ organizational goals/ objectives.
5. A perceived need to work together in order to solve the problem.
6. The consistency of participation (same people stayed involved).
7. Effect/severity of the problem directly on a certain participant/ organization.
8. Decision-making authority of certain members of the group.
9. The perspective of specific experts that assisted/ participated in the RAP.

Pretests

The concourses were reviewed first by 96 undergraduate students. This ensured that the level of vocabulary was appropriate for most of the potential subjects. They were then reviewed by a group of six doctoral students for theoretical comprehensiveness and clarity. Following this several members of my dissertation committee also provided feedback. Finally, once the concourses were determined to be complete, a pretest was undertaken that included five individuals who were involved in Remedial Action Planning. Each of these pretest stages resulted in modifications to the concourses.

Sorting

Following the creation of acceptable concourses, the next step in Q-methodology is to have subjects respond to a question by sorting the concourse according to a specified scale (McKeown & Thomas, 1988). This is often referred to as Q-sorting. In each of the four concourses, a scale of "Most Important", "Important", "Neutral", "Less Important", and "Least Important" was used. The questions (as shown above) asked the individual respondent to surmise, based on their own perspective, which statements should go into each category. As per Brown (Brown, 1980) they were allowed only to select a specified number of statements for each category based on a flattened normal curve. The chart they were given follows:

Figure 0-9: Q-Sorting Criteria

| | | |
|----|------------------------------------|--|
| MI | Most important | Assign to only one statement. |
| I | Important | Assign to exactly two statements. |
| N | Less important or Does not apply | Assign to exactly three statements. |
| SU | Somewhat unimportant | Assign to exactly two statements. |
| LI | Least important (most unimportant) | Assign to only one statement. |

By sorting in this manner, those statements that were at the extremes were weighted more heavily because there were fewer of them.

Collecting Sort Data

Data was originally collected through an online website that utilized a JavaScript sorting program developed by Rick Watson (Watson, 2000) specifically for Q-methodology. I adapted the interface to meet the specific needs of this study and to make it more user-friendly. This interface was also tested as part of the pretest process. Visitors to the website could select the category to which a statement was assigned. If they wished they could then reorder the statements based on the categories to which they had assigned them, most important at the top and least important at the bottom. When they submitted the page, an error message was displayed if they had not met the criteria as per the chart. The error message explained their mistake and asked them to redo the sheet. When users completed each page, the data they submitted was e-mailed to my e-mail address and logged on the server. The IP address of each computer that submitted the data was also recorded in order to link each page and eliminate those submitted from Virginia Tech campus computers as tests. The e-mail responses were verified with the server log in order to ensure that all data was received and correctly recorded. Screen captures of the webpage appear in Appendix A.

The link to the webpage was distributed via e-mail to several listservs that served members of the Great Lakes community. This included mostly non-RAP participants but also reached many RAP participants because of their ongoing interest in the Great Lakes generally. The lists included the Michigan RAP listserv, the Lake Superior listserv, and the Great Lakes Researchers listserv. Additionally, each of the RAP coordinators was contacted via e-mail and asked to distribute the link to all those who worked on the RAP with them. One follow-up was made for each list and contact. There is no way to know exactly how many people received the e-mail due to the nature of the lists utilized. Based on the number of subscribers to the listservs it could be presumed that more than 1000 persons received the e-mail. However, due to the fact that most of those recipients were not participants in the RAP process, the actual number of RAP participants actually reached by the e-mail is impossible to determine.

Response to web survey

A total of 57 responses were received to the online survey. Of these, 47 were completed in full, 2 were completed except for the demographic information, and 8 did not complete at least one of the q-sorts. The most notable problem with the sample of responses received was that only 7 of the 47 with full data were from Canadian respondents. The low Canadian response likely was due to the lack of any listservs for the Canadian participants. The only feasible contact route was through the

coordinators for each of the RAP sites. The contact information that was available for these individuals turned out to be outdated even though it was less than two years old. Apparently, the provincial government had reorganized the Ministry of the Environment since the last update. This reorganization included the closing of all RAP offices and the termination or transfer of RAP staff. Tracking these people electronically by e-mail, web directories, and even by telephone proved to be ineffective. To address this difficulty personal visits were made to the sites in order to achieve a reasonable sampling of participants.

Paper Survey

In July of 2001 I traveled to Canada and visited participants in 14 of the 17 Canadian/Binational RAP sites. Data was collected from 12 of those sites. Two were removed from the study due to the non-collaborative nature of their process. Data had already been collected on the 3 that were not visited, which was the basis for not going there. Participants were located by visiting with agency people at each of the Ministry of the Environment offices throughout the province and by consulting with those who participated about others that might be willing to participate. An effort was made at each site to ensure a sectorally diverse set of respondents. A total of 26 individuals responded to these visits, three of which actually mailed the survey to me at a later date rather than filling it out while I was there.

The visits turned out to be of substantial worth to the study. In addition to having individuals fill out the survey, I had the opportunity to do some initial interviews, visit many of the actual RAP sites, and to gain insight into how and why individuals responded to the survey in the manner that they did. This provided some basis for the interview questions that would be asked during the next phase of the study.

Summary of Q-Sort Responses

Total Unique Respondents: 83

Completed all Q-sorts: 75 (2 did not include demographic information)

Did not complete all Q-sorts: 8 (not used in study)

Using the Q-sorts to Select Interview Subjects

The manner in which individuals ranked the Q-sorts became the basis upon which the decision to conduct an in-depth interview was made. Initially Q-sorts were analyzed to determine which of the statements were important perspectives that needed to be considered when the interviews were done. Statements were viewed as unimportant perspectives if they were overwhelmingly scored as “Important” or overwhelmingly as “Unimportant”. The lack of variability indicated that everyone agreed on the importance of the statement and so utilizing it in selecting interviewees would not achieve much variability in perspective. Statements where more variability was noted were used to guide the selection process. The statements that emerged as relevant in each Q-sort appear in Appendix D.

Table 0-3: Responses to Q-Sorts by Demographics

| Respondents by Sector: | By Age: | By Gender : | By Nationality: | By Education: | |
|-------------------------------|----------------|--------------------|------------------------|----------------------|--------------------------------|
| Citizen's advocacy group | 3 | 21-30 2 | Male 47 | Canada 31 | High School 2 |
| Local Government | 5 | 31-40 15 | Female 26 | United States 40 | Some College/University 2 |
| Environmental group | 8 | 41-50 22 | ? 2 | Native 1 | College/university graduate 35 |
| Federal Government | 5 | 51-60 20 | | ? 3 | Masters 23 |
| General Public | 10 | > 60 12 | | | PhD 10 |
| Indian Band/Tribe | 1 | ? 4 | | | ? 3 |
| Industrial manufacturing | 7 | | | | |
| Other non-profit | 3 | | | | |
| Research/Technical | 7 | | | | |
| Sportsman/Recreation | 2 | | | | |
| State/Provincial Agency | 15 | | | | |
| University/College | 6 | | | | |
| Other | 3 | | | | |

For each of the four areas of the model, a group of individuals was selected that covered the widest variability of responses possible in that area. This was done by sorting all respondents based on how they ranked each of the relevant statements. For each relevant statement, one or two respondents who deemed that statement to be "Important" was interviewed. The resulting group of 8 to 11 people for each area therefore varied in opinion concerning what was important to the process. Tables 3-3 below summarizes the Q-sorts of those selected for each area to be interviewed:

Table 0-4: Responses to Q-sort Surveys by Site

| American RAP sites | # | Canadian RAP sites | # | Binational RAP sites | # |
|---------------------------|----------|--|----------|-----------------------------|----------|
| St. Louis Bay/River | 2 | Thunder Bay | 4 | St. Mary's River | 3 |
| Torch Lake | 3 | Nipigon Bay | 4 | St. Clair River | 4 |
| Deer Lake | 1 | Jackfish Bay | 4 | Detroit River | 4 |
| Manistique River | 0 | Peninsula Harbour | 3 | Niagara River* New York | 2 |
| Menominee River | 1 | Collingwood Harbour | 1 | Ontario | 3 |
| Fox River/Green Bay | 2 | Severn Sound | 1 | St. Lawrence* Cornwall | 3 |
| Sheboygan River | 0 | Spanish Harbour | 7 | Massena | 0 |
| Clinton River | 0 | Bay of Quinte | 3 | Total = 5 | |
| Rouge River | 2 | Hamilton Harbour | 3 | * - Operated separately | |
| River Raisin | 1 | Metro Toronto | 2 | | |
| Maumee River | 2 | Port Hope | * | | |
| Black River | 1 | Wheatley Harbour | * | | |
| Cuyahoga River | 5 | Total = 12 - 2 = 10 | | | |
| Milwaukee Estuary | 1 | (*Removed from study due to lack of collaborative process) | | | |
| Waukegan Harbour | 1 | | | | |
| Grand Calumet River | 3 | | | | |
| Kalamazoo River | 1 | | | | |
| Muskegon Lake | 3 | | | | |
| White Lake | 1 | | | | |
| Saginaw River/Bay | 2 | | | | |
| Ashtabula River | 4 | | | | |
| Presque Isle Bay | 1 | | | | |
| Buffalo River | 4 | | | | |
| Eighteen Mile Creek | 0 | | | | |
| Rochester Embayment | 1 | | | | |
| Oswego River | 1 | | | | |
| Total = 27 | | | | | |

Table 0-5: Statements Sorted as “Important” by Interviewees

| Information | # |
|---|----------|
| Site visits/field trips. | 4 |
| My professional training and skills. | 4 |
| Training I received as part of the RAP. | 3 |
| The opinion of another participant. | 2 |
| My personal values and beliefs. | 3 |
| My past experience with the issue. | 5 |

Total Interviewed 9

| Knowledge management | # |
|---|----------|
| Outlining what information we needed up front. | 4 |
| Discussing/knowing what each group member knew about the issue. | 5 |
| The opportunity to clarify information. | 3 |
| Receiving training and/or attending workshops. | 3 |
| Agreeing on/discussing what information meant and how it helped us. | 5 |
| Seeking out information jointly with others in the group. | 3 |
| Assessing the limitations of the information we had. | 2 |
| Giving everyone the opportunity to share information and ask questions. | 3 |

Total Interviewed 10

| Communication | # |
|---|----------|
| Whether I understood/ comprehended what was said. | 4 |
| Whether I thought it was good/right. | 3 |
| Whether I believed that it was correct/true. | 4 |
| Whether I thought it was offered sincerely. | 2 |
| Whether it was discussed and clarified or simply stated without feedback. | 3 |

Total Interviewed 8

| Influencing Factors | # |
|---|----------|
| Commitment of the leadership of the RAP. | 3 |
| Person in possession of the financial resources needed. | 2 |
| Preexisting relationships between participants/ organizations. | 3 |
| Differences in personal/ organizational goals/ objectives. | 3 |
| A perceived need to work together in order to solve the problem. | 4 |
| The consistency of participation (same people stayed involved). | 4 |
| Decision-making authority of certain members of the group. | 3 |
| The perspective of specific experts that assisted/ participated in the RAP. | 3 |

Total Interviewed 9

3.9.2 Interviews

A total of 38 interviews were conducted during the months of July and August 2001. Table 2-4 and 2-5 below summarizes the demographics and site information for those that ultimately participated in the interviewing process. They represented a good distribution of participants and 25 different RAP processes. Once an individual was isolated using the data received on their Q-sort, each was contacted by e-mail or telephone until an interview time was established. Individuals that opted not to participate in the interviews were replaced by finding others who had responded similarly to the Q-sorts on the factor of interest. This was done in such a way as to maximize the variety of perspectives as described above.

Table 0-6: Interviews by Demographics

| Respondents by Sector: | By Age: | By Gender : | By Nationality: | By Education: | | |
|-------------------------------|----------------|--------------------|------------------------|----------------------|-----------------------------|----|
| Citizen's advocacy group | 3 | 21-30 2 | Male 25 | Canada 18 | High School | 1 |
| Local Government | 4 | 31-40 8 | Female 13 | United States 19 | Some College/University | 2 |
| Environmental group | 6 | 41-50 9 | | Native 1 | College/university graduate | 19 |
| Federal Government | 3 | 51-60 11 | | | Masters | 10 |
| General Public | 4 | > 60 8 | | | PhD | 6 |
| Indian Band/Tribe | 1 | | | | | |
| Industrial manufacturing | 3 | | | | | |
| Research/Technical | 3 | | | | | |
| Sportsman/Recreation | 3 | | | | | |
| State/Provincial Agency | 6 | | | | | |
| University/College | 2 | | | | | |

Table 0-7: Interviews by RAP

| | | | | | |
|---------------------|---|-------------------|---|-------------------------|---|
| Ashtabula River | 3 | Bay of Quinte | 1 | St Mary's | 1 |
| Buffalo River | 1 | Collingwood | 1 | St. Clair | 2 |
| Cuyahoga River | 1 | Hamilton Harbour | 2 | Detroit River | 3 |
| Fox River/Green Bay | 2 | Jackfish Bay | 1 | Niagara River (Ontario) | 2 |
| Kalamazoo River | 1 | Nipigon Bay | 1 | St Lawrence (Cornwall) | 1 |
| Maumee River | 1 | Peninsula Harbour | 1 | | |
| Muskegon Lake | 2 | Spanish Harbour | 1 | | |
| River Raisin | 2 | Thunder Bay | 2 | | |
| Rochester Embayment | 1 | Toronto | 2 | | |
| Saginaw River/Bay | 1 | | | | |
| St. Louis Bay/River | 1 | | | | |
| Waukegan Harbour | 1 | | | | |

Prior to conducting the interview, a sample set of questions was sent to the interviewee via e-mail or shared by telephone. The interviewee was asked to review the questions in advance of the interview. All interviews were conducted shortly thereafter (within a week) by telephone by the researcher. They lasted between 45 and 75 minutes each. Each interviewee was asked a standard set of questions and a set of questions specific to the area that they were selected to represent as described above. All interviews were conducted in a semi-structured manner. While the predetermined questions guided the interview, the researcher was at liberty to ask any question that was relevant and to pursue interesting courses of discussion. The goal was to get the interviewee to tell as much of their personal experience in the RAP process as possible. All interviews were recorded on cassette tape after obtaining permission from the interviewee to do so.

3.10 Procedures for Data Analysis

For the purpose of analysis, I personally transcribed⁷ all of the interviews. Initially an outside person had begun the transcriptions but it was noted that pertinent interpretive elements such as the inflection of a person's voice tone were not being captured in the transcription very well. An important part of this related to the previous interactions I had with some of these individuals. The links to those previous discussions could be better identified as I listened to and recalled the sense of the conversation and reviewed the notes I had taken during the prior meeting. These subtle qualities of human communication did not transfer well to words through transcription. By doing the transcription myself, these important elements could be captured better and noted.

Data analysis was part of the process from the beginning and not exclusively an individual step in and of itself. Q-sorts, for example, were used to try to make sense initially of the RAP process⁸. Their analysis was particularly useful for the selection of potential interview candidates and to gain some sense of what was actually relevant to the process as questions for the interviews were developed. The Q-sorts, however, when subjected to extensive factor and cluster analyses did not reveal the relationships with sufficient clarity to merit being used as primary data. Likewise, notes were kept throughout the interviewing process. The analysis of these notes helped direct successive interviews as certain questions emerged as being more relevant to understanding the process than others. These notes also served to help develop the initial categories by which the data were subsequently coded. Data analysis was thus an iterative process of building upon what was already known.

⁷ In the interest of time, those comments related to the historical development of the RAPs were excluded from the transcription unless they depicted an opinion of the interviewee regarding those events. Many of the interviewees began the interview by rehearsing the entire history of the RAPs, which was allowed because it often helped the interviewee relax. But these events had already been well documented by the researcher and were thus not considered relevant to the study. The resulting transcriptions from the interviews were about 115,000 words in length.

⁸ The Q-sorts are not used as findings within this dissertation. They were used as part of the methodology to determine who would be interviewed and what kind of questions should be asked. In these domains they were valuable tools but as data themselves they were extremely difficult to interpret with any degree of certainty.

Bogdan and Biklen (Bogdan & Biklen, 1982) have suggested ten ways of analyzing data as it is being collected. The following methods were used during this study:

1. Data collection was planned according to what was found in previous observations.
2. Notes were made as I went in order to stimulate critical thinking.
3. Memos were recorded outlining what had been learned.
4. Occasionally, interviewees were asked to comment on specific ideas and themes and the appropriateness of certain arguments.
5. The literature was repeatedly referenced/consulted in order to stimulate thinking and to help make sense of findings – this is described more below.
6. Graphical relationships were developed occasionally to depict theorized relationships. Future data collection sought to confirm those relationships or to determine how they needed to be adapted.
7. Related to #5, the process as it was being revealed was compared to other experiences using analogies and metaphors.

Each of these was extensively through out the study both to guide and to analyze the data collection.

3.10.1 Using Theory

Theory was used from the beginning of the process. First, the basic framework for the development of the Q-sorts was based on theory as described above. Second, the questions used during the interviews were based on theory. Third, at each step of the process the findings were compared with existing theory. This was done to determine if what was emerging from the study was consistent with prior findings and/or if it was indeed revealing new insights. More importantly, it ensured that the data was reviewed from perspectives that had previously been developed. This process is called *theoretical comparison* (Strauss & Corbin, 1998).

3.10.2 Coding

Coding is the process by which themes and categories are extracted from the interview narrative (Merriam, 1998), (Rossman & Rallis, 1998), (Seidman, 1998). The coding process utilized in this study was derived from the work of Strauss and Corbin (Strauss & Corbin, 1998). They define three basic degrees of coding: open, axial, and selective. These were each used sequentially to analyze the data as follows:

Open Coding

According to Strauss and Corbin (Strauss & Corbin, 1998) open coding is the “analytic process through which concepts are identified and their properties and dimensions are discovered in data” (pg. 101). The first step in this process is to identify concepts. Identifying concepts means to break down the interview data by identifying some common characteristics. For example, in this study one concept that emerged was that of “local knowledge”, or informal knowledge that was held by local people about where things were and the history of events. All paragraphs that contained references to local knowledge were copied and pasted into a single word processing document.

Once multiple concepts are identified they must be categorized. Categories represent important phenomenon that emerge and are made up of related concepts. During this portion of the coding it

became clear that what was happening in the RAPs was similar to knowledge management as described in the next chapter. By applying the categories of knowledge management to the RAP process it was discovered that indeed these elements fit within the categories. The categories of knowledge management were thus adopted as coding categories for the interviews. Local knowledge was combined with other concepts under the category name “Identifying and Acquiring Information” in a single word processing file. All concepts in this file related to the phenomenon of identifying what information was needed and how it was acquired. This is a good example of how theory was used to aid in understanding the phenomenon under study. The data concepts revealed the validity of the theory, I did not use the theory itself to extract the data (Seidman, 1998). Had I started with the theory, I would have potentially overlooked valuable concepts that were important findings in the study. By looking first for concepts I was able to identify these before determining that a specific theory was useful in explaining their relationship.

Axial Coding

Having created a series of categories, the data within these categories was further divided into subcategories. Subcategories, rather than generally explaining a phenomenon, answer more specific questions about that phenomenon such as what, where, when, how, and with what consequences. This is called axial coding because it focuses on creating a dense explanation of the relationships of data components around the “axis” of a category. Sometimes the concepts revealed during open coding emerge as categories and sometimes as subcategories. Axial coding is the process within which such distinctions are made. This process was accomplished within the individual category word processing files developed above. A series of subcategories were developed and those paragraphs that related to each subcategory were copied and placed therein.

Strauss and Corbin emphasize that during axial coding an organizational scheme should develop. The basic components of this organizational scheme include the following:

1. *Conditions*: set of circumstances or situations under which the data emerge;
2. *Actions/Interactions*: strategic or routine responses to conditions;
3. *Consequences*: what happens as a result of these responses under the conditions.

During this study the data were summarized using a matrix. A series of concepts developed during the interviewing process related to the RAP process. Each interview then included questions related to those concepts. In the matrix, the interviewee’s response was recorded and coded according to the conditions, actions, consequences format. Later, when categories were developed this matrix and its associated responses were then transferred to the category word processing file.

Selective Coding

Selective coding is the process of taking the categories and their respective subcategories developed through open and axial coding, refining and integrating them to create a single theoretical construct. The initial step in doing this is to create a central category. In the case of this study the central category emerged as the dissertation title, “From Collaboration to Knowledge”, which was different from what was originally conceived the study would address. From this the process became:

- Determining the logical flow between categories and subcategories,
- Developing the properties and dimensions of each category and subcategory,
- Trimming excess ideas that do not fit well within the theory,
- Reviewing each interview to ensure that it fit within the theoretical scheme.

This was accomplished largely through the writing process itself. Writing was ongoing as well and categories were constantly compared to the central theme of achieving knowledge through collaboration. After the writing was completed each case was reviewed to ensure its fit with the theoretical scheme.

3.11 Writing the Findings

This dissertation is written to two different audiences. The first is my doctoral committee. It is for them that many of the elements are included, such as this lengthy methodology chapter. The second is those who have been involved in the RAPs and will be involved in similar environmental planning processes in the future. The findings of this study are reported in several chapters rather than the traditional single chapter for this reason; it allows for more conceptual clarity and easier reading.

Merriam (Merriam, 1998) points out that “one of the most difficult dilemmas to resolve in writing up qualitative research is deciding how much concrete description to include as opposed to analysis and interpretation and how to integrate one with the other so that the narrative remains interesting and informative” (pg. 234). She points to a study of qualitative sociology reports by Lofland (Lofland, 1974) that determined that sixty to seventy percent of the study should report specific events, anecdotes, and episodes with the remaining thirty to forty percent providing the conceptual framework. Seidman (Seidman, 1998) illustrates the importance of reporting in the first-person as opposed to the third-person. He suggests that “using the third-person voice distances the reader from the participant and allows the researcher to intrude more easily than when he or she is limited to selecting compelling material and weaving it together into a first-person narrative” (pg. 104). The findings of this dissertation are reported following these two guidelines, most of the points being made ultimately rely on extracts from the actual interviews⁹. This should not be misconstrued as reporting anecdotal evidence; the points that are made use the words of participants to represent principles of commonality across the RAPs. The words used were simply selected because they offer the most complete or interesting conceptualization of what others have also said. The choice was made to use the words of participants because they truly do offer a dimension to the explanation that cannot be captured through paraphrasing.

⁹ The narratives presented in this dissertation are edited for grammar to make them read easier. Brackets [] are used to indicate words have been changed to reflect the meaning of omitted words and three periods (...) are used to show that words have been removed for clarity. Careful consideration was given to each narrative to ensure that its original meaning was not altered in any way.

3.12 Reliability and Validity

Central to any research effort whether qualitative or quantitative is its validity and reliability. In order to demonstrate that these concepts were given extensive consideration each will be defined and the steps taken to ensure they are adhered to will be offered.

3.12.1 Internal Validity

Internal validity deals with how well research findings actually reflect reality (Merriam, 1998). According to Merriam there are six basic strategies for enhancing internal validity in qualitative studies:

1. Triangulation: multiple investigators, multiple sources, or multiple methods.
2. Member checks: having interviewees review the findings.
3. Long-term observation
4. Peer examination
5. Collaborative research modes: involving participants in all phases of the research.
6. Revealing researcher's biases.

This study approaches the question utilizing multiple methods (Q-sort and Interviews) and sources (38 different people from 25 different RAPs). The participants have each agreed to review the document, which will be adjusted according to their feedback. My doctoral committee will review the findings. My assumptions and perspective is clearly outlined at the beginning of this chapter.

3.12.2 External Validity

External validity refers to how generalizable the findings are from this study to other similar situations. According to Merriam (Merriam, 1998) this can be achieved through three strategies:

1. Rich, thick description: providing adequate description to allow readers to judge this,
2. Typical or modal category: describing the typical program or event,
3. Multisite design

In this study I have used the very words of the participants as much as possible. Included with this is my own description of what was heard and seen in order to maximize the overall ability of the reader to judge generalizability. Both in the context chapter and through out the findings chapters the details of how these RAPs operated is offered. Finally, I have interviewed individuals from 25 different locations in 2 countries, five states and a province.

3.12.3 Reliability

Reliability refers to the replicability of a study. In qualitative research this too can be achieved primarily through three techniques (Merriam, 1998):

1. Investigator positions: explain the theory and assumptions behind the study, basis for selecting informants, and the social context in which the data was gathered.
2. Triangulation: multiple methods in particular.
3. Audit trail: a detailed description of how data were collected, categories derived, and decisions made throughout the study.

This chapter reviews how each of these was addressed.

3.13 Confidentiality

When interviews were solicited from individuals they were promised that their identity would be kept absolutely confidential. Many of these individuals feared retribution from their employers or fellow participants in the process if their identity could be revealed. In order to protect their identity the following measures are taken throughout this dissertation:

1. Individuals are identified by their position in the RAP and not by their name.
2. Comments are not attached to a specific RAP site, lake, or even State.
3. Agencies are referred to as Federal, State, Regional, or Local to protect any identification with a specific site. This includes Canadian site participants being referred to as “State” agencies when they are in reality Provincial agencies.
4. The names of specific places, people, and industries have been omitted.
5. The details of specific actions are generalized so as not to be traceable to a specific RAP site, as long as doing so does not undermine the quality of the data presented.

3.14 Personal biases

In a qualitative, interpretive study of this nature the thoughts and ideas of the researcher become an inherent part of the research. It is after all from my perspective that this study regards the RAPs. In order to assist the reader in evaluating my comments, I offer the following principles that may be found by the objective reader to have influenced my analysis in spite of my efforts to remain neutral:

1. As a planner I am committed to offering society a better tomorrow.
2. As an environmentalist I am committed both to reducing human impact on naturally occurring systems and remediating the damage we may have already done.
3. To achieve both of these ends I believe we must press our current democratic practices to become more inclusive, participatory, and grassroots in character. Only by doing so will we ever learn to live in harmony with the world around us.

Having grown up in the watershed of the Great Lakes, I have always been aware of their central role in the economy, ecology, and societies that surround them. I have known few joys that compare with experiencing the lakes first hand. As Henry David Thoreau has so eloquently stated: “A lake is the landscape’s most beautiful and expressive feature. It is earth’s eye; looking into which the beholder measures the depth of his own nature.” As I have measured our efforts to restore these natural treasures, my hope is that in doing so I too have restored a part of my own nature.

Chapter 4: Learning from the RAPs

To present the findings of the study, I have divided this chapter into five basic sections:

1. *Planning to collaborate*: discusses the groundwork issues that need to be considered prior to engaging in collaboration.
2. *Collaborating for information*: discusses the issues regarding the kinds of information and the mechanisms of acquisition utilized in collaboration.
3. *Collaborating to plan*: discusses the issues of exchanging information and ideas in order to plan through collaboration.
4. *Collaborating to decide*: discusses those issues related to how decisions are eventually made in the collaborative context.
5. *Outcomes of collaboration*: examines that which emerges from the collaborative exercise and why.

Each of these questions is addressed by looking at the experience of the RAPs in general. By reviewing the successful elements as well as the barriers experienced by of twenty-five of the RAPs, some general principles emerge. There are, of course, specific experiences that are not reported here because the intent is to tease out those factors that are consistent across the different experiences. Defining and articulating these consistencies can aid in constructing a more precise model of what constitutes both effective and ethical practice in collaborative environmental planning. This model is then presented in the next chapter.

4.1 Planning to collaborate

The success or failure of the collaborative process is predicated on many of the decisions made right from the beginning. Collaboration requires agency coordinators to give extensive thought to the various components of the process before proceeding. Many of the failures that will be identified below were predetermined when the RAP committee was first conceived. The purpose of this section is to introduce those elements of the process that required careful consideration before the actual process began. A segment is also dedicated to identifying the sources from which this structural knowledge initially emerged.

At the beginning of the process there are four decisions that need to be made. These are:

1. Who is going to pay for this endeavor?
2. Who is going to be involved and, equally important, how are they going to be solicited?
3. How is the committee going to be structured to function?
 - a. Who is going to lead?
 - b. What role is the accountable agency going to fulfill and how will they accomplish this?
 - c. What role are the non-agency people going to fulfill and how will they function?
4. What skills are needed in order to achieve an effective planning process?

Once these questions has been thoroughly considered and the implications of the choices carefully weighed the process can begin. Each of these questions will be visited in turn.

4.1.1 Financial Support

Money was the driver on all these projects. If it weren't for money the whole Great Lakes would be cleaned up.

Such are the words of a State agency person who coordinated one of the RAP committees. Very few resources were actually afforded the RAPs especially in light of the magnitude of their directive. Money was needed to hire consultants to do studies, to provide legal advice, and even to hire a facilitator to conduct meetings in a knowledgeable fashion. While some money was available in the early years of the process, in time that decreased. One committee reported that at first they had received a \$10,000 per year budget and as time progressed this had decreased to about \$3,600 per year. This money was earmarked for the specific administration of the RAP committee. Eventually resources became so tight in one RAP purchasing a tape recorder from which minutes could be transcribed took over a year to obtain, let alone imagining hiring someone to do this. Resource constraints had a substantial effect on the process generally. As another coordinator put it:

Resources were always in short supply and that was a major influence on the speed of the planning process as well as the comprehensiveness of fit. We could have always done more with more resources. Certainly when it came time for implementation that is when resources began to get tighter. As the RAPs were getting completed around the lakes, the funding to do them was beginning to dwindle. There was no money for implementation; there was really just money for planning purposes. So that was a limiting factor.

To raise additional funds needed, the RAPs all relied heavily on the agency coordinator. Coordinators were assigned to each RAP committee by the agency accountable to the Federal government for the fulfillment of the QLWQA commitments. These individuals fulfilled various roles depending on how they perceived the process was intended to be carried out. One of the most valuable roles was that of raising money through the writing of grants. Very few of the participants on the RAP committees had ever been involved in the grant writing process and knew little about how to go about it. Agency people were very familiar with the process and had access to the necessary contacts and resources for making an appropriate grant application. Much of the research work done in the RAPs was funded this way.

A second source of money that the agency people could access was the resources of their agencies themselves. In some areas, State agencies did have a budget set aside for RAP projects, although this was not true in every place. Additionally, State agencies had experts and testing facilities that could be utilized from time to time. This usually took some finagling on the part of the coordinator, but it was frequently cited that inside experts were convinced to donate some of their work time to the RAP cause and the labs with the agencies were a frequent place for sample analysis. Even, given these two valuable sources of resources, the RAPs frequently found themselves well short of what was needed to accomplish the task at hand. This may have been intentional on the part of the governments because, in the absence of a certain source of funds, members of the committees often became very resourceful in locating other sources of funding.

One common source was the RAP committee members themselves. All committees worked on a purely voluntary basis except for those individuals who were paid by their employer to participate. Nobody was actually paid to serve on the committee by the government except the coordinator. In determining who should be represented on the committee most of the RAP coordinators were quite

strategic in their approach. Participants were selected partially on the basis of the knowledge and expertise they might bring to the RAP process. Occasionally these individuals were hired to do consulting work for the RAP, they were the obvious choice given their involvement, but the work was often done at a discounted rate or more was done than would otherwise have been achieved through a normal consultant relationship. A geology professor who consulted with the RAP committee in his area described his perspective on this as follows:

I am not worried about how many hours I am putting in or what the money is at the end of the day for it to work. You could get [a consultant] who is familiar with the area and would still do a lousy job because they are just in it to make a few dollars extra ... I think because I have had such a great working relationship with this group of people who have been here a long time and basically feel like I wouldn't want to let them down, it is almost a situation where if they asked me to do something and there was no money I would do it anyways because that is the working relationship we have.

At the same time, there is the potential for a conflict of interest in the RAPs; if they are successfully cleaned up then they cease to be a source of projects for those who rely on them for consulting work. While this mode of thinking was reasonably limited, it was noted on occasion.

Industrial participants also often provided staff for the transcription of minutes after the agencies would no longer do so. Originally, there were as many as 16 State agency people assigned to support RAP work in one State. Today, the same work must be accomplished by two part-time employees. RAP members had to step up and take responsibility or disband. A few did the latter but most had been engaged for upwards of fifteen years and were not about to let the project end. Relying on their employers to provide the needed resources, usually in the form of employee time, was one way that this imperative was commonly addressed.

A second kind of participant that was a valuable resource on the RAP committees were the elected officials. In most cases these people controlled directly, or could influence directly, the dispersion of monies. When they were personally involved this fact implied a considerable amount of political influence.

We had legislators. One of our RAP members was a state legislator and when we needed money to do a [study, he was instrumental]. The [Federal environmental agency] was interested in doing a study and they had a fairly sizeable pot of money to do this with but they were thinking of doing it in [a different area] but they were also considering [our AOC]. We pushed and pushed for the study to be done here and we got the legislators involved and our [RAP committee] went to the legislature and one of our committee members wrote a piece of legislation which created \$2 million in state funds to support the study ... That helped tip the scales in favor of [our AOC] because they saw that there was this political support, State and local support to do the work here. They liked that I guess.

It was difficult, however, to get State or local officials to serve on the RAP. Many of the RAPs report not having such a person involved. Usually, those that did get involved did so because they were environmentally inclined and perceived the RAPs as a way of furthering their political agenda.

Most of the RAPs, as they began to realize a decrease in funding from the government, opted to incorporate as a 501(c)(3) non-profit organizations. This allowed them to establish a membership and to raise funds to be used for RAP purposes. The RAPs had already established themselves as legitimate institutional bodies by this time and so very little had to change in the functioning of the committees except for the added dimension of being able to solicit private funds. These have not

proved terribly fruitful however and most have floundered in trying to gain the momentum needed for this new approach. A member of a local non-profit who helped in the process characterized this problem as follows:

This group formed a private non-profit to go beyond doing the advisory stuff and getting into action. Even that has been very difficult to keep going financially. It is not the kind of organization or type of group that really energizes folks to give their money because it is non-controversial. It is working to coordinate things that people have agreed upon. It is not something that is incredibly innovative or new.

The funding decrease contributed to a general distrust of agency people, particularly those at higher levels of government. A fisherman who participated in a RAP process for over a decade described his perspective as follows:

When a government gets to a point where they have got to spend money they find another way of organizing the group so that they don't have to spend the money. They do another study and that is the kind of thing they kept on doing and our meetings went from once a month to once every three months to once a year to once every three years to never ... I always believed that what was going to happen was that they were going to do the cosmetic things then say "Oh, look at that we've got a success. We did all this and now we've delisted it."

He went so far as to suggest that it was on the basis of population that money was distributed, and coming from a smaller area he surmised they would get little financial assistance.

Like [the agency guy] would say – you try to spend your bucks where you get the biggest bang. And in a town of 2-3000 people and we've got a problem that if it was ever cleared up would take billions of dollars to do if it can be done. They don't even know if it can. So why not take a few million and put them in [more populated area] ... and where it looks like they are doing a whole bunch of stuff. That's what politicians do. They get the most votes. What they have in the [capital city] is three times the population of the whole rest of the [state]. So where are you going to put your money.

The reality that the RAPs functioned within a broader political economy will be a reoccurring theme. The fact that it took place over a decade and during that time at least three or four elections occurred with a subsequent change in policy orientation, adversely influenced the RAPS. In the words of a State agency scientist:

Financial instability throughout the whole process has been a significant factor. There hasn't been stable financial support for the process. With government changes services were slashed, support money was removed, supporting people were dropped from the program. That was very serious as far as continuity and stability for the process, those political financial government decisions.

Determining who would fund the process and how, was clearly central to the overall success of any RAP committee. Recognizing that it is not usually possible to predict the political winds of change in advance, ensuring some form of financial stability or legislative commitment at the beginning of the process is critical.

4.1.2 Recruiting

Getting the right individuals involved from the beginning is essential as well. There are several ways of accomplishing this, and the approach to getting people turns out to be as important as who is recruited. Some of the RAPs consisted only of political appointees. This tended not to work very well because the group almost inevitably became more of a rubber-stamping mechanism than a collaborative partner. The other extreme was to hold an open house and invite anyone who wanted

to join the group to do so. One coordinator who was involved in several RAPs warned against this approach:

What ended up happening is [you] ended up attracting a significant number of the lunatic fringe, who almost totally destroy the process ... It is okay to have a couple of them but it is not really good to have a whole bunch of them.

Those RAPs who invited anyone to join typically found the initial few meetings a significant challenge because of these “fringe” members. These “trouble-makers” tended not to be in the process for the long haul, however, and would leave after participating for only a few months, usually once nobody was listening to them anymore. Given the time commitment and the duration of the process, only the most committed stayed, and if they happened to be fringe members that was fine because, by virtue of their sticking it out, they eventually earned the respect of their colleagues. This same agency person described his preferred approach, which reflected well the typical strategy used by those who were able to avoid basic membership problems:

We had a mix of volunteerism from, for the most part, very carefully finding out what was going on out there [and inviting people]. We tried very deliberately to get a cross section of stakeholders with interests, recognizing that there was going to be lots of tension for a while. In general, that may sound like a somewhat biased way of doing things; people say, “that’s a set up, you went out and picked people who would be supportive of your view point or something like that.” We tried very deliberately not to do that.

It was common practice to try to ensure a sectoral representation amongst those who participated. Some of the RAPs even went so far as to limit the number of representatives from each sector that were allowed to participate. When more wanted to be involved than the designated quota, the sector would have to hold an election to determine who would actually sit on the RAP committee. Others adopted an application process, whereby people wishing to be involved had to apply and be approved to do so. Of those who followed this procedure none were able to offer a single instance where someone had been denied the opportunity to be involved on the basis of their application. Neither of these approaches, elections and applications, appear to offer the RAPs utilizing them any advantage over a more closely orchestrated combination of invitations and volunteers.

The really significant issue that emerged was the importance of individuals being a part of the process from the start. Knowledge was exchanged from day one and people who joined even months into the process were at a serious disadvantage. Even with verbatim minutes and reports, participants who came into the process late simply were not able to develop the tacit knowledge that came through the meeting-to-meeting interaction amongst committee members. Knowledge about people’s personalities and interests, amongst other similarly stealth kinds of information just doesn’t translate well into media other than dialogue and discussion. A math teacher who served as the RAP committee chair for her AOC described that experience as follows:

We did not have a lot of success keeping people who came in the middle of the process and I think part of that was because those that had been with the process for a long time had a lot of background information. We did try when we had new people come on the scene, not to use too much jargon. You sort of got into your language when you were working with, well even just saying “working with the RAP”. We had our acronyms that we got used to. We learned a lot of information about all the issues that were involved. We did try to encourage people that came along to read up the background information but once in a while we would get people that came to a couple of meetings and then dropped off. I think it was just the quantity of knowledge that they saw that those that had been in the process had. And I think sometimes they felt uncomfortable with that. And there was quite a time commitment in making sure you knew what you were talking about and understood the issues you

discussed and that was a problem as well. So we didn't have a lot of people who came in but we welcomed them if they did come along.

Realistically, it is hard to predict who will stay with the process and who will leave and thus need to be replaced along the way, but effort needs to be made to consider those factors that might result in a person exiting the process early before they are encouraged or invited to join. As will be noted later, holes in representation negatively affect the balance of the discussions and new people entering, as just shown, are hard-pressed to fill in sufficiently. The group that starts ought to be well screened in order to ensure its longevity.

4.1.3 Structural organization

A third decision that had to be made in advance was how the RAP would be structured. Participants were fine to function in whatever structure they were given as long as it was clear to them what that structure was. Of particular importance in this regard was how the agency and RAP committee would share their responsibility. The most common complaint that was heard was that “the [State agency] seems to act like they want our participation but then they don't want us to ask anything, they don't want us to question anything – they certainly will accept your advice but that certainly doesn't mean they are going to act on anything.” To ensure that participants understood their mandate, one agency coordinator made it a practice of revisiting it as a topic of discussion in the RAP committee each and every session. This reinforced their understanding of what it was they were there to do and kept other notions from creeping in. Being this clear turned out to be a significant factor in his success as a coordinator. Whether people liked the position he created for them or not was never an issue because they were very clear about what their position was from the beginning and really didn't look at it in any other way. Other coordinators that were more vague, created confusion and sometimes resentment amongst the committee members, especially when reality did not meet expectations.

Other important structural decisions that needed to be determined in advance included the formality of the meetings. More is discussed about this later but put simply, a basic working order was necessary but an overbearing procedural approach spelled certain failure.

4.1.4 Leadership

A fourth decision, and related to the structure of the process, was the mode of leadership that was to be practiced in the RAP. The most common and successful leadership structure was to have the agency coordinator serve as the secretariat or administrative leader and to select a member of the RAP committee to serve as a chair, conduct meetings, act as the official voice to the community, and so on. One agency coordinator characterized these roles as follows:

Coordination should not be from someone who is a stakeholder. Most of the coordination that we do is making sure that when we say, “Next week or next month we're going to talk about the details of pulp and paper mill effluent going into such and such a place”, the coordinators role is to make sure these people get the information they need in order to intelligently discuss that. To make sure there is a speaker there. It is basically almost a secretariat – to make sure that the minutes are taken and accurate, make sure there is coffee at the meeting. Make sure there is personal contact between stakeholders that have concerns between meetings - that kind of thing. The [RAP committee] chair plays the role of representing that [RAP committee], like a chair in anything else. The chair's role is not to bring a whole lot of opinions to the table, the chair's role was to manage the meeting, manage the discussion. To do that in an orderly way without being too “Roberts Rules” about it and to make sure that when

people are getting silly about it to put an end to it. In the discussions, there is leadership there too but really its about managing meetings and discussions, which is a skill.

This was especially important when the RAP communicated with the community within the Area of Concern. Government bureaucrats at the State or Federal level were viewed as outsiders and threatening to the autonomy of the community and to the authority of the local elected officials. There was a real preference for a local person to speak on behalf of the RAP to the community when that needed to be done. One of the State agency coordinators related the following story:

There was one [town council meeting] that the [RAP committee] chair couldn't make and he said "you can just do it on your own – we don't have to do the tag team anymore, just do it on your own" – and I did. The mayor took him aside afterwards and asked, "why'd [the State agency person] do that – where were you? Is she running the show now?" So clearly if I had gone in there and said, "Here is what I think the strategy is for you guys", I would have been coughed out of the council chamber. So having the PAC being recognized as the lead decision-making body, being provided the information they needed to make the decisions, that dynamic is the winning formula.

This can be contrasted with how, in a different RAP, the agency member playing both the roles of coordinator and chair was perceived:

We did advocate at one point [that the coordinator be a RAP committee member rather than the agency]. The [Agency people] were taking a very strong hand in the whole process. Basically, in fact some of the other levels of government were complaining that this was strictly an [State] exercise in their view and that they had been bungling around for a long time and weren't likely to get things really improved greatly as the process was going on. I think if a person could have been retained with a more neutral background it might have helped.

Some balance of power, whether it was real or perceived was important to the non-agency participants in the process. Without that sense, they reported they felt manipulated and ignored.

Agency people were often noted "not to have real good people skills." Most of them were field technicians and as such relied on the skills they had, which weren't exactly a good match for the role of coordinator in which they often found themselves. They could serve effectively as information providers and advise the RAP committee well on the issues but when it came to running a meeting many of them struggled. For this reason, a few of the RAPs opted for professional facilitators to run meetings. This was received with mixed reviews as well. While on one hand, it generally was an improvement over some water quality scientist who was poorly equipped to facilitate group discussions, on the other hand many felt that they "seemed like they were too slick for us country bumpkins." The best alternative really did seem to be a shared distribution of leadership as described above.

4.1.5 Experienced participants

The final element that was particularly important to have right from the start was participants who had been involved with committees before. The dynamics involved in such exercises are unique to many people, particularly public committees of this nature. Participants relied heavily on those who had experience and wisdom in such processes to guide the process a little. Additionally, those who were familiar with processes of this kind knew some of the tricks of the trade. One of the chairs captured this dimension well:

I had a lot of experience being the chair of [a non-profit group] for a decade where we did 40 million dollars worth of projects. So I knew how people think and so I just worked for the first year to develop this understanding and to make everyone feel that their contribution contributed to part of the team effort. That was the most important. And we did lots of projects. We cleaned up the waterfront but everybody had a chance to participate. And allowing people in the organizations to be chairs of subcommittees where they can do their thing so that everybody feels a part of the team. That I found very important.

Committees without this kind of experienced participants were left to learn by their own mistakes, some of which had serious long-term effects on the RAP process. By having at least one person who could help them avoid some of the obvious pitfalls, RAPS were much more likely to get off to a successful start.

4.1.6 Where participants learn how to collaborate

In addition to the groundwork elements of the process, certain forms of knowledge were necessary contributors to get the process successfully up and running. This knowledge was needed, and provided, by both agency and non-agency participants. Successful processes had access to and utilized some or all of the following forms of knowledge.

Mentoring

There were a remarkably large number of retired individuals on the RAP committees. Many of them came from very diverse backgrounds and possessed various skills that contributed important knowledge to the process. Of particular importance were those persons who came from government environmental agencies and from industry. These individuals were able to provide important mentoring to those who needed it. They had both the time and the knowledge to provide one-on-one tutoring from time to time. The one-on-one interactions built strong relationship bonds and imparted confidence to those who had little or no background experience in either government or issues related to the environment.

PAC independent study

It was these same retired individuals who often took it upon themselves to answer questions that required basic research. Whether it was at the local public library or on the Internet, these individuals made a hobby of providing relevant factual information to their fellow committee members.

And many of us became a little more literate on computers and then when you get on to the websites and you find all this information beyond what you have already received besides all this information we were getting to begin with.

One rather large RAP that struggled initially with how to structure its organization was guided by an extensive research project by one of the retired members of the committee. He took it upon himself to compile a literature review on ecosystem management models. From this review the RAP built its entire structure. The fact that this individual possessed a knowledge of research techniques contributed in great measure to the success of the committee.

Professional skills of the agency coordinator

A recurring emphasis of many of the non-agency participants was how important the experience, knowledge, and skills of the agency coordinator were in keeping the process moving forward.

While the RAP committee did not want the agency person telling them what to do, they almost always sought his or her opinion and approval of what they did propose.

We'd discuss it and then, as I said we had [the coordinator] with us, and he would put in his ideas. He knew an awful lot about it, you know, about cost and whether it would work or not - things of that type. But he went along with us on our ideas and if it sounded at all possible we went ahead and investigated further as to whether we could do it.

Knowledge of this kind was simply inaccessible to the RAP committee in any other form. A knowledgeable agency person possesses a tremendous amount of tacit knowledge that was fundamental to elevating the confidence of the RAP committee to make recommendations in areas of which they had previously been uninformed about and to acquire a perspective on some of the political and financial aspects of questions under consideration. As one coordinator put it, "I knew what needed to be done, but I had to let them figure it out and they usually did." The successful coordinator was one who was able to provide expertise without telling the committee what needed to be done.

4.1.7 Anticipating the binational challenge

The final consideration that needs to receive attention before the process begins is an acknowledgement and assessment of the issues of multiple governmental, cultural, and political participants. This was most apparent when the Area of Concern (AOC) was partially in Canada and partially in the United States. Of the forty-three AOCs, five were binational. The binational dimension was always the central problematic factor for those RAPs affected. In fact, three of the five determined early in the process not to work together across borders but rather to operate independently on each side of the border because of the constant friction that emerged in trying to do otherwise. At particularly important junctures in the process they would get together and try to assimilate their separate conclusions into a single set of recommendations but outside of this, they functioned separately. The problems that emerged in these cases were typically not huge by any means but they often dealt with matters on which neither side was willing to compromise. A good example of this dynamic was the units of measurement used to set pollutant standards. As one participant explained:

Because we are binational that left us with some unique problems compared to other AOCs. We have to contend with four different sets of regulations and standards. The American Federal, the State, the Provincial, and then the Canadian standards. Measuring things in parts per million or micrograms per liter. Just even the ways of measuring things were different. That was an enormous challenge to defining what the problem was because measures were all different. Not even mentioning metric to imperial. That was a problem. The differences in the laws; which law has precedence. Those sorts of logistical problems have plagued our progress right from the beginning and there was no commitment to bringing these disparities together.

Even those RAPs that crossed State borders struggled with similar challenges. The only solution, at least that emerged in the RAPs, was to operate separately. There was simply no other way that successfully met this challenge.

4.1.8 Summary

Recognizing the challenges that may emerge in advance and planning for them was an important ingredient in a successful RAP process. While participants were patient, some of the problems that

emerged due to a lack of planning on the part of the agency set a contentious stage that took a great deal of time and effort to overcome.

Table 0-8: Summary of Groundwork Issues

| Issue | Considerations |
|--------------------------|--|
| Financial Support | <p>Primary cause of RAP failure, long-term financial outlook needs to be considered to weather inevitable political winds of change.</p> <p>Acquiring resources:</p> <ul style="list-style-type: none"> • <i>Agency coordinator</i> – write grants, access to agency experts and other resources (ex. labs) • <i>RAP Committee members</i> – voluntary (or discounted) expertise, elected officials, employer resources (ex. secretaries time for minutes) • <i>Form non-profit corporation</i> – funding raising ability, although may not be salient enough to garner large following |
| Recruiting | <p><i>Political appointees</i> – ineffective and less interested <i>Volunteers</i> – problem with “fringe” participants <i>Balance</i> - Between self-selected volunteers and carefully-selected recruits – best approach</p> <p>Key issue: get the right people involved right from the start and keep them</p> |
| Structure | <ul style="list-style-type: none"> • Clear definition of roles is critical • Leadership best when shared – agency does coordination, public participant acts as committee chair and public persona. |
| Experienced Participants | Help to avoid typical committee pitfalls |

4.2 Collaborating for information

In Chapter 1, the view of planning as a technical/rational enterprise was briefly covered. While planning, as a whole, should not be depicted as a scientific or technical process, scientific and technical information is still at the heart of what planners do. The initial step in the RAP planning process was inevitably the identification and acquisition of relevant information. Information in this case refers to a description of the conditions, defining the issues, and determining the perspective. It includes the questions of what, who, when, and where. This is indeed an information gathering process and represents what I believe early planning theorists envisioned when they depicted planning as a rational project.

This section addresses those organizational elements of the collaborative process that were relevant in the information identification and acquisition process in the RAPs. I then turn to defining the specific kinds and sources of information that were used. Finally, the outside factors that influenced the availability of information are reviewed and the ways that these were dealt with are explained.

4.2.1 Participant diversity

When it comes to identifying and acquiring information, the most significant element of the collaborative model is who is involved in the process. The broader the spectrum of participants involved, the more extensive the amount and types of information that are available. In the RAP process, three levels and kinds of involvement were of particular importance:

1. Stakeholder Diversity
2. Workgroups
3. Other public involvement

Participant diversity

Balancing Lay and Expert Participation

In order to maximize knowledge, the first important level of diversity that needs to be accomplished in a collaborative setting is a balance between the “layperson” and the “expert”. When the committee is dominated by laypersons as in several RAPs, there was a tendency to “spin your wheels”. Such committees were prone to trying to answer irrelevant questions, to approaching a problem too broadly, or to addressing a given problem inappropriately. The addition of expertise, even at a fairly remedial level, helped the committee steer more efficiently through the masses of information with which they were faced. On the flip side, if a committee was comprised of predominantly technical or scientific-types, some of the most fundamental questions could be overlooked. This was significant not only because of the face-value answers that were afforded such questions but because such basic questions could be overlooked often indicated that a whole segment of knowledge about the problem was not being addressed. Addressing the basic questions often led to the discovery of additional, often more relevant and significant, issues that needed attention. A university professor who served a RAP committee as a technical consultant described this phenomenon as follows:

It is real important that you have technical resource people either on the committee or active participation by the lead agency to kind of keep the committee on track ... My observation is that if you have got a committee that is a bunch of lay people ... you could end up spinning your wheels, chasing after information or things that someone with a good technical or scientific understanding of the system might be able to tell you is a waste of time, it isn't going to help, or it isn't going to give you what you want. And so the reason it worked pretty well was because there was that balance. A lot of times it takes a person who is less scientific about the system but has a lot of desire to really help the system to ask the right questions that the scientist might not ask. The thing I liked about it was that a lot of times they asked questions that I couldn't answer like, “When can I eat the fish?” Then you start thinking about, “Well, what do we know or don't know that could help us answer that question?” Then that leads the technical person down the path towards specific tasks or data collection that needs to be done. Without that sort of synergy between the two - if the lay people weren't there the questions wouldn't get asked and if the technical person wasn't there it would never get answered, or it would never be posed in such a way that you could address it. That is an important dynamic.

The combined practicality of the layperson with the critical thinking and analytical skills of the expert provided sufficiently divergent viewpoints to force both to look at the problem from multiple dimensions.

Sectoral Diversity

A second relevant level of diversity is that of sectoral diversity. All of the RAPs were directed to try to include representatives from the various levels of government, research and technical

experts, environmental and citizen group activists, recreation and tourism, commercial and industrial interests, education and public sectors. In areas of large population this was fairly easy to achieve, but some of the smaller areas experienced greater degree of difficulty in assuming a representative result. Occasionally in these cases, individuals who were there simply acting as general public representatives would be assigned to represent specific interests who were otherwise absent from the table. More often though, the committee would proceed with the limited representation that they had. One RAP committee chair described the effect of doing this as follows:

Our RAP committee came from a small town and when you look at the education around the table there were four of us that had college degrees. The rest did not and had very little formal education, a lot of local experience but not a lot of knowledge of what else is out there. With a larger group, and hopefully one that would have seen more of the world and done more reading, [we] could have got more information. But you are limited by the size of the area you are in and the number of people that come to the table.

The number of active participants played a role in the information that came to the table. A small number of committees operated with fewer than 10 regular participants. These were more inclined to express the limitations mentioned above, although there were a couple that saw no such disadvantage. On the other hand, committees could also get too large. Too large generally meant that there were too many individuals present for everyone to have their ideas heard and included. This appeared to occur when committees got larger than 25 regularly attending members.

When committees got too large there were two common ways of handling the challenge. Most often, the RAP committee would divide participants into smaller more manageable groups and assign each a specific issue area. A subcommittee of this subcommittee would then return to the larger committee rather than the entire group. These I call “workgroups” and they are covered in more detail below. Second approach was to allow for attrition to bring the numbers into a more acceptable range. When individuals were unable to get their voice heard in a meeting they would many times simply cease to participate, apparently deeming it a waste of their time. Unless the numbers got too small, not one of the RAP committees reported making a conscious effort to chase down absent members. Over the period of more than a decade that these committees have operated, almost all have rounded off to an active membership of between 10 and 25 participants. This number appears adequate to maintain a sectoral diversity of interests and yet allow for each to be able to participate fully in discussions.

Absent sectors had a more profound effect on the process than simply limiting the information available to the committee; their absence also limited the potential implementation strategies available. A municipal health participant reported:

As a public living here in this area of concern we would like to talk to our point sources of contamination and say, “Make this a priority to remove this contaminant from your discharges because this is important to us as a community and we are all part of this community.” When that player is not at the table anymore and all you are doing is telling the regulators that this is what you want to do, you don’t get the buy in from industry, so it [isn’t] a cooperative thing. It turned into a regulatory.

In this particular instance the industries had actually begun the process at the table but after a few of the other participants endlessly accused them of wrongdoing, rather than endure the finger pointing they walked away. As the health participant put it, “that left a very big gap in the validity

of the process.” In another RAP the industry remained at the table but was excluded from certain conversations.

We had a gentleman who worked for one of the paper companies who was cited ... in the superfund process and there were times when he was specifically asked to leave the process because of his employment. Not his personal conduct or anything else, but because he worked for the paper company he was asked to leave certain meetings and certain discussions ... To eliminate companies and constantly create environments of distrust for those involved in the clean up process, again you get back to this antagonistic approach and instead of cooperation you have mistrust and misguidance.

While the absence of industry may have undermined these particular RAPs as a planning process in the eyes of participants, in comparison to some of the other RAPs they have been very successful in completing their planning and restoring the water quality. Both of these committees have been successful in completing the required Stage 1 and 2 documents. They have also made significant gains on implementation and seen success in terms of the restoration of several beneficial uses. Those impaired uses that remain, however, are largely due to industrial contamination and more progress might have been made in these areas had a cooperative relationship been secured rather than an antagonistic one.

One of the greatest successes of the RAP process has been the achievement of voluntary clean up by several industries throughout the Great Lakes. In some cases it was clearly a matter of public relations. When the data came forward in the RAP committee and it implicated a certain industry, the industry moved to clean up the contaminated site as a gesture of public goodwill, sometimes at the cost of several million dollars. The RAP committee took credit and then publicly congratulated the company for their involvement and efforts. In a couple of cases, but not in every instance, the industry no longer participated once their potential liability was covered.

In one situation, a company was threatened with being denied a loan on the basis that the RAP committee had determined that it was responsible for a particular pollutant in the lake. The bank had read of this in a report of the RAP meeting in the local newspaper and did not want to be associated with contributing to the problems in the lake. It threatened to pull the loan if the company did not clean up its act. The RAP committee was unaware of this but was delighted (and took credit) when the company decided to go along with the RAP committee’s recommendation.

In another situation, an industry representative reported that his company had cooperated because of a threat by the USEPA. The industry was told either to work with the RAP partnership or the polluted area of river would be designated a Superfund site. The company weighed its Superfund experience in other regions against what the partnership with the RAP was asking. The industry representative reported as follows:

This is really a grand experiment to avoid Superfund. In Superfund all you are doing is limiting risk to the environment and to the public. At the river we are trying to restore the navigation and recreational channels [as well]. If we went with the Superfund remedy we would be removing a small amount of sediment because most of [the contamination] is deep and covered and no one is likely to be exposed to it under any reasonable scenario. But the river needs dredging for recreational purposes down into some of that deep contaminated sediment. So the solution we have come up with calls for much more sediment removal than a Superfund removal would probably call for. There are two incentives... (1) I am a nice guy and want to get the river dredged, but at the end of the day I have to go to my company and say, “We have to spend X million dollars” and I have to justify it. By doing this we are involving the Corp of Engineers and [thus] a lot of public money... A partnership dollar buys a whole lot more than a Superfund dollar. Yes, we are doing a lot more digging but not spending any more money ... (2)

[With] the Superfund route, the administrative burden within the company is so high that you just say, “We’re doing all this, we’re doing it voluntarily – not only do we think it is a fair deal for the amount we are spending in remediation but we also avoid all this administrative overhead including outside law firms that we would probably involve if we approached this from the Superfund option.

Industry representatives reported that the RAP process was mostly agreeable. The most common complaint was the time frame. RAP committees were reluctant to make a recommendation until they had solid evidence that what they were recommending was correct. Sometimes this required extensive study, meaning more and more time. In business “time is money” and industry representatives were accustomed to making recommendations under uncertainty. As one industry rep put it:

You ... use the best information available. The question would be whether that is good enough. Sometimes it isn’t – I mean people [in business] make [these] decisions everyday... So you are sort of accustomed to doing that. You like to think you are right most of the time but sometimes you aren’t. Risk is what business is about.

Clearly industry was more comfortable with the risk of failure than were participants of other sectors. This brought them favorable reviews from almost all of the RAP committees. As one participant put it, “Most of the businesses have a strong environmental sense and try to do the right thing.”

Part of this optimism about industry, however, is indicative of the fact that most of the RAP committees while sectorally diverse might not have been very diverse in terms of the underlying values of those at the table. As an environmentalist put it:

There is a fairly diverse representation if you were to go and say, “OK, this person is an academic, this person is from the business world, this person is an environmentalist, this person is just general public.” It is pretty wide; we have all the bases covered. But it is the [environmental representative] from each of these that are concerned with these types of issues.

This was advantageous because it immediately developed a common sense of purpose and the committees were able to proceed without much debate. But as this same individual pointed out, “This sometimes makes it difficult because there are cases where we need to be somewhat adversarial with some of these companies whose higher management is making a decision that we don’t agree with.” While the person representing the industry at the table was empathetic with what the committee was saying, they also regularly added the caveat that their administration would not necessarily go along with them. It was a common complaint that the person at the table often did not hold decision-making authority in their respective organization and could therefore not enact policy without the approval of their superiors. On the other hand, industries at least seemed more willing to make sometimes costly choices than many of the other participants, the municipalities in particular.

Racial Diversity

The final degree of diversity, which in our day is almost always considered but in the late eighties was less so, is racial and ethnic diversity. The common response to questions about this was best given by an agency person:

I don’t remember anything discussed about ethnic diversity. Now as we are approaching implementation we are but not in the planning.

This was very typical, perhaps of the day, and certainly of the RAPs generally. Today, as they are entering the implementation phase of the projects, the political winds require the inclusion of racial and ethnic representatives whereas a decade ago, as planning was occurring, this was not the case. The only effort to incorporate racial or ethnic groups that I observed was with the First Nation people on the Canadian side of the border. Even in these cases this was done because they were users of the water (i.e. fishers and hunters) rather than to incorporate their unique cultural perspectives. Where they were invited to participate, participation was difficult because of these cultural differences. One First Nation participant reported these differences as two fold. First, was the value of stories as information:

Early on with the Stage 1 report one of the criteria was fish taste. At that time they didn't have anything to go on. So I talked to some of the Elders around here and they told me the fish tasted different then it did years ago and the meat wasn't as white. So I told them that. So they put in the Stage 1 report that there were anecdotal reports from a First Nation. I didn't like that too much. That kind of deterred me from offering too much more information because I didn't think it was being treated respectfully.

Second, was the manner in which the First Nation handled these kinds of matters politically and perhaps culturally:

It is a "binational" PAC and [the First Nation] looks at itself as a separate nation, as a separate order of government. So really it would have to be a "tri-national" and a five-agency compendium. If we wanted to say something to [an industry] or something like that, a lot of it would be direct communication instead of in front of everybody. Because that is the way our government works. It gets back to the way we perceive our government to function. We do have an agreement with the government of Ontario to operate on a one to one relationship, same with the federal government. All our treaties are one to one relationships. If we have something to say to [an industry] we want to talk to them one to one. That is probably one of the reasons we don't sit at the table – I'll go to the meetings but like I say I'll be an observer. I won't sit at the table and have my voice lost in the twenty or thirty people that are there. If we have something to say to the whole group we will communicate with the RAP coordinator.

For the most part the First Nation simply walked away from the process or participated only as "observers" on a very limited basis.

In the United States, several of the RAPs were located in areas of dense African-American populations. In spite of this no effort was made to achieve a racially diverse RAP committee. As one federal agency person admitted, "Our demographics don't reflect the community as much as they could." Surprisingly, this same city, whose population was 80% African American had opted not to send a staff representative in spite of the fact that the mayor and the rest of the administration was predominantly African American. As one observer suggested, "They are a great polluter of the river so they didn't want to get involved."

Workgroups

A common organizational element of the RAPs was the use of workgroups. About half of the RAP members interviewed reported that their committees used these as a part of their structure. These were simply subcommittees that specialized in the various issues of concern to the RAP. These subcommittees were initiated to accomplish two basic functions. First, they brought in additional participants. Typically a member of the larger RAP committee chaired the workgroup. Workgroup members were then selected from the RAP committee and the community at large. This allowed individuals who did not want to be part of the RAP committee to serve in their specific areas of

interest or expertise and for members of the RAP committee to focus their efforts in areas they preferred while continuing to be involved in all aspects of the RAP. The outcome of this division was that each of the workgroups was highly specialized both in interest and in expertise. Most of the RAPs did try to maintain a sectoral balance in these smaller groups. The second outcome of this division was that the groups were more manageable. These work groups were almost always less than ten in number and each participant could have a substantial influence on what emerged from the committee's efforts.

The workgroups functioned in two basic ways: (1) review and report, and (2) decide and report. In model (1) the committees served primarily as a filter of information. They determined what information was expedient for the RAP committee to consider and sifted out the excess. What then ended up being brought before the RAP committee was then the most relevant information that was available for making the necessary planning decisions. The RAP committee then used this information to make recommendations and support its decisions. In model (2) the decisions about recommendations for action and the interpretation of information was undertaken in the workgroup itself. They then presented to the RAP committee at large their final decisions and recommendations. The rationale for the decision and the supporting information were usually included in this presentation. The role of the RAP committee in this model was to review the decision of its workgroup and either approve it or suggest changes. If the decision was the latter, the workgroup would rework its recommendations and present these again at a later time. This cycle would continue until the larger RAP committee was satisfied with the recommendations.

Workgroups were effective in improving the efficiency of the RAP committees. But they were not without problems. The first problem was that they often accomplished little more than lip service, or as one participant described, "they became nothing more than discussion clubs." As was spoken suggested in the previous chapter, these groups needed a champion and by dividing up into smaller segments more champions were needed, which wasn't always possible. A second, more problematic issue also emerged from workgroups if there was distrust amongst the members of the RAP committee. Breakout groups were often perceived as "lobbying coalitions" and occasionally certain members would question the findings of workgroups as being biased depending on the sectoral and personal make-up of the workgroup. The simple solution developed by one group was to ensure that representation was present on each workgroup from each faction. As an environmentalist from this group put it:

I would be very leery if [industries] were at a subcommittee and there was no one from the environment there. I'd be kind of a little nervous. But if I knew there was someone from the environment there, I would feel fine. I am very suspicious.

Such suspicions were a regular element of the RAPs but did not appear to undermine the process except in a couple cases that seemed are appropriately understood as personality issues (discussed later). The key was that they had to have a clear common purpose on which to focus rather than on their individual interests. If the common focus existed, that was sufficient ground upon which to build a working relationship.

Other public involvement

Although the RAP committee was intended to represent the public in the planning process, several of the RAPs went further and sought to engage the public as a reviewer of any documents that emerged from the RAP process. The typical forum for this was a public meeting of some sort

where the public at large was given the opportunity to question the RAP committee members about the documents. One group did three meetings at three different times and places in order to maximize the exposure and ability of interested people to attend.

A second, somewhat more intensive version of this process was undertaken by one of the RAPs. The RAP chair, a boat enthusiast, described that group's process as follows:

First of all, what we did was publish the Stage 1 and circulated it widely in the community, with the municipalities, industry, commerce, service group, interested individuals. And we asked them to look at it and in order to create some interest in it we had an enormous amount of publicity through the newspaper and radio station. And then we asked interest groups, for example agriculture, and the sport fishing industry, the commercial fishing industry, the municipalities, all kinds of organizations to comment on it. We created a panel and we sat for three days in a hotel and from morning to night people would appear before us as a panel and they would, in writing and orally, comment on the document. That became -- this kind of public input mixed in with the scientific and technical knowledge -- the basis upon which we developed 80 clean-up recommendations.

In this instance, not only did the RAP committee influence the document as it was being created but the public was then able to question the committee directly in terms of the decisions they had made. This resulted in substantial changes in what the document ultimately was to look like.

One group had a standing policy, which they made known publicly, that they would allow any interested party to make a presentation before the RAP committee. This turned out to be a very effective way of bringing in information from other concerned citizens who were not sure how to get their very specific circumstances addressed. The RAP committee was willing to advocate on behalf of an individual who was willing to appear before them and, although they had extremely limited authority, their network of contacts usually led to some action being undertaken. One example of this:

You could come in and speak to the group if you had an issue. Say you lived in an area, a wetland area, and you were concerned and you were not a science person. You were simply a citizen that lived and enjoyed the wildlife and you thought part was being poisoned and it was part of the [RAP] watershed. You could write to the [RAP committee] and say that you wanted to make a presentation. And we did have that happen, where ordinary citizens ... have come in and made a presentation about their particular local area and they feel that their area is being poisoned or whatever ... You know how farmers clean ditches and they kill everything literally, they put roundup on everything and they scoop the soil up and it looks like a barren area and so on. There was a lady who came and they have another way of doing it and she made a wonderful presentation on how the local drainage ditches can be cleaned without creating this devastation. And [the RAP committee] listened and as a result of that I know one person who controls the superintendents in our area that do the ditches, they now have a workshop of this kind of action. The old mentality is that you go in there and kill everything. You scoop up all the soil and all you have is clay at the end of it. So that is really hard to change that mentality because that is the way they do these things, that is the way they have done these things for 20 or 30 years. So I know this one person who after hearing the presentation came up to me afterwards and he said, "You know we are going to have a workshop with all these superintendents and we're going to make a presentation on this and maybe plant a seed that there are better ways to do this."

A number of people reported that because of their service on the RAP committee they changed the way they did things in their particular agency. Additional public input was one way that this information was brought forward. As one federal agency field scientist remarked, "I have used what I have learned to change the direction we were going in this office to have a bigger impact on things."

In two of the RAPs a specific workgroup was formed to perform the role of interacting with the public. Typically they managed both the information being offered to the public and received public. They passed such information to the RAP committee. The reports on these committees indicate that often they were less successful at achieving the desirable effect that the above-mentioned approaches did.

Table 0-9: Summary of Participant Diversity Issues

| Issue | Considerations |
|---|---|
| Balance between Lay and Expert Participants | <i>Lay participants</i> – ask the important questions <i>Expert participants</i> – know how and if they can be answered |
| Sectoral | Size of group: <ul style="list-style-type: none"> • 10 –25 is optimal • Too large: divide into working groups or reduce group size via attrition Absent sectors undermine process completely Many voluntary actions emerge from participation Sectoral is not sufficient – participants are likely to be environmentally inclined |
| Racial | Cultural differences may not be compatible with collaboration. More difficult than sectoral diversity, often forgotten. |
| Workgroups | Involve more participants can become involved by serving on just work groups. This brings specialized knowledge into the work groups but maintains a manageable oversight committee. |
| Other public | <i>Public meetings</i> – get additional feedback <i>Open houses/hearings</i> – more complete feedback and interaction <i>Open forum</i> – RAP meetings open to public presentations <i>Designated workgroup</i> – charged with interacting with public |

4.2.2 Sources of substantive information

The 43 Areas of Concern (AOC) were locations that had already received substantial research attention from researchers and agency scientists. Never before, however, had that information been compiled in such a way as to address in a holistic manner the specific set of goals outlined in the beneficial uses proposed by the International Joint Commission (IJC). The RAP committees were thus charged with creating a definition of the problem in their particular area using the beneficial uses as the guiding principles. These were then compiled in a document referred to as the Stage 1. The Stage 1 became the basis upon which planning recommendations were made in the Stage 2 report. The following section is a compilation of the kinds of information that were gathered and the sources from which they derived.

Expert studies

The predominant sources of information used by the RAP committees were scientific studies performed by agencies, industry, and other experts. As can be seen in Appendix D, 80% of those who responded to the q-sort survey denoted “scientific and technical data” as somewhat or most

important. Only 4% considered it unimportant. Much of what was done in the RAPs dealt with the compiling and making sense of these studies.

Prior Studies

Most of the studies had been performed prior to the RAP and were available through government agencies and other participants. RAP committees, seldom funded very well, were often forced to rely on these past studies. State and federal personnel were particularly important in obtaining this kind of data. First, they were more likely than others in the group to know whom to ask about what data. Secondly, they were able to use their position in requesting data from lower levels of government, or even in obtaining reports quickly from their own bureaucracy. Third, they often had data that they could exchange with other agencies in order to earn their cooperation. One of the RAP coordinators, a State agency person, described how she obtained information as follows:

For a particular issue - the nutrient enrichment issue for example, is probably the clearest one because it was the one that was most data rich data rich - we, meaning myself and my municipal expert, would meet with the city staff, we would explain to them the kind of information we were looking for. We would collect some of it, some of it they would provide to us. We would have a single database that we would share back and forth. So, in terms of technical data on developing some of the technical options around eutrophication, it was basically an exchange of data back and forth ... if we needed information on a fish community we would go to the [State Natural Resources Agency] and ask them what they had, we go down to the anglers association to see what kind of stocking they were undertaking. So we would meet with the various constituents who would likely have data or information, knowledge.

Substantial research had already been done in most of the Areas of Concern, which was fortunate given the lack of funding available to the RAPs to do primary research. The main disadvantage of this data was its age. Much of what was used had been obtained in the first part of the 1980's or earlier. This led some to question the validity of the data as a basis for making recommendations. A public health worker described the effect as follows:

In the information age, if your information is more than a year old, how can you count on it? It is a question [of] the validity of the information because of the age of the information. We were looking at identifying impaired uses based on studies that were done in the last twenty years. So ... rather than saying "the sediments are contaminated with this", [we'd say] "well, that study was done too long ago. We need a new study now to tell us where we are right now." The studies were questioned because no information was current and no one had any money to do the studies we needed to have done to give us current information to give us a snap shot of where we are right now to determine where we want to go.

One notable response to this situation was to use the data in a general manner rather than in a specific fashion. The RAP participants were willing to accept that the data could be trusted but only on a limited basis and the resulting recommendations were broad and sweeping rather than project oriented. This was particularly difficult for agency people who were used to approaching problems on a project-by-project basis. One Federal agency scientist expressed her concerns as follows:

So a lot of the recommendations ... were based on empirical information from back in 1988, but the data was from 1983-5. So there was a basis for those recommendations. My personal criticism of those recommendations is that some of them are so general that you could have 25 actual in the field projects under one of those recommendations. So if you just picked one, its not like you'd get it done and then move on and you'd have [one less]. There might be many, many things to do under that one particular recommendation.

New studies

Prior studies represented the majority of the data used in RAP planning but there was a considerable amount of new data generated as a result of the RAPs. Again due to the limited funding available to most of the committees there was a great deal of creativity that went into determining how to address the relevant questions of impairment. Most of the new data was thus derived from outside sources working in conjunction with the RAP committee.

Industry studies

Industries were important contributors of information. While often reluctant during the first few years of the project, once they established that the RAP committee “wasn’t there to shut them down” they usually became very cooperative. This often meant providing simple monitoring data that they were already collecting to comply with regulatory requirements under which they operated. In some cases, however, it went much further, with the industry deciding to fund the necessary studies outright. Industries were typically inclined to act when they saw it in their interest to do so, whether to appeal to public sentiment or simply to ensure they were one step ahead of the government. A major advantage to information obtained by this route was the speed and efficiency with which it could be obtained. Remarking about this, one fisherman who served as a RAP chair explained:

The local industry they spent 2.4 million dollars to get a real comprehensive testing done of all the sediment, because we knew if we waited for the government mishandling of it, to get it done it would probably be two or three years. So these plants all chipped in and they hired an engineering firm to go down and get the samples and process all of them. It was under the guidelines of both the [State and Federal government] and they got that accomplished in about three or four months.

Student studies

Several of the RAPs were able to tap into monitoring programs that were performed by educational institutions in their vicinity. In one case the RAP committee, in conjunction with several of its constituent members, sponsored an annual sampling program. High school students were taught the methods of water quality monitoring and sampling and then went out and actually collected samples. Local laboratories provided free lab work and the students did the data analysis. Over the years this provided both an inexpensive source of monitoring data and a very visual contribution to the community at large.

Other RAPs were able to access data collected in similar programs at the university level. Data collected longitudinally was particularly important in identifying cause and effect relationships. A retired sailing-enthusiast described one such database and its importance to the study as follows:

In addition ... there was a database that had been establish at [two regional universities] starting back in the ‘30s. They used to send students who used to study certain related disciplines and would come and do studies in the [area] even before the environmental degradations got to the point where we ended up with eventually. So what happened was we had this enormous data base of what conditions were like in the late 20’s, 30s, 40s – a database on how gradually degradation had taken place and nutrient loadings from agricultural operations and inadequate sewerage treatment plants and what have you created this problem over this vast body of water and in the tributaries. That was unbelievable information made available to us. We could read it. We could talk about it. We could refer to it.

Other sampling and monitoring programs

One of the RAPs operated almost exclusively using sampling and monitoring data from the sources suggested above and from data collected as part of the regulatory programs. A city planner from one of the larger cities in the Great Lakes region shared how the city and state data had been used:

After the passage of the Clean Water Act the city had facility planning documents prepared in order to obtain federal funding. As part of that there was a considerable amount of sampling performed and since that – mid to late 70's – since then there have been continual sampling programs. Our local city environmental services division has done stream sampling of the area since 1975, they started the stream sampling. They have the chemists and technicians on board to give credibility to their data. A lot of the data was from them. A lot of it was from private consultants that were hired by the city. The [State environmental health agency] do stream monitoring on a 5 year basis and publish that data, which we used.

Riding the back of funded studies

Many of the participants on the RAP committees were researchers who depended on government funding for their employment. Others who served as consultants to the RAPs were also involved in other research projects with Federal and State agencies. Relating a funding proposal to accomplishing a specific recommendation of one of the RAPs was a way that researchers could add merit to their request. One State actually set aside grant money for researchers doing work that would benefit the RAP process. Even when the research was only cursory to the RAP work a component that would benefit the RAP was often included so as to access this and other monies. Additionally, once money was acquired for a specific project, the RAP committee served as a place where research could be coordinated. Related, but non-funded, projects could work with the funded project to ensure these data were collected in a way to benefit both. A State agency person provided the following example of the snowball effect of coordinating in this manner:

An example of this is the [funded] habitat inventory. There's another initiative going on that's trying to link greenways throughout the ... area. There are [other] groups looking to try to link potential open spaces, areas that have been identified with greenways and bike paths. The basis for some of the greenway linkages along the river were based on the map, the information collected on the habitat map. So that information gathering exercise or identifying potential habitat areas spurred on other activity.

PAC Assisted studies

Another way that RAP committees could stretch the limited funding available to them was to provide themselves as free labor in assisting agency people to perform studies that were needed. This was particularly common in areas that were located away from the central locations of agency people. Agency personnel would create a study and either utilize members of the committee to assist them or even have them perform the studies themselves. This allowed the agency to collect substantial amounts of labor-intensive data – such as water depths – that did not require advanced technical know-how - for very little cost.

Professional Training and Skills

“Professional training and skills” ranked second in terms of those who selected it as either somewhat or most important on the q-sort survey, being ranked as such by 61% of the respondents. Interestingly, however, it was not selected as the second last in terms of being somewhat unimportant or least important, which would have made it eighth. Instead it was selected fifth in these categories. This means that while most people ranked it as important, many people also

ranked it as unimportant, more so than several other forms of knowledge. The significance of this is that professional training and skills seems to be of particular importance to those that possess it and much less so to those that do not possess it, the latter choosing it as less important than “values and beliefs”, “training”, “site visits”, and “past experience”.

Trust, which will be discussed at greater length in a later chapter, was at the heart of this perception. In essence, those with less training were more likely to trust a particular person or a process than a person’s professional judgment. On the other hand, professionals tended to trust more so a persons training and skills. The following two quotations demonstrate this contrast. The first is from a non-expert recreationalist and the second from a Federal government scientist. Note that the first places his trust in the process while the latter almost puts his entire faith in the professional expertise.

There were some joint meetings between the public advisory committee and the technical advisory committee where the intent was to basically to let the technical people know we didn’t want them to work isolation and come up with solutions which were founded only on bureaucratic experience, we wanted the public involvement to be reflected in some of the decisions that were being recommended.

Professional judgment had a lot to do with it. That is what a lot of it boils down to. That is where learning to trust each other comes into it. By trusting each other you are in essence trusting their professional experience and their professional opinions and a lot of that isn’t a science based thing.

More will be said about the role of expertise in the RAP process in the following two chapters.

Local knowledge

Local knowledge is knowledge that grows out of a place (Van der Ryn & Cowan, 1996). It includes both a history of the place and the practical adaptation of life to the particulars of that place. It is accumulated through experience over time and through the telling of stories. In a sense it is based both in culture and on events. In the q-sort survey “past experience with the issue” was selected by 43% of those involved as being somewhat or most important, making it third behind “scientific and technical knowledge” and “professional training and skills”. While this statement alone does not capture the extent of the concept of local knowledge, it is the closest of the statements to it. Its high ranking suggests its relative importance in the process.

Within the RAPs local knowledge was a critical component in the planning process. At least one of the RAP committees assessed the beneficial use impairments completely on the basis of local knowledge. Essentially, a diverse group of stakeholders went down the list of beneficial uses and determined based on their collective opinion which uses were or were not impaired. While this may horrify the traditional rational planner, it exemplifies the importance of local knowledge in the planning process. While most did not utilize it as a sole criterion, all either incorporated it directly or used it to direct their search for additional knowledge. A retired boating enthusiast describes both what local knowledge is and how it was typically used in the planning process:

There were a lot of us who had been on the river – I’d had a boat in the river since 1944 myself and I know what the river is like. In the early days there was a big tannery up the river and the river looked the color of tan bark. In one place they found chromic acid and at one point they chrome tanned hides. Sure we know where it came from. We could tell them where certain outlets were and where things

were. They could check on them. Local knowledge was helpful but I think before they would make a decision they would want to have their own testing agencies do the testing and prove it.

Local knowledge was introduced into the process in several ways. The first was by virtue of the composition of the RAP committee itself. As a Federal agency worker explained,

The idea of getting the diversity of citizens involved in the RAP is really important because they have some incredible local knowledge that we would just never know about. That's one of the reasons we're pushing to get a diversity of representation in the RAP groups.

Of particular importance are members of the community who have been engaged in the issues of the RAP for extended periods of time. They are to information gathering what a dynamic local champion is to leadership. A scientist described a county health agent with whom he had worked in the RAPs as follows:

Some of the best people in the category, one in particular, was from the health department lab. He also had an interest and he would often involve me in things. He has worked in the area his entire working life and started out working the sewer system virtually crawling through the sewers working a lot of outdoor projects. He basically knew the physical environment of this community better than anybody else. He could answer almost any of those questions and if he couldn't answer them he knew who could. He basically functioned in the capacity in a number of different projects in the area. He was always good at digging back and going back to people and saying "well do you remember when so and so had a facility here and this was going on" chemical spills and that sort of thing

It is very practical to rely on local knowledge if you are an agency person stationed some distance away from the actual site location under consideration. One coordinator, who worked with several RAPs, covered a geographic area of over 500 miles. Another was the only agency representative to the RAPs for the entire State. She described the value of the local knowledge she obtained from meeting with the RAP committees as follows:

Not living right in the [area] I found it very informative. I didn't realize that these problems even existed because it wasn't something I had to deal with. Local people were trying to describe what they thought were the impairments.

A second way that local knowledge could be introduced to the process was by setting up the RAP committee so as to incorporate additional public input. As one person put it, "We're trying to set the RAP up so that people with these "things I've noticed ... I've seen this ... this is bubbling up here and it wasn't before" can get heard. The effect of doing this is not only the acquiring of additional information but also, if people are sufficiently concerned, of additional political capital to encourage implementation. This individual related that:

A local found out about a non-point source and there is going to be – actually tonight – all the local churches are going to ring the bell in demonstration of the fact that it hadn't been cleaned up earlier and they're going have a protest actually. As a result there is some action happening because of that.

A third mechanism for acquiring local knowledge is actively to seek it out. This could be done informally through interactions with the community or through targeted interviews of knowledgeable residents. One State agency person who utilized local knowledge extensively described her approach to it as follows:

So if we said "what do you know about the land use in this area that [the State agency] doesn't have any information on that might be related to PCBs?" And we would get anecdotal stories about people who worked here or who worked there what was stored at what site. So we were able, to use this method for acquiring information where we had gaps was at the PAC table. Or we might talk with individual PAC members where we thought that person might have a lead ... You go back to people

who have had experience dredging the harbor in the seventies when they first started dredging. What was the nature of the sediment? What were the industrial uses? Through a process of interviews or meetings was one way of acquiring information. Also tracking the dynamics of the fish community – a lot of that was interviewing anglers. I think we just used a logical thought process, sort of a scientific method; it wasn't a mystery as to how to track that information if you think through it. Say in the 1993 yellow perch decline, has this ever happened in the harbor before? Logically you are going to go out in the harbor to people who have been fishing in the harbor for decades. That is how you get some of the historical records where you don't have access to any data.

Local knowledge served two purposes: (1) it provided anecdotal information that was used to make decisions in the absence of quality scientific data, (2) it pointed out areas where research needed to be done that might have otherwise been overlooked.

Site visits

Most of the RAP committees at one time or another made trips to various locations within their AOC boundaries. These visits were valuable in terms of putting the intent of the RAP into perspective. By visiting the site, participants were able to put into context the problems they were reviewing in the many documents they were considering. This was particularly important when the degraded area of the lake was almost inaccessible; the visit made clear the reality of the situation. In one particularly remote area, the RAP committee chair described the value of a site visit:

We made trips down to the Bay by foot and we also hired a boat and we went out and went into the Bay and up the creek from their end. I'd say almost all of them people had never even seen it. They'd just heard about it ... People were amazed when we went down there, that this is what it looked like. ... Because it is almost inaccessible where it comes into the lake. You have to walk to the railroad tracks about three miles or cut through the bush or take a boat in. No one wants to take their boat in there because of all the pollution there. The water was such a mess they were afraid it would hurt their motors. So they never really get close to it.

Training

Training within the RAP committees took three forms. First, during the RAP meetings, experts were often asked to come and provide training on relevant topics. These were important for those who had only limited background on the issues being discussed. Through a process of presentations followed by question and answers, those who lacked knowledge in an area were brought sufficiently up to speed to participate effectively in the process. The efforts are discussed at length in the next chapter.

Second, because there were 43 sites engaged in the process, there were so many opportunities to exchange experience knowledge. This was particularly true within the State of Michigan and the Province of Ontario, which, because of their large number of AOCs, developed a system of interaction among the RAP. Both governments hosted meetings on a semi-regular basis where RAP committee chairs could learn what was being done within the other AOCs and share success stories of their own. Michigan also put together an e-mail listserv that served all of the participants in the RAP sites throughout the State. These kinds of activities were valuable, especially during the early years of the process. More mature RAP committees were able to offer helpful hints to those who were just getting started. One committee, composed mostly of individuals who had never received a higher education, was able to learn about technologies available to them that could be used in their AOC and at the same time gather information on the advantages and disadvantages of the technology:

Many of our ideas came from the experiences of other AOCs - like dredging came from [one]. We even went down and spent one weekend watching all the different companies that we creating dredging equipment and they showed us how it worked, what were the drawbacks, and what were the good points. They were doing it in [their AOC] and they said “this is what we are doing down here, come down and look at it”. So we did. We learned from down there where they had been doing this kind of stuff for a couple years ahead of us. We learned from them what they had done and how they went about it, things of that type so we could catch up.

Unfortunately, for many of the RAP committees, changes in the political climate over the years also resulted in changes in the amount of funds available to the committees to be involved in these kinds of activities. Many RAP members reported with dismay the inability to travel to meetings due to the scarcity of travel funds.

The third source of training came in a less formal way and as a byproduct of the collaborative process: mentoring. The RAP process took place over more than a decade and many participants became close friends. Interviewees subsequently and naturally they felt that less knowledgeable participants would turn to those with whom they had developed a friendship for clarification. The diversity of the participants allowed relationships to develop between individuals that, under normal circumstances, might never have formed. Participation in the RAP became the venue in which friendships were initially built and sustained over the years. Perhaps the best example of this was a friendship that developed between a retired Federal agency scientist and a mechanic:

We had one person who was retired from the Federal government and had been intimately involved in writing the GLWQA amendments in 1976. He had retired and built his home in the [AOC]. He became my mentor ... He and I became fast friends and I think I learned more about the environment and these issues that we are dealing with from him than I could have ever learned in University. That man had an enormous pool of knowledge and he and I spent a lot of time sitting in his kitchen drinking coffee and talking.

These kinds of relationships were fundamental to the process not only because they provided mentoring opportunities but also because (1) they created a network of resources that participants could call on at anytime with questions of all kinds, and (2) it was at this level of relationship that RAP committees were able to function most successfully. As one Federal agency person put it:

You could never duplicate our model because you actually have to be friends. We're always able to incorporate new people as they come in to make them come to that sort of atmosphere of like – we have the same relationship with our legislators. They are our friends; we go out to drinks with them. That has been a tremendous advantage for our RAP.

This was a common report amongst those that seemed to function most effectively.

Independent research

Finally, several individuals reported that their learning occurred best when they took the initiative to confront it directly on their own. This meant that not only did seek information from the technical people on the committee or through the agency, but they also did their own research. The Internet was often cited as tool for gaining a greater understanding of salient issues:

And many of us became a little more literate on computers and then when you get on to the websites and you find all this information beyond what you have already received besides all this information we were getting to begin with.

Others reported even going further than that, replicating studies in their own backyards:

We went to far as to have a professor from the university come down and set up growing areas – kind of a greenhouse kind of thing to see what the soil would do. I did the same thing here at my house. I brought home soil from the sediment bottoms of the lake and planted zucchini in them and they all grew really well. So there was a lot of nutrient in that sediment.

There was clearly a need for some individuals to take an active role in their learning so that they could both conceptualize what was being said and feel more confident that they could contribute when they came to meetings. Extra effort of this nature was a good measure of a person’s personal commitment to the process and reflected positively on the success of individual RAPs.

Table 0-10: Information Types and Sources

| Type | Source |
|----------------------------|--|
| Expert studies | Prior studies, new contracted studies, industry studies, student studies, sampling and monitoring requirements (industry and municipalities), add-ons to funded studies, RAP committee assisted work |
| Profession training/skills | Expert participants |
| Local knowledge | Participants (particularly long-term active residents), public input, target interviewing |
| Site visits | AOC sites, Other AOC |
| RAP Training | Expert presentations at RAP meetings, visits to other RAP committees, National or State meetings, Mentoring between participants |
| Independent research | Coordinator guided, Participant initiated |

4.2.3 Summary

The process of collaborating for information begins with the proper selection of participants. The direction, drive, and interests of these individuals suffuses all later information gathering efforts. Much of this is in the form of preexisting studies and ongoing monitoring programs. Some of it is determined to be necessary as the process proceeds. Often it is from local knowledge that such needs are determined. Local knowledge also substituted for more technical studies where none existed. The entire information collection and acquisition process is a technically oriented process of determining what information is needed and how it can be obtained in manner that makes it trustworthy.

4.3 Collaborating to plan

Whereas the information stage of the process was technical in its orientation, the planning stage was highly communicative. Planning consisted principally of sharing information one with another, and exchanging ideas as to what it meant. Most of this was accomplished through discussion and deliberation, although there was inevitably a written component involved in the exchange. This section focuses on what factors appeared to get people to effectively plan. In particular, this section explains the communicative elements of that process.

4.3.1 Time to Effective Communication

When the RAP process began, most of the agencies perceived it as a three to five year process. Very few of them had ever experienced such processes and certainly none had experienced an effort with the extensive, holistic goals of the RAP process. Today, fourteen years later, the RAPs continue and most of them still have not completed their planning process, let alone make much

progress on the implementation. Few realized how long it would actually take people just to get comfortable talking and sharing honestly with each other. They were used to an environment in which everyone was pretty clear about what the goals were and what approaches were to be used to accomplish those goals. In this new setting all of these questions had to be addressed afresh from within. This took time and effort. Most of the RAP committees reported that it was a year before they could get down to the business at hand, having dealt with all of the issues necessary to proceed.

Distrust

The first barrier that needed to be overcome was that of distrust. This was only achieved once the committees were able to establish a set of common goals upon which they could. Part of why the science and technical studies were so heavily emphasized in the process was because it was in the science that members could all find a degree of agreement. Once they realized that they could agree on that then the barriers came down and they were more willing to share their personal perspectives and to deal with their differences. One scientist depicted this process as follows:

It was the better part of a year before we were through a lot of those, “Well I’m only going to show you my two cards ... because someday we might have an argument about this and I need some chips to bring into the process”. You get over that eventually to the point that no matter what your own particular agenda, when you are talking about an issue you are talking about it from a science perspective; not an agency perspective, not an employer perspective, but from whatever skills and knowledge as an individual [you] bring to bear to help get this thing moving.

Determining the common goals took a substantial part of that first year. The initial steps seemed always to reflect a little confusion. An essential part of the collaborative process is the act of self-definition and that does not happen in one or two three-hour meetings. It takes shape instead through a slow deliberate searching process.

In the early going we were unsure of what our goal was and exactly where we were going with this. I recall talking to guys who’d say, “we’re just sort of seemed to be floundering.” But we gradually got a momentum going and we began to see what we were doing more clearly and what our role was. We took more and more ownership over what we were doing as time went on. It dragged out for quite a while, but it was a good thing. We reached a comfort level within six months. We began to function well within the first year.

A few of the RAPs were never able to achieve this shared understanding. In part this was due to certain personalities in the group. In part it was due to the agency coordinator being unwilling to relinquish some of his or her control. As each of these were relevant barriers to success, a short aside to explain their influence is appropriate.

Personalities

One of the questions asked of all interviewees in the study was to identify the biggest weakness of the process. A graduate student who helped coordinate one of the RAPs, one that had had significant problems functioning, provided a common response:

The weakness is in the individuals involved. The problem from my perspective, and this is just from observing it, initially the problems were personal, and the people involved decided they didn’t like each other but those bad feelings have become, if you will, institutionalized so that now any member of one group automatically distrusts any member of the other group. It is not a problem with the process; it is a problem with the individuals involved.

Problems did not normally arise between groups at large. Rather they began between individuals who then rallied their peers for support, dividing the group into factions. These problems could later easily be perceived as sectoral disputes but they originated as personal matters. While it was true that certain groups did inherently distrust others, much more commonly it was a matter of two people publicly disliking one another that undermined the process. As noted above, for example, the reason that the industrial representatives left one of the RAPs was because of the personal attacks. A participant in that process noted:

There were some very vocal public participants who were very attacking in their participation and that was significant in affecting the dynamic of the group.

These kinds of problems often went from bad to worse. What first was dislike becomes distrust, and then everything that goes on becomes the subject of suspicion. Another RAP who had a similar problem with a two of participants reported the following example of how that issues tend to perpetuate:

What inevitably happens is there will be the small ... backroom meetings and those don't really engender much trust and people would find out about those. And even if they are completely innocent or meetings to clarify some things, there is a perception, especially amongst these two members of the PAC that were really were the ones who threw wrenches in all the gears, ... that if those people met on the side it must have been to undermine their own work. These accusations did come out and actually continue to come out from [these] people

The solution to personality problems is difficult. On the one hand, the process was committed to including as many voices as possible in order to maximize the benefits of planning through collaboration. On the other hand, these disputes, if left unresolved, were a cancer to the process. Fortunately, for some RAPs, some individuals who proved problematic to the process eventually removed themselves from the group. This was usually when they found little support for their ideas. Others RAPs, however, had to be intentional. One committee that ended up overcoming this problem and successfully completing their Stage II document took a more proactive approach to the problem. The RAP chair, a schoolteacher (not surprisingly), offered the following account of how she and her committee dealt with two participants who began to fight with each other:

They did not agree with each other's views and they got very personal with their insults. I tried to mediate between the two people. I was unable to do so. I went back to the [RAP committee] and asked them what was the next step and they decided as a group the two people had to resolve their differences or both resign. And they both resigned. It was a case of two very strong personality people. Basically they were so similar to each other that at that point, with such opposite views, they couldn't, they would not consider, compromising.

Personalities were not only problematic. In many cases individual personalities contributed the success of some of the RAPs. As one participant in a more successful RAP concluded:

Over the years I have tried to figure out what made this RAP so successful. There are just a lot of great personalities involved. There are a lot of people whose goal is to clean up the river and they set aside any sort of finger pointing or any friction and old animosity. There hasn't been a lot friction and I think that is because there has been this great group of people all with the same goal.

The right combination of people is central to collaborative planning. This does not have to mean that all participants must see eye-to-eye but they must agree, first on the fundamental intent of the process, and secondly to avoid those kinds of behaviors that create dissension amongst participants. As in the example cited above, those that create rifts in the process must either be

encouraged to leave or to be removed from the process. Failure to deal with significant conflicts of personality is grounds for certain failure.

Agency control

A second way in which the ability to create a common goal was undermined was when the State agency took too dominant a role. In the Great Lakes Water Quality Agreement, State governments were given the responsibility for the RAP process. Because of this mandate several of the Agencies took a very strong position within process and viewed the RAP committees as merely reviewers. To these agencies, the RAP committees had no authority and were simply a mechanism of public relations or, at best, filter to ensure that documents were understandable to the public. For a few of the sites, those set up before the nature of the RAPs was defined as they now exist (made up of stakeholder committees, etc), RAP documents had actually been completed by the agencies without consulting the public. Agencies were subsequently asked to redo the documents under the new, participatory guidelines when they emerged.

While the agencies were certainly justified in controlling the RAP process based on this mandate, doing so in a heavy-handed manner was a recipe for failure, at least from the perspective of non-agency participants. A Federal agency participant who worked in one of the more contentious and less successful processes describes the effect as follows:

Both groups felt that they shared equal authority or at least the [RAP Committee] felt that they had certain amount of authority and decision making. One of the things that lead to the conflict was that they realized that that wasn't the case and the decisions were going to be made and who they point to as the State was going to make the decisions regardless of input. I think the [RAP Committee] believed they had the ability to influence and jointly make decisions with the [Agency people] but slowly but surely that kind of confidence eroded away and that is what caused the [problems].

The outcome was that the participants viewed their role as insignificant and a waste of their time. They felt that the Agency was simply tolerating them because they had to and that there was little chance that their input would be incorporated into the document, which in most cases where these feelings emerged, turned out to be true. The effect of this, as one respondent put it, was "to kill a lot of enthusiasm."

Preconceptions

The second barrier to communication were preconceived notions of participants, particularly about who was responsible for the degradation of the Area of Concern in the first place. For the most part it was perceived that the industries were perceived as the culprits and many of those who got involved did so because they saw the RAPs as a way of bringing companies to justice. Due to the nature of the RAP process however, with its 14 beneficial use criterion, it quickly emerged that there were a multiplicity of problems and that industries were only one of them. It also became apparent that industries were actively involved already in the restoration and clean up, something of which many of the participants were previously unaware. One of the industry representatives reported the effect of this as follows:

People come with preconceived notions but I think a lot of people thought they were going to come and get industry for all the awful things they had done to the harbor. In the first two or three meetings we sat with the experts sort of explaining the condition of the harbor and I think it became evident that industry had done a lot of things to the harbor but they had also maybe were more advanced in clean up then maybe for instance things like storm sewer runoff and so on for which very little had been

done. Industry perhaps wasn't the significant problem that everybody thought. And so finally everybody calmed down and said we have a general problem here. We have a lot of things to fix up. It sort of calmed everybody down and we became more of a common group dealing with problems instead of focusing against somebody or antagonizing somebody.

Again, the outcome that united the group was the recognition that they were engaged in a common pursuit and that this was best accomplished by a consensual approach and not by an adversarial one.

Lack of experience

A third impediment to effective communication was the lack of experience many of the government agency people had in moderating and facilitating these kinds of processes. One coordinator described her experience as follows:

I [usually] worked on my own in the field and only had to rely on myself and maybe one or two more people to get things done and then all of a sudden I started dealing with other agencies and different people and community groups and now a single day doesn't go by where I am not coordinating different programs, proposals, studies of 5 different agencies. It took me a really long time to come to terms with the fact that I am not going to get what I want as quickly as I want because as soon as you start dealing with other people it starts slowing things down. I definitely have a new respect for time frame. You have to go through process and ... it is going to take a year ... its just that is the time, that is just how long it takes to do things.

As a result, several of the RAPs chose to hire professional facilitators. But as the money dried up agency people were expected to do more and more of the facilitating themselves. They were successful to various degrees. Most of them were trained as scientist and technicians and simply lacked the know-how to manage groups of this nature. In at least one case this became the fatal flaw. A State agency person who was given the responsibility to try to get the RAP back on track after the first coordinator let things fall apart described that experience as follows:

The coordinator did not know how to manage the conflicts and allowed it to escalate and to get to the point where there was almost no possibility [of being successful]... I know you've heard this from me before but the coordinators role in my view is to provide leadership ... That doesn't mean to drive the process in a direction, but it means building credibility and helping people through, a mediating kind of role to get a little closer together, to be civil to each other.

An effective coordinator was able to do just this, lead without being perceived as running the show. This took a skillful person indeed and, unfortunately, there were a few cases where the individual charged with the role was found lacking.

Community relations

The final level of communication that had to be developed was that between the RAP committee and the community. In many of the RAPs designation as an Area of Concern was a subject of concern. Particularly in smaller communities where jobs were scarce and there was a fear that the major employers would be implicated for the degradation. In these areas it took some time to convince both the industries and the community that this was not the intent.

Tourist communities were also concerned with an AOC designation. In these communities the RAP had to market itself as the solution to the designation and not fall victim to the tendency to "kill the messenger." An important mechanism for achieving this was to utilize the media. A

coordinator that had been particularly successful in achieving this reported the time factor as follows:

The credibility with the RAP committee took about six months for most of them. And then I think it took another year after that or so to really have the media at all of our events, calling me and saying what is going on, what can I write about. When an outside reporter did a “rake [the AOC] through the coals” job, the community reporters really got behind us.

4.3.2 Summary

Collaborative exercises should not expect to go forward with the same speed as an individual agency planning process might. In part, this is because it takes some time to get individuals comfortable with talking with one another. Misconceptions need to be overcome, skills need to be developed, and communities need to be engaged. These all take time. In the RAPs this time appears to have been about one-year. Only after this significant investment of time are all of the participants prepared to engage the task at hand.

Table 0-11: Barriers to Effective Communication

| Type | Source |
|---------------------|---|
| Distrust | 1. Individual personality disputes that create factions within the group. Overcome by removing problematic individuals. 2. Agency controlling process too tightly, not allowing non-agency participation in a legitimate manner. Overcome by dividing power differently between agency and non-agency. |
| Preconceptions | Individual agendas had to be abandoned in favor of overarching, common goals. |
| Lack of Experience | Agency scientists and field personnel lack ability to moderate groups effectively. Using facilitator or experienced participant was more effective. |
| Community Relations | Community was distrustful of an agency and disliked the “AOC” designation, feared its economic implications. Community relations particularly in the media and through participants was the solution. |

4.3.3 Decision-making

A second important component in ensuring an effective communicative process was to determine a fair and legitimate way of making decisions. This was among the first things that most of the RAP committees had to determine. All of the RAPs represented in the interviewing process, twenty-five in total, selected a consensus-based process except two. Even those two strove for consensus in their decision-making but voting was established in those as the norm.

The importance of consensus as the principal goal in collaborative planning processes cannot be understated. As discussed above, the ability of a RAP committee to establish and strive for a common set of goals was central to its effectiveness. Consensus decision-making establishes a protocol that requires divergent interests to communicate until common ground can be discovered. This demands that decisions be made through the resolution of differences rather than through adversarial competition. One of the RAP chairs described the importance of consensus as the basis for decision-making in his committee:

In true consensus, no one ever loses. But when you vote, yes or no, and the vote is 11 to 10. Ten people lost and 11 people won. The ten people that lost feel a loss. In consensus, 21 people would all

feel they had contributed to the final decision and that they are a part of it. That is a big difference. Organizations that take a vote on issues, there is always a loser. Always. That is a major key in running an organization. As soon as you start a vote then you get behind the scenes lobbying for votes. That creates distrust. "Will you vote for this so I can do that" or vice versus. With consensus, that all disappears.

To achieve consensus requires a certain level of skill. Some of the reluctance to utilizing consensus decision-making derives from the lack of skillful facilitation rather than the inappropriateness of the goal itself. This same chair described the process that he used in order to achieve consensus as follows:

To get consensus on an issue the chair continuously moves back to a position where everybody agrees. And then you move ahead a little slower from there. "If we do this how can we modify this so we can keep on going ahead until we eventually have got consensus?" "Will you agree with this?" "Can we just change this slightly?" "Will that create problems?" "How do we do it?" That is what consensus is all about.

A step-by-step progression from general to more specific seems to be the preferred process. As soon as dissension is reached, the facilitator moves back to the last agreed upon step and tries to determine where the problem emerged. Through discussion the group is usually able to discover a solution that is acceptable to everyone. This simple approach was used formally or informally by many of the successful moderators.

Realistically, with hundreds of decisions, each RAP had one or two issues about which consensus could not be reached. There were two alternatives to the consensus-based process. These were used when consensus could not be reached, which should be emphasized, was rare. When these had to be made, the RAPs pretty much followed one of two systems: (1) Either the entire group would vote and the majority ruled, or (2) a representative from each of the sectors voted and the majority ruled.

Usually in cases where voting required, the RAPs somehow included the dissenting opinion in the final document. This was done to acknowledge that the final recommendation was not made by consensus and that another opinion existed. This acknowledgement recognized the opinion of all participants in every decision and maintained the support for the final document of those whose position was rejected.

4.3.4 Trust

As mentioned above, trust is one of the foundational elements that must be developed in order to collaborate. The time needed in the beginning of the process is needed partially just to develop that trust. If trust does not exist, consensus decision-making is viewed as a process of co-opting rather than a process of cooperating. There are many lessons that can be learned from the RAPs about the reasons behind distrust, who is likely to distrust and who, and how trust can be developed amongst participants.

Who distrusts whom?

Everyone distrusts government

Whenever a question related to distrust was raised, the typical answer was that nobody trusted the government. Usually this did not mean the local agency people but rather higher-up political appointees. With very few exceptions, participants raved about the individuals assigned to their

RAP committee to serve as coordinators but expressed a general suspicion of the unseen directors. The first thought was that the RAP process would create a “plan that was going to be put together and was going to sit on a shelf and many of the activities were never going to be implemented.” Part of this came from the fact that the agency people in charge were to a degree making their way in the dark. They had few examples of how this was to be done and no commitments were forthcoming in terms of where implementation resources would come from once the plan was finished. A second source of distrust emerged from government’s tendency to have to demonstrate results. Essentially, even if the RAP had not even embarked on implementation activities, update reports would be due. Improvements in the beneficial use impairments would be credited to the RAP work, even if the RAP had done nothing except meet and plan. Then at large meetings where RAP participants gathered, agency administrators represented the reports as signs of success. One participant related a story about questioning such statements openly in a public meeting:

Most of the time I sat there in the biannual meeting, heard the presentation, and knew what the [commissioner] was saying was not accurate. At the last one ... it was the first time I got up after they had made their report and the IJC commissioners were sitting at the head table and I walked up to the microphone and I asked the commissioner, “How do you deal with a situation when you receive a report and the report you receive is blatantly false – it is not true – the information you’ve been given is not true.” And of course the commissioners are political appointees, they sort of sit there very uncomfortable, but that is exactly what I knew would happen. I then pointed out exactly what was said ... it actually became a bit of a farce. The senior person from the federal government and his state counter-part were pointing to some of their assistants in the front to explain it and they were stuttering. Finally the commissioner who was sort of running the thing, got them off the rope by saying, “well why don’t you get together with this chap and talk about it outside the hall.” That has been the case ... quite often.

Thirdly, this distrust of higher levels of government was often reinforced by the actions of the local agency people who showed a lack of trust in their own superiors. One RAP committee chair reported being asked regularly by a local agency person to send letters that the agency person had written using the chair’s identity. “You can write a letter and they won’t fire you”, is what he was told. So, the chair would mail the letter composed by the agency person and in time would find out that it had made its way all the way through the agency and finally arrived on the desk of the agency person who had originally written it. This was a more effective way of informing upper administrators that there was problem than by the local agency person passing it through establish bureaucratic lines. Clearly, the implication was that upper agency personnel held more politically volatile positions and thus had to be more responsive to public demands than those of their own experts.

Distrust between industry and the environmental sector

The second commonly reported relationship that engendered distrust was between the industrial and environmental sectors. A schoolteacher characterized the typical relationship when describing her RAP as follows:

We had a lot of very tense moments the first few meetings. Industry did not trust the environment. If the environmental sector had said we want to start the meeting at 4, the industry people would say they want to start the meeting at 5. It was just horrible the first couple of meetings. A lot of in-fighting between environment and industry.

Interestingly however these stereotypes were abandoned fairly quickly due the collaborative nature of the process. Once the problems were understood in their complexity the traditional adversaries

were able to work together. This did not mean that they developed a bond of trust for each other but, rather that they were able to work with conflict or dissension. As one person put it, “We got to know each other well enough that we knew each others biases.” Once biases were understood, they could be accounted for during the discussion.

Enhancing trust

There were several techniques that proved effective in enhancing trust among groups and individuals. Some of these were directly out of the communicative planning literature like “allow everyone a chance to speak.” As one federal agency person put it:

Letting everybody say their piece was important. As long as people are getting their two cents in they are a lot happier even if they are not getting what they want.

Another example was to “address problems immediately and honestly.” Again, a state agency person who conducted many of the RAP meetings reported:

When people don't trust each other you get the issues out on the table. I had one person finally say in a meeting, “What is your problem – tell me what it is, there is obviously a problem.” You have got to be frank, nobody likes to waste their time so just throw it out there and be truthful.

Trust was also developed through other, more creative ways. One such technique was to engage traditional adversaries in opportunities of mutual interest.

Where I've seen that it has worked well is where they have projects of mutual interest. You know, there is one of the industry representatives ... which owns two large power plants along the river and they sponsor a non-profit [organization] and it seems that through [this non-profit] indirectly or directly along projects that the [non-profit] is supporting [the industry person] seems to be able to work across different interests, they have been able to work with activist groups as well as industry.

The enhancing of human relationships, as has already been pointed out, is the central component in developing trust among participants.

A final technique that is critical in terms of conducting the process is that of holding members accountable for their words. While playing “devil's advocate” on occasion was not viewed as undermining, it was important to participants that it was clear when this was being done. When an individual regularly switched opinions such that their biases and perspectives were unpredictable or unknown, this influenced the group negatively. One coordinator went so far as to utilize the meeting minutes to force people either to remain true to their words or to explain why they had changed their minds. As she put it, “if it is factual and warranted I am sure that it is something that everyone will want to hear about.”

What this point refers to primarily is sincerity. One RAP chair that was asked to identify how they knew if someone was being sincere put it as follows:

It would come from an inconsistency with what they had said before. A combination of inconsistency and ... body language involved there too. I think it is something that you get in your gut and you get a feeling. “Hmmm, there is something about what this person is saying or how they are saying it that doesn't ring true.”

A person's sincerity was the mechanism by which they could reach beyond their perceived interests and garner the respect of others, even those who disagreed with them. Sincerity elevated a statement in the eyes of those who disagreed with it to the level where it would be given serious

consideration and included in the plan simply on the basis that sincerity rendered it legitimate. It was only when somebody was not sincere in their approach that their comments, suggests, or interests were not given much merit and ignored. Several participants suggested a similar perspective:

Even if you disagreed with a person's point of view, if you respected their sincerity in their beliefs then it was something. I think that was one of the definite advantages of the length of the process, that we got to know each other so well that we understood each persons beliefs and where they were coming from and anybody that lasted as part of the process as long as it went was definitely sincere in there beliefs. If somebody wasn't sincere, we listened to what they said and then passed on. Politely listened to them and then kept going.

In spite of this kind depiction of how those who were perceived as insincere were handled, others were dealt with much more forcefully:

They were told pretty frank by members of the committee that you are setting us back and this was not the purpose of this call. Sometimes you have to go over the person's head to their superior and say, "What is this person's problem? They are hung up on something that is not in the best interest of what we are supposed to be accomplishing here."

Either way, a person's sincerity was important in whether people developed a sense of trust for what an individual said or not.

4.3.5 Comprehension

In the q-sort survey, recipients were asked to identify which communication issues were most important to the process. 63% of respondents selected the statement, "Whether I understood/comprehended what was said" as either somewhat or most important, making it the highest ranked choice. Only 1% saw this as unimportant in the process. Given the mix of participants, that response is certainly understandable. Many laypersons were required to learn a great deal of new, largely scientific information. Technically oriented persons were required to make sense of a more value-based approach to these issues. In the end, whether participants were able to comprehend all of the information exchanged was central to RAP success.

Comprehension problems existed in two domains. The first concerned technical understanding. Many of the individuals who got involved in the process had little exposure to the technical issues and language of environmental science and management. On one end, there were simple things that had to be cleared up, such as the use of acronyms. One non-technical participant noted that agency people "tend to use acronyms a lot and people who aren't in the business ... say "what does that mean?". Similarly, agency people and scientists were often asked to "give it to us in layman's terms so we can understand what you are saying." At the other end, there was a need to educate participants in basic ecological concepts. The typical process that worked well for achieving this was something similar to the following:

The [State agency] was very general in terms of making its [RAP committee] presentations. When they would discuss about non-point source they would start out directly with "what is point source and what is non-point source and why do we consider these things pollution." I think that everybody got a pretty good grasp of what the issues were and the DEQ did a good job of explaining those.

It was critical that participants be able to ask questions and receive clarification of points they did not understand. In the q-sort survey 45% chose this as either somewhat or most important. This required that participants be comfortable in the group and be honest about their lack of understanding. The size of the group was one important dimension of this dynamic and is discussed at length below. A second component was the need for a culture of tolerance and an expectation that misunderstanding would occur. Some RAPs reported that “a bit of polarization” occurred between technical and non-technical people. In these cases, non-technical people were assumed to be incapable of understanding technical aspects of a problem and that any attempt to teach them was viewed as merely delaying the process. While some committees accepted this attitude and proceeded on that basis, the public representatives in the more successful processes essentially demanded that they be taught so they could participate fully.

The second domain of comprehension was that of values, what one State agency person referred to as “individual priorities.”

Some of the scientific types from the [State agency] take a fairly fine scientific definition of things, certain impaired uses and certain results and especially setting up the studies parameters. They have fairly specific ideas on how to do that. I know for sure that several of the citizen members were keen to have the scope of that all broadened. One of the debates that was ongoing ... is the whole the beach closures and whether or not that should just be looking at designated swimming beaches or whether or not the RAP should be striving for the entire [AOC]. And should the tributaries also be of swimmable qualities, which of course have major implications for the actions that would go into the Stage Two? That was sort of a tug of war. The scientists wanted the more defined, swimmable beaches because that is what is monitored. The citizens were saying, when “we say the RAP goal is to have swimmable water that means everywhere.”

The only way it seemed that these could be transmitted and comprehended was through continuous exposure over time. This was one of the main advantages of the RAPs taking so long in their work; the people involved got to know each other extremely well and through that relationship building were able to develop an understand of other values and perspectives. As a local planner told me:

You have to be appreciative and I think it takes a long time to recognize the different types of people out there and their beliefs and their issues and that doesn't say all [people from one sector] are the same but it takes a while to see where they are coming from and what their concerns are and be sympathetic.

Shared values were also the basis upon which some people overcame their lack of technical comprehension. Essentially, they would learn, over time, whose opinions they trusted and who they shared a common belief system with and they would advocate whatever position that individual took when they were unsure of something. As a Federal agency scientist put it, “because you knew that the other person is on the same side as you are on and headed in the same direction, even if you don't understand the whole technical issue you went with them.”

Factors affecting information exchange

The free exchange of information, both technical and value-based, required an environment in which people were comfortable sharing. There seemed to be two major components in this atmospheric comfort zone: number of participants, and formality.

Optimal size of group

Groups ranged in size from five to over a hundred. Typically, the larger groups suffered from attrition largely due to the fact that individuals did not believe their voice was being heard. Most of the effective groups eventually leveled off at somewhere between 10 and 25 participants. In a few RAPs, total participation numbers were higher but these divided their membership up into workgroups in order to ensure that each voice was heard in at least their major areas of concern.

Formality

Surprisingly, the formality of the meetings was a major barrier to the sharing of information, and values in particular. A formal structure with rules of order discouraged people from interacting and talking in a way that was necessary to develop an understanding of each other. One group that had serious problems during their early years restructured and adopted a much less formal process to address this concern. According to several agency coordinators the secret to conducting a RAP meeting was:

“I ran it as a very free flowing discussion.”

“It was mostly raise your hand if you’ve got an issue and you would be recognized and discuss it.”

“Not too Roberts Rules of Order, let’s not be stupid.”

“People should not be saying whatever they want whenever they want – that’s the basic meeting protocol.”

“When things got a little bit disorganized the chair would bring it back and develop an order of who was going to speak next.”

“Follow the agenda!”

“There needs to be a lot of joking around and lot of leeway for stuff that is not 100% necessarily pertinent.”

It was clear that a more casual, conversational style of meetings was both preferred and more effective in terms of accomplishing the intent of the RAP.

4.3.6 Conflict management

Conflict was innate to the RAP process. Each participant came with a different perspective and intention. With time and the building of relationships, conflict dissipated except where other flaws existed in the process as pointed out throughout this paper. A city planner involved in one of the RAPs effectively summarized how conflict was dealt with and overcome through the process:

The [State Natural Resources Agency] did try very hard at the inception to get a good cross sectional representation on all the committees. That led to some very contentious meetings because we had paper mill representatives and other industry folks and County people and Fish and Wildlife people and Green groups. And they all came in with the particular perspective and agenda ... they were looking to protect their interests but they also came in willing to do the best they could if they thought it was reasonable. They were not digging in their heels and circling the wagons. They were willing to talk about stuff. That took a long time but what it led to was, when that RAP document was completed and signed there was good consensus. A lot of that took *education and communication* to just keep working through the stuff. When the documents was all said and done, you didn’t have any minority opinions saying we can’t support this. They all bought in – all of them. That meant there was quite a bit of negotiation and some working through on the writing stuff so they could all get behind it.

The key, once again, was education and communication, or in other words being sure everybody understood the technical as well as the value-based knowledge. This was only accomplished over a lengthy period of time as people debated until a place was found at which everyone was satisfied that their view had been heard and included in the final decision.

Patience in the process was crucial and was brought up many times as a key to success. When it came to conflicts this was particularly the case. On occasion individuals representing larger interests were reluctant to commit to a certain recommendation or interpretation of data. A willingness to postpone decisions for a month, or sometimes even for several months, was important in resolving these differences such that those affected could continue to “buy-in” to the process.

Unfortunately, not all conflict was resolvable. In a few isolated situations, individuals or entire sectors withdrew from the process or were asked to resign as a result of differences. These withdrawals often left a significant hole in the legitimacy and validity of the process. Others continued to participate but without much influence due to perceived failures. These often emerged when they tried to maintain extreme positions rather than work towards an acceptable common goal. As one State agency scientist explained:

What happened early on is, and it is carrying on into the work we are doing now, is that [these two environmentalists] kind of alienated themselves by being too extreme in their views. In a way it is like crying wolf. What has happened is that some of the government representatives just sort of wrote them off and don't really even listen when these people speak future meetings because they just kind of wrote them off as too radical, too adamant, too out there.

Maintaining strict positions rather than attending to ones interests was a sure way to discount ones own credibility.

4.3.7 Common goals

The heart of the collaborative process is the unifying influence of common goals. Without this element collaboration is highly unlikely. Common goals allow individuals to give up their own interests in favor of a common purpose. Common goals direct the path to common ground upon which new solutions can be built. A technical consultant who served on one of the RAP committees described the importance of common goals as follows:

Everybody in general recognized that there were some significant problems in the river and bay. The RAP was designed to not point fingers. It said, “These are the problems and what can we do to improve the quality of the water here.” So everybody looked at and understood that there were some big issues and as long as you kept it on that big plane then communication didn't seem to be a problem.

Pointing the finger at polluters was a common phenomenon at first in the RAPs. It became clear quickly however that this was unproductive. First, there were a multiplicity of problems and rarely was a single point-source responsible for an Area of Concern designation. Rather, there were many point and non-point problems that had cumulatively led to degradation. Second, when point-sources could be identified, their pollution levels were usually well within their legal limits. Rarely was it a case of accidental or intentional contamination. It was usually a situation in which pollutants were emitted into the lakes according to the scientific standards of the day, but these were now outdated. Once participants vocalized this reality, both those who had contaminated the

water and those concerned about its contamination recognized that it was a much more productive strategy simply to focus on their common goal: to clean up the lake.

In two situations this period of recognition was accelerated by certain unifying events that forced the committee to determine how seriously it took its role. These events usually threatened the existence of the committee or some dimension of its authority and required an immediate, unified response. One byproduct of successfully navigating such a crisis was the perpetuation of the unified view it demanded. An industry representative reported a good example of this phenomenon:

I think the [State Environmental agency] may have inadvertently played a very important role in having the committee work together. As I look back in retrospect it occurs to me, it was not done by design, it was done by accident. The [State Environmental agency] had a goal of not expanding the AOC. Our goal as a committee, as a whole by consensus, we all felt that it should be [expanded to] include [additional areas and industrial sites]. We wanted all of those to be incorporated in. I realize that as we progressed it was [us] against [them]. It just sort of gravitated in choosing sides between the community at large and the [State Environmental agency]. And we wore them down. That is what unified us in the first place and from there it was easier to work together towards common goals. Restrictive goals that some people brought to the table were more often than not placed on a backburner, not entirely disposed or forgotten about, but they were placed on a backburner so that a common goal which included everybody's personal goals [could be pursued].

Other examples of this phenomenon were commonly associated with local governments or local media, both of which had reason to be critical of the body that had come into being as a result of an unwanted designation as an Area of Concern. Proving to these adversaries that the RAP committee was both legitimate and desirable for the community often served to solidify the committees as a team. The strength of common goals and objectives, and the ability of the committee to deal with those influences that tended to erode that bond lay at the heart of the successful collaborative enterprise.

Table 0-12: Communication Issues

| Issue | Considerations |
|---------------------|--|
| Time | Effective communication takes a year or more to develop. This time allows participants to overcome distrust, preconceptions, lack of experience, and to develop a relationship with the community at large. |
| Decision-making | Consensus builds trust, adversarial discussion degrades it. |
| Trust | Let everyone speak. Deal with problems immediately and honestly. Find projects of mutual interest for adversaries. Hold people accountable for their words and expect sincerity. |
| Comprehension | Technological information requires education and training. Values require time and discussion. Group size is best between 10 and 25. Meetings should operate fairly informally; this encourages participation. |
| Conflict management | Education and communication. |
| Common goals | Heart of collaboration. |

4.3.8 Modes of information transfer

Sharing constitutes more than just those interpersonal elements that influence effective communication; it also includes the specific modes and techniques with which knowledge was transferred from one person to another. This section reviews the various ways that RAP committees were able to effectively exchange knowledge in its many forms.

Written reports and presentations

The vast major share of information exchanged was technical in nature. To accomplish this exchange typical pedagogical techniques were utilized. A few days before RAP committee meetings, agency personnel distributed written reports that would be presented by experts at the next meeting. RAP members were expected to come to the meeting having read the reports and prepared to discuss their findings. A retired mechanic who participated in the process described a very typical mode of transferring technical information:

The best way [of receiving information] was in written form with specialists making presentations with overheads, with the computerized overhead slides, PowerPoint, showing the charts, showing the key elements that are important for the message, talking about it and allowing questions to be asked and providing at the end material, or before hand, material that we can take back with us. I make myself notes and then I find when I am by myself a day or so later and I go over this material sometimes I discover something that I didn't understand. Then I figure out how to go and get the information. Usually I email or phone the guy who made the presentation or I bring it up at the next meeting and have somebody straighten it out for me.

Effective members of the committees, like the individual cited above, were proactive in terms of learning the information presented to them. While much could be gained from the meetings, independent research between meetings seemed really to help develop a better understanding of the concepts discussed.

A common complaint cited was the stereotypical technical jargon often used by specialists in these reports and presentations. Non-technical participants were constantly asking for things to be translated into language readily understood by the non-expert. Interestingly, it appeared that corporations were more adept at providing the public with information that was approachable than was the government. Indeed, RAP participant's job was to translate all of his corporation's technical documents into publicly-usable verbiage. For its part, the government would offer a glossary of terms for reference.

Discussion

Collaboration is obviously intended to be more than just experts presenting to citizens. The point is to have experts and citizens discuss the issues at hand so as to enhance understanding of an issue under consideration. These discussions allow participants to make sense of (1) scientific knowledge, (2) admit local knowledge into the process, and (3) employ criteria, such as values, to evaluate both of these. The discussion associated with collaboration makes it unique in policy formulation and planning. As many theorists have suggested, dialogue as it is accomplished in collaborative process is the essence of human interchange and group decision-making. A federal agency scientist, someone you would expect to judge the process by its adherence to principles of rationality, described the importance of this dimension of collaboration:

Everybody in this groups talks. They'd rather talk than have it out in writing. The [RAP committee] went through a spell and a lot of people got upset about it. It seemed like all they were was an audience for the bigger groups to do presentations on what their topics or subjects were. That has been changed back around here in the last few years to where they are not doing presentation type things, it is more issue and discussion type things, which also cuts the length of the meetings in half. Everybody, and they all get a chance at every meeting to say anything they want to bring up anything that is new or bring up, anything that they think is important, that is going on or should be going on. And it is as much verbal as in writing.

Without dialogue this process would miss many of the important elements of the problem under consideration.

Reviewing past meetings

From the agency perspective one form of exchange that was often cited as critical to assuming that non-technical people attained the level of expertise necessary to achieve the RAP objectives was review and repetition. One coordinator connected this with other forms of exchange:

At the beginning of the RAP process at the beginning of every meeting, I started right over from ground zero as though we had never met before, to remind everybody of what we were doing. When we got further into the process, the early 90s and we were dealing with the options around a particular beneficial use, it was a complex series of information exchange that we had just done the meeting before. We'd make sure everybody had the paper associated with the presentation but we'd walk through what we had done the previous time and spend as much time as we need to make sure everyone understood what we had achieved. And if people didn't understand we would go over the whole again. It wasn't until people with their understanding of the issue that we would move to the step in terms of decision-making process. Even then, a year or two later, it amazed me that someone turned to me and he said why are we dealing with this issue again? What was the problem aside from the algae getting on the boats and looking ugly – what's the real problem? After three years of talking about the connection between eutrophication and oxygen depletion he'd lost the connection. So if he had lost the connection, others had lost the connection. So we would do a recap. We would go back over the information. We had minutes and presentations – technical reports that were written for pack consumption. They had all the data written in the back but the interpretation was written in English. They were given those for review. If they didn't understand it we would revise them. We had minutes and attachments of anything presented from all of the meetings. So they all had binders they were compiling over time.

Minutes were a valuable tool for participants. They served as a monthly of what had occurred in prior meetings. This often provided the opportunity for individuals to ask questions they had failed to address previously or had discovered (since the last meeting). They were also an important point of reference for individuals as they moved on to new issues and often forgot the details of previous concerns that might later reemerge in the discussion. Additionally, participants in the RAP committees occasionally changed and new people needed a way to obtain the mass of information that had already been exchanged. Minutes were the primarily source for achieving this.

Table 0-13: Exchanging Information

| Issue | Considerations |
|---------------------------|---|
| Reports and Presentations | Most common form of exchange. Must be written for a broad audience. |
| Discussion | Discussion must be two-way and not just agency people presenting information to non-agency people. There must be opportunity for questions, clarification and legitimate input. |
| Minutes | A pattern of reviewing and repeating information previously covered ensures that it is both understood and cognitively available to participants. |

4.3.9 Summary

As has been suggested by communicative planning theorists, as important as the rational elements of information acquisition are, the communicative elements clearly are equally so. Collaborative planning processes offer one way in which the advantages suggested of communicative planning can be attained but, when including them, careful attention must be paid to the procedural aspects of communication. These dimensions, carry the capacity to assure the success of or to undermine the entire process.

4.4 Collaborating to decide

The act of deciding requires more than information about conditions and options. Whereas conditions require “know-what” and options require “know-how”, decisions about actions in the public domain demand “know-why”. When collaboration turns to deciding, it is neither exclusively rational nor communicative, instead it simultaneously requires the consideration of both. Deciding requires that knowledge of conditions and options be considered by priority, by value, by principle, by moral and ethical standards; this evaluative process constitutes a different level of knowledge than what has treated thus far. This section reviews the evaluative process in which the RAPs engaged.

4.4.1 Approach to Decision-making

The approach to decision-making pursued by the RAPs generally took one of two forms. The first was through a division of labor between the technical aspects of the process and the more communicative aspects. One State agency person offered a very typical description of the process as it was followed in many RAPs. In her RAP they had divided the RAP committee into a PAC, public advisory committee, and four different TACs, technical advisory committees, each of which focused on a specific area of expertise. She described the basic process as follows:

Step 1: Data collection and scientific objectives

[The TAC] then went off and assimilated a lot of data and tried to come up with loadings, pollutants, and sources of the loads. They then went off to set some specific objectives - numerical if possible, descriptive if they didn't have enough information. But they tried to establish very specific objectives that would need to be met in order to restore all the beneficial uses.

Step 2: Defining public objectives

[At the same time] the public advisory committee, their first task was to define which beneficial uses they wanted to restore and to what extent. We asked them in a more general way to define the goals for the RAP and they did so in terms of healthy fish, eat as many as you like, wildlife, that could reproduce without adverse affects, all of those general kinds of things. They also wanted to continue to provide water borne transportation, since we have a port. They worked on that.

Step 3: Review of TAC activity by PAC

When the TACs came up with objectives, each stage where they had a product they would come back to the PAC for a review. We used the PAC as an oversight committee. They didn't necessarily have veto power but if they questioned something, didn't like something, didn't think it was workable, they would respond back and the TAC would try to make some adjustments if it was warranted. There was discussion and we tried at each of the PAC meetings to have some kind of presentation on a particular issue. So there was an educational process constantly aimed at informing the PAC on water quality impairment – eutrophication, PCBs and their effects, presentations on non-point sources loads and effects.

Reviewing recommendations

A set of recommendations concerning how to remediate those problems [was then created by the TACs]. Those recommendations went back to the PAC and at that point they had a lot preparation to be able to review those recommendations. I'd say there was a lot of education that went out during the

two years that lead up to the final plan. That was beneficial for two aspects: the committee could make better-informed decisions, and understood the technical side of the problems we were dealing with. It also kept them interested. They were learning something every month when they came to these meetings. They found it interesting and it kept them coming back because they were enjoying the meetings.

Discussion of recommendations

[The PAC then] asked questions of the TAC and so the TAC was reminded of the PAC perspective of things so when they were writing [it would be included].

Creation of advisory reports

Each TAC came out with a technical advisory report. Each of those committees came out with a set of objectives, each of those committees came out with a set of recommendations and they also had a report that described the stressors and ... these were precursors of the RAP [documents]. Each of those reports were reviewed along the way by the PAC.

The second approach was not to separate technical and non-technical persons, forcing them to work through their concerns as they went along. While not quite as commonly followed as the pattern described above, it was very prevalent in areas of smaller populations. The key to the process was not whether they were divided as such but whether citizen involvement was sufficient not to have them feel they were merely “rubber-stamping”. This meant they had to be able to influence the process generally. This could only be accomplished when agency staff willingly yielded some of their power to the public.

4.4.2 Considerations in Decision-making

This analysis of the RAP process suggests several pertinent questions that need to be addressed prior to decision-making:

- 1) What are our objectives?
- 2) What is our scope?
- 3) How will we evaluate the information? Can I rely on the information I have?
- 4) What approach should we pursue?
- 5) How will we measure our success?
- 6) What are the political and economic realities with which we are dealing?
- 7) How will we deal with uncertainty in our data?

The following sections deal with the answers to each of these questions as they emerged.

4.4.3 Objectives

The first step in the process for most of the RAP committees was to develop a set of general objectives that would be used subsequently to evaluate all recommendations. These objectives often began with, or were linked to, the 14 beneficial use impairments determined at the beginning of the RAP process by the IJC.

Role of the 14 Beneficial Use Impairments

In 1987 the IJC determined a set of 14 beneficial uses whose restoration was established as the overall objective of the RAP committees. These 14 beneficial uses were the central organizing

entity of the RAPs. They structured their documents based on them, organized their workgroups around them, and virtually every discussion was focused on how a specific use could be restored. The first step in using the beneficial use impairments was to evaluate each one and to determine which were impaired. A couple of RAPs did this in one session wherein members of the RAP were asked simply to state their perspective. Impairment was determined by consensus. More typically, however, experts determined on the basis of some scientific standard whether a certain use was impaired. The non-technical participants were then consulted for approval of the determination. This entailed the experts providing some training in the issue and the standard used, followed by a discussion of the actual data. Occasionally, questions emerged that required the expert to do more research but most of the time the determination of the existence or absence of a problem was accepted.

General principles and priorities

After considering the 14 beneficial use impairments, the RAP committees would typically engaged in a process of outlining a set of evaluative principles and priorities. The principles were generally arrived at through a process of brainstorming. As one of the RAP coordinators described:

We went through that as a series of exercises to come up with ultimately with how our selection criteria for the options was going to be ... What is our principle, what is our philosophy? Is it an end of pipe solution or is it a solution at the source? If it is a solution at the source then it ranks higher. The whole notion of virtual elimination and zero discharge, what does that mean to us? Pollution prevention versus pollution dilution? I mean we really were very ecosystemic in evaluating the preferred options. The same thing was then applied to the information we were looking for.

Following the listing of criteria there was a need to relate the criteria. The first determination necessary was whether individual criteria were compatible. If not, adaptations were made to ensure that the criteria could stand on their own without violating another criterion. Once the committee determined an acceptable set of criteria by which they would judge proposed recommendations, they then established a priority system for them. One group did this by allotting a hundred points amongst the many criteria and then averaging them. The points served as the weight attributed to each criterion when decisions had to be made. Another group opted to distribute red dots. The more red dots assigned to a criterion, the more important the criterion. The process of creating criteria and ranking them was a significant activity for those committees who did it. It was a significant process in terms of identifying a common goal upon which nearly everything else in the process relied.

4.4.4 Scope

With the impairments identified, criteria selected, and priorities set, the most significant decision that had to be made was the scope of the plan. The first element of determining the scope was to decide the geographic boundaries that would be taken into account in the RAP. RAP committees tended to want to expand their boundaries in order to ensure that all relevant pollution and water sources were included in the planning process. Agencies, on the other hand, tended to want to restrict the area as much as possible in order to make implementation and delisting of the AOC as practical as possible. In every case where such a discussion occurred the RAP committee expanded its geographic scope. This occurred because participants took their role seriously and rather than viewing it as accomplishing a regulatory requirement took literally their mandate to clean up the

water that meant they had to engage all sources regardless of the magnitude of such an undertaking.

The second, and perhaps more significant, question related to scope involved the interpretation of certain beneficial use phrases. A good example was offered by one of the technical participants in regards to the word “swimmable”:

Some of the scientific types from the [State environmental agency] take a fairly fine scientific definition of things, certain impaired uses and certain results and especially setting up the studies parameters. They have fairly specific ideas on how to do that. I know for sure that several of the citizen members were keen to have the scope of that all broadened. One of the debates that was ongoing every time it came around and hasn't been resolved today is the whole the beach closers and whether or not that should just be looked at designated swimming beaches or whether or not the RAP should be striving for the entire waterfront and the tributaries. Should they also be of swimmable quality, which of course has major implications for the actions that would go into the Stage 2? That was sort of a tug of war. The scientists wanted the more defined, swimmable beaches because that is what is monitored. The citizens were saying, “When we say the RAP goal is to have swimmable, that means everywhere”. So even today we are having trouble deciding whether or not we are meeting Stage 2 objectives because they were never clearly defined at that point because there were these debates going on.

While not necessarily devastating to the process, clearly delineating the scope and definition of key terms was an important part of gaining a clear vision of what was to occur. By having this clarity tensions were reduced significantly or avoided. It also made the process of determining delisting standards far easier.

4.4.5 Evaluating quality of information

When evaluating information RAP committees consisted of three dimensions: (1) Is it relevant, (2) Is it true, and (3) Is it right? Relevance was established pretty simply by determining if the information moved the committee towards either an impaired understanding of or a solution for a beneficial use impairment. Often this included reliance on experts in the group to help in assessing as much.

Depending on if it was something that we thought was going to have a direct role in either helping us develop a recommendation or, something we've been doing a long time now and, that is trying to turn the recommendations into implementation, how do we bridge that gap. If it is information that could do that and if it was not too complex, we would just talk about it as a full committee and try to get through it and try to decide if it is useful us or not. In most cases we would have to assign a subcommittee of people who were into that kind of information based on their own expertise and say, “Why don't you folks, three or four, analyze this stuff closely and come back to us with either a proposal or a recommendation on how we should use this”. We didn't always have everybody spend the same amount of time on stuff. We tended to take advantage of the expertise we had to get through all the methods and the actual data and the interpretation and see if they agree with it and say this is something that we can use to further our recommendation of such and such.

Determining if information was true or not was surprisingly unimportant to most of the RAPs. If the information was provided by a reputable source, such as a university or government agency, it was accepted without much analysis. Much of it was perceived as being at least filtered by the agencies, and to some degree that was true, before being submitted to the committee. This was also suggested as a reason few questioned whether the information provided was true or not. There was not a single reference to the appropriateness of the methods from anyone interviewed including those with a scientific background. In every reference to the accuracy or truthfulness of

information the response had to do with the person providing the information rather than anything intrinsic in the information itself. The following two quotations offer the basic perspectives presented to me, the first was a university professor and physical scientist, the second a school teacher without any scientific training per se:

I have always had a pretty decent relationship and know many of the people who were involved in doing this research and I had very few doubts that what they were saying was more than likely correct.

Because this process took so long, we worked through from the beginning what our relationship was with the agency people. I think several of us, especially those who were on the environmental side sort of had some initial reservation about the agency people. They were government people and initially there was a reservation about them. But the longer we worked with them the more we got to know who they were and personally just as each of us understood each other's biases, we also understood each of their limitations. Some of them would come out with their own opinions whether it agreed with their agency's point of view, they were quite willing to come out with what they thought was the truth about a situation or the background information. Others we knew were a little more of their policies and were a little more of the type that would hedge their bets – we knew that certain people would never come out with a direct statement if they disagreed with a particular policy or point of view but they would –we got to know them well enough that we could see between the lines. We did have one instance and it did cause some definite concerns and we really pushed. There was one particular report that came out about sediments along the waterfront and 6-8 months later there seemed to be a 180 degree turn on that particular report and that caused some very strong concerns and we pushed and pushed on that to try to get a clarification on why that happened. The person involved in that study – I think there was a slight residue after that always questioning everything that came out of that person, much more than before hand.

The point is that, in terms of establishing the credibility of information, it was more important to trust the information provider than to trust the methodology. In the collaborative environment, people rely much more on how they perceive the presenter, including body language and how they feel about the person, than on the traditional forms of critique usually employed to evaluate research.

The third way that information was evaluated was through the values of those who participated. Values served the process both as information and as the lens through which information was viewed. The latter was the most important in terms of the outcomes of the RAP process. The RAPs clearly endeavored to make their decisions based on sound science, but the interpretation and application of the science was done intentionally with the values and interests of those involved in the process. One State agency person who coordinated several of the RAP committees described this process as follows:

The information is critical to coming to a conclusion to how to manage the system but ultimately it is based on values. Everything is based on the subjective values of people sitting down and saying, “we think this is more important than that, we think this is more important even than that, we think this is less important than that” and that is totally informed opinion. It is not based on technical information. I guess what I am saying is that the most important information there was highly technical stuff on hydrology, rainfall, hydro-electric power generation, biological needs of brook trout, location of upwelling of ground water that we knew represents the best kind of spawning habitat for brook trout, and things like that which were really hard to get at and were expensive. But the whole overlay on decision-making was coming from the community, from all the stakeholders including the power generator in coming to an agreement of what is important. Once we accept what is important, which is

just about values, we take all technical information, which is extremely critical to have, and translate that into a plan of operation.

Values were infused into the policy process through collaboration. They were used initially to determine criteria, to rank those criteria, and then both to interpret and utilize scientific information to develop recommendations.

4.4.6 Approach

There were three basic levels of decisions that had to be made in terms of how the problems in the lakes would be approached. The first level was the available technical options. While several of the RAPs assumed authority to make technology recommendations these required even more extensive training than did understanding the issues themselves. Most of the RAPs instead focused on the second level, which dealt specifically with more general determinations. The most common discussion in this regard dealt with whether the RAPs should encourage engineering solutions or more “green”, preventive solutions such as lot levels. The third level of discussion, that with which RAP committees were most comfortable, was to delineate outcomes as opposed to specific approaches. Values became important in this analysis. As an agency RAP coordinator suggested, “Being, generally lay people, we steered them away from pretending they were scientists and engineers ... we had them focus on values and not technology.” After RAPS decided what needed to be accomplished the basic approach was left either to those industries cited or the agencies depending on who could best approach the matter.

4.4.7 Measuring success

Stage 3 of the RAP process required that the committees demonstrate that they had met the objectives they set out to accomplish. As part of the process of determining criteria, priorities, and approaches, it was also important that the RAP committee establish the standard by which it would be able to say that the AOC was remediated. This standard was not provided by the IJC or any other government agency but was developed by each local Rap committee. This has become a significant issue fifteen years into the process as the committees have moved on to implementation. While most were diligent in outlining the other components above in advance, they failed to establish the points at which remediation would be considered complete. The reason for this was that most assumed that the IJC would provide such guidelines, but they did not. To do this at this late point in the process required a revisitation of all of the recommendations and the data that spawned them. Needless to say, this has been a source of much frustration. Establishing this goal at the same time as the criteria were established would have made much more sense.

4.4.8 Uncertainty

The sheer magnitude of the task of remediating a hundred plus years of contamination from dozens of sources meant that every RAP committee had to deal explicitly with the issue of uncertainty. If an issue was a high priority and thus could not be tabled until new data could be acquired, the committee would usually base its decision on whatever data it had, regardless of its age, quality, or quantity. In these cases, sometimes initial approaches were wrong and new ones had to be developed. The process of reviewing efforts and outcomes would incrementally move through a series of possible options until a solution was discovered or all available options eliminated. One RAP committee chair described one group’s experience as follows:

One issue we didn't understand, and even today we don't understand totally, how the coliform got into the beach water. One theory was from septic tanks, the other theory was from the zoo, the other theory was from droppings of birds, and that never been really totally resolved because the beach is still on very hot days suffer coliform problems. We got cooperation from the city to repair all the septic tanks that were not working. That didn't solve the problem. Then we went to the zoo and got them to resolve this problem of discharge from their creek into the area. That didn't solve the problem. All we were left with was the massive amounts of birds, gulls and geese that were there. You either have the problem from them or underlying sediments where over the years they have built up and on hot days it manifests itself. So that is the point we are at and we thought that we would provide some circulation into the area

Most of the decisions could wait, there were plenty of other things the committee could pursue in the mean time and so they opted to move on until sufficient information was available to make an appropriate recommendation. No decision, to my knowledge, was ever pursued without having at least some informational basis, even if it was simply local knowledge. More commonly the problem was, as one committee chair put it, "I don't recall us being flustered by lack of information, there was usually too much."

Table 0-14: Decision-making and Evaluation

| Issue | Considerations |
|-----------------------------------|---|
| Objectives | Through discussion general objectives are created and then ranked. These are often part of the mandate that creates the collaborative exercise. |
| Scope | <ol style="list-style-type: none"> 1. Clear geographic boundaries need to be determined. 2. Clear shared understanding of definitions need to be determined. |
| Evaluating quality of information | <ol style="list-style-type: none"> 1. Is it relevant? Does it help address one of the objectives or to formulate a recommendation? If not it is not needed. 2. It is true? This usually is accomplished based on the credibility of the provider as opposed to the methods used researchers. 3. Is it right? Values determine what is important and correct. |
| Approach | <ol style="list-style-type: none"> 1. Technological recommendations are likely beyond the ability of the committee. 2. Basic philosophical approaches need to be determined (i.e. pollution prevention vs. engineering) 3. Approaches should focus primarily on outcome and values and leave specifics to qualified persons. |
| Measuring success | As part of objectives, indicators of success need to be established to ensure measurability. If done at the beginning of the process it is much simpler. |
| Uncertainty | <ol style="list-style-type: none"> 1. If time and money permit, decisions should be delayed until uncertainty is limited through the acquisition of sufficient information. 2. An iterative process can be adapted when information fails to yield satisfactory results. |

4.5 Outcomes of Collaboration

Perhaps the most interesting findings of this study emerged as participants discussed specifically what the outcomes of the process were. Not only as well did RAP committees developing the remedial action plans, but they literally developed themselves and their respective organizations. These outcomes alone, independent of the purpose for which the RAPs were organized, are important and interesting by-products of planning in this manner.

4.5.1 Environmental Education

The collaborative process was an effective way to identify and acquire information. This information was vital for the group as they went about formulating their recommendations. The process however acted in a way that had a larger impact than this. In a traditional planning approach where a planner or policy-maker would be the recipient and assimilator of knowledge they are the ones that benefit personally from the process. As the process of bringing all the information together is in itself highly educational, by doing it collaboratively the educational outcome of the process was expanded to incorporate all who were engaged in it. Instead of having a single individual, you have a small army of environmentally educated citizens. In an era when environmental literacy seems to be receding, processes like this should be seen as valuable not only for their decision-making qualities but for their educational benefits. These people in turn have influenced and informed their personal friends and acquaintances about what they know. The following comments reflect some of these benefits that might not have been achieved for these individuals in any other way:

Citizen Activist: I learned that it is a very scientific based process. Making a repair on environmental system is very difficult. There is no magic wand we can wave and say we're going to clean up this river and fix it. I learned a lot about watershed behavior, something I'll carry with me the rest of my life. Now I am becoming a person that is dangerous. I have a little bit of knowledge. I have a little weight to my opinion.

Industry environmental engineer: Certainly during my years as an environmental manager I learned a lot about [the environment]. I'm an engineer, a technical person I would say, but I certainly broadened a lot dealing with these groups. A lot of them are social scientists and so on. They have a different outlook and you learn from them. Hopefully they learn a bit from you.

Clock repairman: I would say that I learned an awful lot about the relationship in the ecosystems and what makes them work and how they are interrelated and sensitivities and their resilience and ... you name it. I think that is probably my fascination with it that kept me involved. I never had the feeling that I was sacrificing myself for the good of the community. I did this because I was so fascinated by it that I couldn't stop learning about it. ... As you learn about these things you see an awful lot more in nature than you ever would have looked for if you hadn't been exposed to a process that made you sensitive to it.

Schoolteacher: I am better at reading technical reports now. Some of those things that I said I didn't understand, I understand more than I would have if I hadn't [been involved]. I understand a lot of the chemistry behind the studies and so on that I didn't know before.

Stockbroker: I developed more environmental sensitivities about what is going on around us. And that there are people that care passionately about the world around us. They are certainly interested in and will go to a lot of lengths to get things done.

4.5.2 Civic Involvement

For some in the process, the legitimacy of the RAP gave them the courage and perceived authority to do what alone they might not have done. All of the strengths attributed to the active citizenry seemed to emerge when these interested people gathered together in a common quest. As an agency scientist put it when describing what the non-technical people did in the process:

Whatever needed to be done. They wrote letters, they went to the governor, they went to the senators. They went to Washington, we went to Chicago, we went to Buffalo, we went to Cincinnati, we went to wherever you had to go to talk to the brass that is out there. Whatever agency needed to be talked in order to explain what we were trying to do and ask their help and ask that they put people on the job in

other words, put someone on it and keep those folks on it. Citizens can go and knock on doors, agency people can't, and that is exactly what they have done.

Even after funding was pulled from many of the RAP committees they continued to function. Several were even successful in lobbying enough community support and ruffling sufficient political feathers to find themselves refunded a couple of years later. The collaborative process empowered those involved because of the strength found in the numbers.

It also had the effect of creating numerous activists among people who would never previously have considered themselves such. One retired cottage owner who got involved in the RAPs was more than willing to discuss his membership in Green Peace, and how he was transformed from an ordinary cottage owner to one who was now "willing to stand out in public and state what I think a little more boldly." He attributed this change in his character to the confidence his newly acquired knowledge had given him.

4.5.3 Voluntary action

A commonly reported outcome of the process were the voluntary action on the part of organizations represented on the committee. The most important of these were the industries who, instead of waiting to be given an edict from the agencies, moved voluntarily on the recommendations of the RAP committees to clean up the degradation they had caused. Other organizations such as non-profits were also motivated to action based on their involvement in the process. As a Federal agency representative to the RAPs explained:

The advantage of agencies doing plans, because I have done plans for the agencies, is that the few people the easier it is to do. We can get it done. You get the product out. But then that plan is useless if no one accepts it as something that they want to work on. The advantage of a partnership type of development is that theoretically you are going to get buy in when people can see their decisions reflected in the plan and are going to support it more than if it was done in an agency. The decision-making process is more transparent and there is more people involved and so decisions – some of the outcomes might be accepted more because there was input, where if the decision making process isn't as transparent then there is going to be a lot of questions on what happened and that just slows down the whole process even though there completely valid reasons for it. If people can't see it then they're going to be, my observation is that they are going to be opposed to it. We have a proposed contaminated sediment clean up that was supposed to be under way a couple of years ago. A number of key people were not part of the planning process for that. As a result they ran into some roadblocks and its two years later and the sediments aren't removed and the issue is in court. Not involving relevant stakeholders or people that feel that they have they should have a say so in it – I used to say when I was in Superfund "it will shut your project down. It'll shut it right down." If it's something that is going to involve all the community and you think there is something that the community members are going to be concerned about or would want input in then the project won't happen or they can make it not happen. I don't think the citizens realize that they have that kind of influence but they do.

"Buy-in" seemed to be the main ingredient in eliciting voluntary action. Others have called it "ownership." If the stakeholders were truly involved in the planning (meaning they felt that they had a significant influence over the process) action often proceeded completely independent of the agency's involvement. Even when actions were not voluntary, the implementation went much more smoothly and without much conflict when it was done through collaboration.

4.5.4 Change in organizational culture

Not only did action occur that could be traced specifically to RAP participants but changes occurred in the organizations of those who participated in the RAP committees. As information and values were shared, this new knowledge was transferred not only amongst participants but also back to the boardrooms of industries and offices of agencies. The knowledge was utilized there to improve effectiveness, determine future actions, and encourage networking among otherwise unknown resource persons. A Federal agency scientist described how the process influenced his office:

I have used what I have learned to change the direction we were going in this office to have a bigger impact on things. We got involved in bioengineering; more involved in looking at water quality. The traditional farm stuff my agency does, because there are no farms left in the county to speak of, we began to focus more on the urban issue of non-point rather than just sediment running off a construction site. So I know it has had that impact here. There has also been the contacts I have made with people in other agencies that allow you to do your job better because you can call them up and ask questions. We have done a GIS set of disks that was initiated because of a guy's idea on the RAP. We have had workshops on bioengineering because of the RAP discussions.

By providing a central structure for the dissemination of knowledge amongst stakeholders to the water quality issues addressed by the RAP, not only was the planning successful but there were many sideline activities that contributed to the cause that occurred independently amongst participating organizations. Without the exchange of knowledge activities of this nature could have never occurred.

4.6 Summary

A review of the RAPs reveals many important procedural understandings for successful ecosystem management. Of particular importance to the above analysis is the categorizations of actions that emerged during the study. While each category overlaps all others both temporally and substantively, this conceptualization of the process is important to the revealing of modes for knowledge development in the RAPs. In Chapter 5, these understanding will be incorporated into a single procedural model based on the goal of maximizing knowledge in collaborative natural resources settings.

Chapter 5: A New Model for Collaborative Planning

This study of the RAP process generates important insights into the collaborative approach to ecosystem management planning. This analysis and its comparison to existing theories of planning, suggested that planning, at least as approached in the RAP committees, resembles the knowledge management approach utilized within business management. Indeed, knowledge management is a valuable heuristic for the development of a new model of collaborative planning. This chapter offers a model of collaborative planning based explicitly and principally on the concept of planning as knowledge management and uses the details that emerged in the RAP process as the guide for substantiating this conceptualization. The outcome is a model for planning focused specifically on knowledge. It is important to note that this is its central tenet and there is no implied intent to accomplish any of the other worthy goals achieved by collaborative approaches; these will be discussed in Chapter 6.

5.1 Observations on planning theory

The planning theory literature depicts an effort to try to establish some hegemonic explanation of what constitutes good planning. Rational and incremental approaches opt for a science-based explanation of the discipline. Advocacy planners advocate for an equity-based redistributive discipline. Communicative theorists suggest that a real worldview of planning that acknowledges the essential human-interaction elements of the discipline is important. Political economists focus on the structures that are inherent in our democratic society. This sub-specialization of theory on one hand offers valuable insights into the various components of planning in the public domain. From each of these vantage points, alternative explanations of planning can be critically analyzed and presumably strengthened through reconfiguration. On the other hand, after repeated exposure to this literature one gets the sense that this is a struggle between competing ideologies rather than competing explanations of reality. In an eerie way, like electoral politics the debate has been reduced to nothing more than the exchanging of meaningless and predictable sound bites.

When looked at more carefully, these competing theories are not even addressing the same phenomenon. In reality, rationalists are looking at the appropriate ways of deriving knowledge for use in planning. Advocates are concerned with the incorporation of the marginalized. Communicative theorists concern themselves with the day-to-day interaction of the planner and the public. The political economists are looking at the structures within which planning is accomplished. Independently, these conceptualizations of planning theory fail to capture the breadth of planning as a whole but simply explain pockets of the planning domain. Any argument for one of these theories achieving supremacy seems misguided.

When reviewing the RAPs, I like Patsy Healey (Healey, 1997b), found myself utilizing each of the theories to describe these largely independent, albeit interacting, elements of the planning process. To understand how to manufacture quality information, one seeks to adhere to the best conceptualizations of rationalism. Simultaneously, one must recognize that the information is used and exchanged by humans who are not bound, or wholly apt to being rational, self-interested agents. Rather humans are social creatures with interests that are not always explainable through such simplified heuristics as rationality. Rationality and communication therefore occur together and we are very comfortable with that reality. Indeed, without the inconsistency and

unpredictability that is inherent in human behavior we would not live nearly so interesting lives. Creating a false theoretical dichotomy that planning is either one or the other misses what I saw actually occurring.

Similarly, planners are bent on improving the world; it is and will always be a central characteristic of those who believe planning is a worthwhile endeavor at all. Given this foundational assumption, every planner is endlessly reflecting on the questions of ethics and advocating what is best for the future. This will inevitably put the planner in the camp of one party or another, leveling the field, so to speak, for someone. Finally, the context within which this advocating, rationalizing, and communicating occurs is both politically and economically driven. One need not argue to the degree that Marx did about the structures of society to admit that structures are important factors to be aware of in any public action.

Future planning theories need to be more inclusive of the details that are provided by each of these conceptualizations of planning. I cannot ever see one of these emerging as a clear explanation of what planners do. Rather I see a real need to understand how the theories overlap and interact, so that a meta-theory of planning can be created; one that incorporates each of these but, more importantly, is able to explain the interaction between them. This is not to say we should water down any of these theories, but rather to recognize they really are looking at different aspects of the same process and that uniting them is the only way to capture the complexity of planning, if such a goal is what we are after.

Ecosystem management offers one specific domain within which to achieve this possibility. The intent of the following sections is to utilize the goal of knowledge production and use as the framing concept upon which a new conceptualization can be framed.

5.2 Managing Knowledge in the Public Domain

Knowledge management emerged in the business management literature less than a decade ago. As such it is still in the process of maturing. It recognizes that companies are only as good as the knowledge they possess and that this knowledge is housed in the minds of individuals who work for the company. Identifying and sharing that knowledge becomes essential in business because (1) knowledge is money, and (2) knowledge may be lost in the form of individuals leaving to take positions with competitors. The latter is a double-edged sword; the company both loses an advantage but quite literally gives that advantage to a competitor. In business, knowledge management's goal is thus to facilitate the capture of valuable knowledge assets so as to capitalize on them. It is also to ensure the sharing and transfer of knowledge between fellow employees in order to keep knowledge in the firm even when employees are lost to competitors.

So why look at the value of knowledge management for planning? Planning is typically not engaged in for-profit endeavors and most organizations that embark in planning do so with limited expertise and personnel. What knowledge management offers to planning is a systematic way of looking at how knowledge held by multiple persons can be captured, exchanged, and evaluated for the purpose of decision-making. As such, while it provides little in terms of understanding how to choose the appropriate action, it provides a valuable way of reviewing the process of exchanging knowledge for the purpose of making that decision. In other words, it deals specifically with the "knowledge as a process" conceptualization offer above and offers a framework for evaluating

planning processes in terms of achieving the highest degree of knowledge. It can be assumed that more knowledge in the correct process can effectively reveal superior courses of action. As this is the underlying claim of collaborative planning, knowledge management can surely help to understand how collaborative planning can be improved in order to accomplish its intention.

5.2.1 Frameworks of Knowledge Management

Appendix D outlines three models of knowledge management. Each of these offers the fundamental components of a knowledge management structure and depicts the relationship awareness of components. While the models vary slightly in their form as expected, they share many of the same basic components. From these models I have developed a simplified model that can be utilized for the conceptualization of collaborative planning as a knowledge management process. The point of knowledge management is to make knowledge the central focus of managerial processes. As planning’s objective is knowledge in its orientation, these models provide insight into how planning could structure its activities.

Table 0-15: Components of the Knowledge Management Models

| Simplified | Liebowitz | Probst et al. | Huseman et al. |
|-------------------|------------------|----------------------|-----------------------|
| Identifying | Create | Create | Develop |
| | Capture | Capture | Acquire |
| | Transform | Identify | Identify |
| Exchanging | Transfer | Share | Share |
| | Distribute | Leverage | Distribute |
| | Store | | Preserve |
| Evaluating | Organize | Value | Aim |
| | Apply | Prioritize | Measure |
| | Combine | Connect | Utilize |

5.3 Modeling collaboration as knowledge management

Utilizing knowledge as the central focus of the planning process and the simplified knowledge management framework developed above, this section outlines a model for collaborative planning. The understanding derived from the previous review of the RAP process is used to develop the specific principles to which such a model should adhere.

5.3.1 Structural Principles

The structural elements are those things that need to be done before a collaboration process begins and include:

- Financial support
- Recruiting
- Structure determination
- Participant diversity and experience

Principle 1: Be strategic about the long-term financial outlook for the process.

Collaborative processes occur over an extended period, during which the political climate will inevitably change. Collaboration is able to withstand such changes if other resources can be acquired. Coordinators need to be good at writing for grant money and familiar with government programs that could fund research projects. When choosing committee members, considering the possible influence or access to resources an individual has is vital. Organizing as a non-profit will also allow for resources to be solicited through private fund raising.

Principle 2: Share the division of leadership authority.

Agency people serve best as the secretariat role, providing leadership through administrative functions. Public participants are more effective at running meetings and interacting with the public on behalf of the committee.

Principle 3: Balance self-selected volunteers with strategically selected recruits.

Allowing anyone to participate will allow volatile personalities to participate, which can be very detrimental. Certain interests, those that could fight any decision in particular, must be involved and should be invited if they do not specifically volunteer. Combining the enthusiasm of volunteers with the influence of recruits is the winning formula.

Principle 4: Roles of participants need to be clearly defined.

If the citizen participants are there to advise, then don't let them think they are there to decide.

Principle 5: People with committee experience are essential.

Involving those who have experience working with diverse groups of people in committees will lend much in terms of informed experience and help keep the committee from making important errors that might not be anticipated.

Principle 6: Be sure the committee is truly diverse and that all are comfortable with the format.

Selecting people sectorally is fine, but participants shouldn't be simply the "environmental" person from each of the sectors. This limits the values that are present at the table, which is the point of diversity in the first place. Also, other forms of diversity should be included, not merely sectoral differences, but racial, cultural, and economic differences. In doing this, however, coordinators need to be aware that some cultures simply are not comfortable with an open, confrontational-type process. The appropriate representative of these groups needs to be found or their voice will not be heard.

Principle 7: Not all participants in the process need to serve on the main committee; workgroups and other public involvement efforts can be used to engage a larger variety of perceptions.

The most promising approach to expanding the number of participants, was to organize workgroups around topic areas. These workgroups attract people who are only interested in small components of the process. Someone from each workgroup then serves on the larger committee. Additionally, more traditional public involvement exercises should still be conducted in order to solicit even broader public feedback and support.

5.3.2 Identifying Principles

With the structural groundwork established, the focus of collaborative planning can then turn to knowledge management. The first category in knowledge management as characterized here is “identifying.” It includes the following:

- Determining what information is needed to address the issue;
- Identifying what information is already possessed;
- Identifying what information needs to be found and possible sources;
- Capturing knowledge already in possession;
- Acquiring knowledge that exists but not readily available;
- Creating new knowledge;
- Developing and transforming knowledge to address informational needs.

Principle 8: Compile all sources of potential information before new studies are contracted.

Much information is already available from various levels of government, educational institutions, industrial and non-profit sources. Seek these out first and offer to exchange other information that is acquired with organizations that cooperate. The collaborative committee should possess of all information and be recognized as the central repository for such an effort. Members of the committee should work together and with their respective organizations to accomplish this assessment and compilation.

Principle 9: Rely on professional opinion and local knowledge to drive the search for information.

Seeking out the opinions of professionals and non-professionals who have insight into the conditions to be worked on can provide valuable leads concerning what information is needed and where it might be obtained. In the absence of scientific and technical knowledge, utilize these sources to make the best possible decisions.

Principle 10: Site visits and training are essential in helping participants learn and contextualize the issues; participants should be encouraged to pursue and share personal learning.

People will come at this process with various backgrounds and will view all that is done from their personal historical context. Through a constructive process of collaborative learning, a shared context can be created that ensures everyone is viewing information from a uniform perspective. Encouraging extracurricular experiences, or combined participation in research and learning, can further enhance this mutual understanding.

5.3.3 Exchanging Principles

The second category in knowledge management as characterized here is “exchanging”. It includes the following:

- Distributing knowledge to participants;
- Encouraging the discussion of knowledge;
- Encouraging the sharing and transferring of knowledge;
- Providing for adequate knowledge training;
- Ensuring that knowledge is stored and preserved for future use.

Principle 11: Successful collaboration begins by building relationships of trust.

Relationships are the foundation of successful collaboration. People will not share their interests nor offer their feelings and critiques to strangers or even formal acquaintances. In order to achieve the level of exchange that is needed to collaborate successfully people need to develop relationships with each other. This principle suggests several sub-principles:

a. Distribute power amongst participants in acceptably fair and meaningful way.

If participants do not perceive a sharing of power, they will immediately distrust the entire system. Distrust will result in a reluctance to share interests and opinions.

b. Develop a common goal.

The common goal is the mechanism by which people are able to set aside their personal agendas and seek solutions that are in the public interest. The common goal usually includes each participants' personal interests but does so in a manner that incorporates the relative importance of each from a larger, more holistic perspective.

c. Let someone who understands the process of developing human relations moderate the meetings.

Agency field scientists are typically not the best candidates for moderating these groups as they often lack the interpersonal skills needed to achieve relationships that foster communication. Choosing an appropriate experienced participant with such skills is usually more successful.

d. Allow one-year for these relationships to develop.

As people work out their common goals and objectives, they learn about each other's interests and biases. Within a six-month period, they will be comfortable with each other, but it will take a year really to get to the level of trust and communication that will allow truly collaborative solutions to emerge.

e. Deal with interpersonal difficulties quickly.

Disputes between individuals will grow into factions and will undermine the entire process if they are not dealt with immediately. Two approaches are effective in resolving conflicts: education and communication. Education can help by clarifying facts and perspectives. Communication allows for the opportunity for differences to be resolved or at least understood. Differences should be expected but they should not become personal and create enmity between people. If this situation develops, people who cannot get along should be removed rather than allow their dispute begin to influence others in a way that undermines the process.

f. Make all decisions by consensus.

Voting creates adversarial relationships. Consensus forces people to try to understand others' opinions and to seek common ground. If consensus is not possible, which will be rare, acknowledging the minority opinion is vital to maintaining relations.

g. Groups of 10–25 are most appropriate.

A group this size is able to reflect the multiplicity of viewpoints while at the same time allowing for the development of relationships. Large sizes either marginalize a few or do not provide sufficient interaction to develop mutual relationships.

h. Keep it informal.

Adopting a small number of rules is acceptable, but becoming overly formal by adopting a framework such as Robert's Rules of Order does not allow for humor, side-bar conversations, casual discussions of unrelated topics, all of which are important to relationship building.

Principle 11: Approach all issues at a level everyone can understand.

Avoid technical jargon and acronyms where possible. Focus training on basic concepts rather than specific details. All presentation must be interactive and participants must feel able to ask questions and clarify understanding. Presentations must be a two-way social learning process.

Principle 12: Review important concepts frequently.

Do not assume that once somebody has been presented with something that they understand it, can use it, or will remember it. Ensure that all this is true, or do the training all over again. Repeat training as many times as necessary as to ensure that conversations are truly informed and reflective.

Principle 13: Help people remember where they have been and what they have said.

Use minutes to remind people of the issues and decisions. Also, help them remember their own positions on these issues and the decisions. When they are inconsistent with their past statements, hold them accountable by asking for an explanation.

5.3.4 Evaluating Principles

The third category in knowledge management as characterized here is “evaluating”. It includes the following:

- Determining knowledge purpose, goals and objectives;
- Prioritizing and valuing knowledge based on purpose, goals and objectives;
- Organizing knowledge according to purpose, goals and objectives;
- Applying knowledge in meaningful ways to understand purpose, goals and objectives;
- Assessing relationships and connections between knowledge;
- Using knowledge to make choices;
- Measuring the adequacy and quality of knowledge.

Principle 14: Begin the process by establishing shared objectives, priorities, and measures of success.

Part of the establishment of a common goal is the establishment of the objective components of that goal. Agreement and consistency between the many possible objectives is essential. These objectives need then to be prioritized in a manner that all can agree upon. Finally, a measurement of success for each objective should be created. The three elements will then be the central evaluative criteria throughout the process as appropriate recommendations are created, as course of action determined, and as these actions are evaluated for effectiveness.

Principle 15: All information must be reviewed and discussed by all participants.

Providing information sufficiently in advance for a thorough review and offering the training necessary to make sense of it is key to helping participants evaluate the relevance of the information in terms of the objectives. Ensuring that relationships of trust exist between the providers of the information and the participants is key to establishing its credibility. Providing an open, non-threatening forum where-in the information can be discussed allows values to emerge that are important in terms on evaluating the appropriateness of certain recommendations from the various moral and value perspectives of participants.

Principle 16: Deal with explicitly with uncertainty through consensus and iterative approaches.

When insufficient information is available to make a needed decision, it is appropriate to take risks if: (1) decisions are made by consensus (meaning everyone agrees the risk is justified), and (2) strategies are intended to be iterative and adaptive.

Principle 17: Clearly define geographic and definitional boundaries.

Boundaries of scope, whether geographic or definitional, must be clearly delineated or the problem has the potential of endlessly shifting. Boundaries ensure the problems are not introduced at times when they threaten progress already made. They ensure also that everyone is speaking to the same issues and not past each other.

5.3.5 Contextual Principles

These principles are relevant to understanding knowledge management in the context of the public domain. They do not fit well into any of the above knowledge management categories and so they are presented here as components unique to the public planning enterprise

Principle 18: Prepare for and identify political economic structures that must be dealt with.

Unlike traditional processes, collaboration can weather the storms of political change and is much more adept at overcoming economic limitations than traditional agency approaches. Nonetheless, political economic barriers are highly discouraging psychologically to participants. They must be prepared for these bumps in the road and solutions developed in advance for them. These influences must also be clearly identified so that they can be appropriately engaged. Non-agency participants can do much to combat these forces where agency people are highly restricted. By identifying strategies, such as lobbying, that can be utilized participants are empowered to deal with rather than discouraged by such structural forces.

Principle 19: Commit participants to utilizing their knowledge within their respective organizations.

Much of what is gained through collaboration has implications for the management of various organizations within society. Only when the knowledge gained is transferred from the collaborative environment to the organizations represented therein can society as a whole move towards a more unified and appropriate goal.

Principle 20: Practice the ongoing acknowledgement of individual, sectoral, and societal advances that the collaboration contributes to.

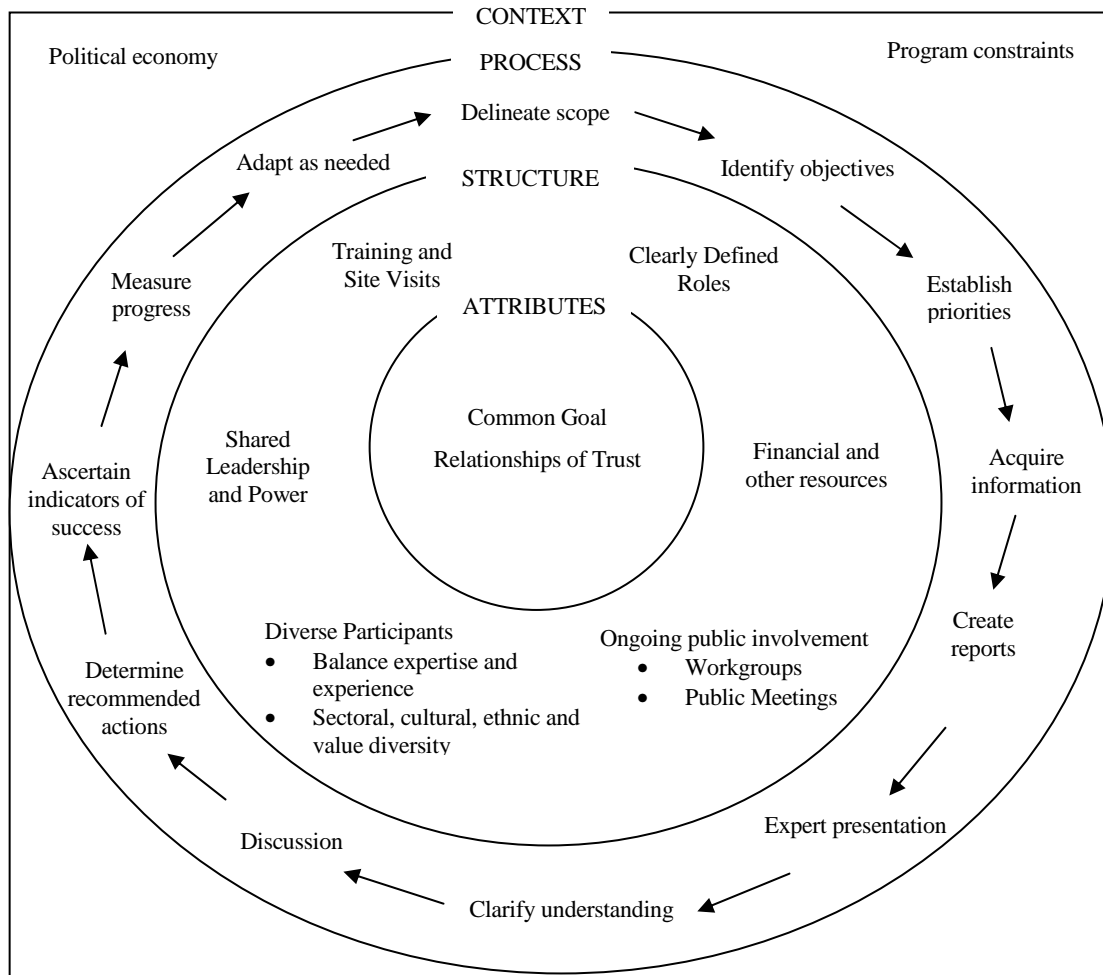
Individuals need opportunities to reflect on what they have gained by participating in collaboration. Many make significant knowledge strides without even realizing as much. The process is

strengthened by such realizations. Changes in organizations and their modes of operating also need to be recognized, acknowledged, and encouraged. Collaboration will garner part of its legitimacy by being identified with such changes.

5.3.6 Collaborative model framework

Utilizing the knowledge management principles developed above, I have developed a model of collaborative planning based on knowledge. This model incorporates both relevant aspects related to knowledge and also the practical understanding of what works in reality as experienced by the RAP committees. Figure 5-1 depicts the relationships among the various components of the collaborative process in this model.

Figure 5- 10: Knowledge-Centered Model for Collaborative Planning



The model works from the inside out. Components become less and less important as you move from the inner rings to the outer. While I believe that the most successful approach to collaboration would incorporate all components, doing so becomes less and less important as you move outwards. Attributes, the most inner circle, constitute the most fundamental components of successful collaboration. Without both of these attributes, collaboration is futile. The structural

components listed in the next ring are the basic organizational structures that need to be incorporated. They are important to achieving success but collaboration is possible without adopting all components. The next ring, process, represents the basic approach that was utilized by successful RAPs. Not all aspects were included in every successful RAP. Finally, recognition that these processes occur within the political economy and under the programmatic mandate that initiates them should be considered, although collaborative processes appear fairly resilient to matters. As each ring of the model has important functions for collaboration, a brief outline of each will be presented.

Attributes

Common ground and relationships of trust are the essential ingredients of a successful collaborative process. The initial collaborative efforts should be to develop these two attributes in participants. Common goals allow people to get past their own agendas and interests and to consider what they would like in terms of what others are also trying to achieve. Once common goals are established, they are the source that holds the process together and helps individuals overcome their conflicts - both personal and related interests. Relationships of trust are the basis for communication. Without such a relationship, participants will inevitably withhold something that could contribute to their successful achievement of the process. This relationship yields individual credibility within the group. Without a relationship of trust the collaborative group cannot evaluate options because evaluation is steeped in each participants reputability.

Structure

The structural elements of the model are those things that need to be carefully considered prior to beginning the collaborative process. They are also essential to successful administration of the process. Each element needs to be monitored continually to ensure the structure of the group is meeting the needs of those involved. Each participant must have a clear idea of what their role is in the process and what degree of authority the group to which they are assigned is afforded. Confusion over roles is the basis of much conflict, distrust, and the development of apathy amongst participants. Likewise leadership and power must be shared. If the agency is perceived as dominating the entire process, this will breed frustration and apathy. The agency must not relinquish its ultimate authority or accountability, but short of that every effort must be made to empower participants. As many people as possible need to be engaged to achieve the highest degree of diverse knowledge. The central committee should usually be between 10 and 25 people, but working groups can allow for the inclusion of many others in areas in which they are personally interested. Also, a process that includes other forms of public engagement can also yield additional forms of beneficial knowledge. The key in including people is to recruit people selectively who evidence very divergent worldviews. Sectoral differences may not assume this result, so individuals need to be selected not just because of their sector but on the basis of their ideologies. Careful consideration needs to be given to racial, cultural, and ethnic differences. These differences are an important source of information but they may also be a barrier. Again, be sure the participant has both the right demographics and the right personality. An ongoing training and site visit program is the key way of getting non-experts to a level where they can speak intelligently about the issues at hand. Finally, the coordinator should be constantly on the lookout for funds. Trusting original government sources is naive. The funds will usually be available for a short period, during which the collaborative group should consider incorporating so they can do fund raising and apply for grants should the need arise. By establishing a program wherein these

six structural components are regularly evaluated, the process can endure the political and economic winds of change that are inevitable in a process that is likely to last a decade or more.

Process

The process of planning in a collaborative group is not easily reduced to a set of procedures because it is a very integrated process. There really are not distinct stages but different issues are considered in different ways throughout the process. Nonetheless, a series of tasks did emerge in the interviews. Table 5-2 outlines the steps in this continuum. This process is a continually evolving and adaptive process.

Table 0-16: Collaborative planning process

| Step | Explanation |
|-------------------------------|---|
| Delineate scope | Determine what is and what is not going to be included in the process. Everyone must be in agreement and aware of this or it will be the central criticism of every study. |
| Identify objectives | This is really part of building common ground. What does the committee really want the outcome to be? Objectives for different issues must be consistent. |
| Establish priorities | The various objectives and issues need to be rank-ordered in order to determine where limited time and resources will be spent first. |
| Acquire information | Scientifically based information is the preferred norm, but this is informed by professional experience and opinion as well as local knowledge. These are both critical in seeking out missing information once the simpler sources are exhausted. They also serve well a surrogate when inadequate information is available but a decision needs to make. |
| Create reports | Reports are conceptualizations of the issues and potential solutions. All participants review them before coming to a meeting to discuss them. Some of the RAPs even called these “discussion papers” because this is their purpose. |
| Expert presentations | Issue experts should have the chance to present these papers in the meeting. Presentation often adds additional information that may be unclear or missing from the report. These are also optimal times to engage in training or site visits. |
| Clarify understanding | Presentations must be two-way discussions and not lectures. People must be comfortable asking questions, admitting they do not know something, and presenters must speak at a level all participants can understand. |
| Discussion | Through dialogue information is evaluated and utilized. Discussions should focus on determining if information is relevant, given the objectives, is it true and trusted, and is it ethical, moral, right, or correct. These discussions must be present during which any form of reasoning is acceptable and through increased understanding of other’s perspectives, new creative solutions emerge. |
| Determine recommended actions | Recommended actions should focus on general outcomes (value-based) rather than on specific regulatory or technological mandates. The latter can be made consistent with the former by those who are knowledgeable about such things without having to go through the extensive training that would be needed. |
| Ascertain indicators of | A commonly neglected decision is to determine how a group knows when it has achieved its recommendations. This is best done when objectives are |

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| success | developed, so that information and training is still fresh rather than having to revisit the complexities of the whole issue years later. |
| Measure progress | Some form of monitoring program is critical to being able to evaluate and adapt any decisions made. |
| Adapt as needed | All approaches must be considered incrementally unless they are clearly successful. This allows for an expectation of adaptation and a revisiting of issues on a regular basis. |

Obviously, flexibility is an important part of this process and following Table 5-2 in clock step fashion is not necessary. However, this list does sketch the important elements.

Context

Finally, everyone involved must be comfortable that this process is going to occur in the political economy. This means it is likely to be an endless battle for recognition, funding, and other resources. Participants must be willing to fight within that arena in order to ensure the best for the process within which they work. The fortunate thing for collaborative groups is that they are comprised of ordinary citizens whose words and letters are powerful motivators for public officials. Agency people cannot be so bold as to question those in authority but it is expected of the public and the combination of public and participant can be very influential. One of the principal strengths of collaboration is the ability to weather the winds of political and economic change. Committed collaborative groups can go on indefinitely despite the challenges that may arise, if participants are committed to doing so and assuming a continuing statutory, regulatory mandate.

5.4 Conclusion

Knowledge is a process of utilizing framed experience, values, contextual information, and expert insight to make sense of a condition or phenomenon. Theorists have suggested that planning is a process of turning knowledge to action. Planning can thus be understood at least in part as a knowledge process itself. In this chapter I have sought to utilize the knowledge management framework as an analytic tool to evaluate the RAPs as a knowledge process. From this evaluation I have derived a set of twenty principles that should guide the creation of knowledge through collaborative planning. I outlined a new model of collaboration based both on the conceptualization of collaboration as a knowledge process and on understanding garnered by an analysis several RAP committee experiences. The result of this analysis is a systematic way in which collaborative planning can proceed in order to create knowledge to guide action.

Chapter 6: Potential and Limits of Collaboration

This study began with a summary of the theoretical benefits of collaboration as a mode for enhancing knowledge for decision-making. A new model for the development of knowledge that both accepts the underlying need to consider communicative issues but also the reality of instrumental reasoning in environmental decision-making has also been provided. The questions concerning collaboration are certainly not limited to these questions, however. In concluding this study, it is appropriate to reflect on some of the bigger potentials and limitations of the collaborative process, particularly as it relates to our present societies' governance. Many claim that collaborative processes offer much more than simply a useful mechanism for developing improved decision-making knowledge; indeed claims to improved democracy (Dryzek, 1990), emancipation of the disenfranchised (Sandercock, 1998), and improved accountability (Forester, 1993a) have all been suggested as possible motives for pursuing collaboration as a regular governmental practice. This chapter looks at these possibilities and others.

6.1 Rationality

Science still rules the day in collaborative approaches, but it is tempered and humanized. As Habermas has suggested, by moving from a purely instrumental approach of reasoning to the elevating of emotive and moral reasoning of diverse individuals, a more rational understanding is achieved. We do not expect, as humans, to be able to analyze and discover perfect solutions. We recognize the uncertainty that is inherent in human nature. By bringing a more complete emotional and moral perspective, we explicitly deal with that uncertainty. This allows us to understand the breadth of problem definition, and to formulate approaches that, in subtle and obvious ways, are more complete.

This leaves open the question of whether communicative planning theory really achieves a new rationality that is different than comprehensive rationality. The answer to this, at least from the perspective of this study, is no. What communicative rationality adds to the discussion is the idea that what people say and how they say it is important in the process of planning. By addressing this directly, planning is enhanced in its creation of knowledge, but not necessarily in other ways purported by communicative theorists such as emancipation or inclusion. Planning through collaboration is still a rational endeavor. It is still scientific method at work. It is improved scientific method, however, which is very important. As shown in the model in Chapter 5, the elements that are most critical to the success of collaboration are those elements that are brought to the table by communicative planning theory.

6.2 Democracy

Collaboration is able to overcome some of the problems faced with our short-term politically motivated electoral system. By not tying directly to the government, as funding and dominant political ideologies adjust through typical electoral cycles, a level of consistency is retained. As was discussed, the RAPs have continued for a decade and a half, through funding cutbacks, through drastic political shifts, and wielded sufficient influence not to be discounted at any point along the way. So while agencies have undergone drastic transformation that undoubtedly would

have led to the abandonment of attempts to plan holistically for the lakes, the RAPs keep pressing forward. Even when the government has pulled completely out of the process, the RAPs form non-profits and proceed without them. This is a significant solution to a problem that has plagued environmental regulation for decades.

However, I am less convinced that this process is more democratic than traditional approaches to environmental decision-making. The vast majority of society is still on the outside looking in and they have no real additional ability to influence what goes on in the process than they have had in traditional approaches. In this way, democracy sees very little enhancement by this process. Indeed, as discussed next, important issues such as accountability may very well be undermined making the process less democratic. While democracy is not necessarily enhanced, rationality and the subsequent knowledge attained is certainly expanded and it is through this kind of inclusion that gains are made in governance through collaboration.

6.3 Accountability

Edward Weber (Weber, 1998) reminds us that administrative law doctrine, the Administrative Procedures Act of 1946, as well as traditional top-down approaches to policy-making are strongly oriented towards structures of accountability. He points out, “The role of government agencies in the administrative process is that of an authoritative, third-party decision-maker; affected interests are given the opportunity to plead their case before the bureaucracy, but in the end must abide by agency conclusions” (pp 232). He suggests that the deferring of decision-making authority to “entrepreneurial bureaucratic leaders”, such as collaborative exercises may make a mockery of accountability because: (1) the information and expertise gained by these processes may not flow upward to decision-makers, (2) the decisions made in the interest of achieving consensus may end up being inconsistent with larger policy objectives of the elected officials, (3) “happy” collaborators do not complain thus removing the motivation for elected officials to even be interested in the outcomes of such processes, and (4) agencies may find themselves in a difficult position if the policy outcome is unacceptable and the agency must trump the decision.

If accountability is assumed the mechanism for ensuring the elected-officials are considering the diversity of responses to a question, then Weber makes an important point. Who can be held accountable for the decisions made by non-elected, non-governmental groups such as the RAP? Collaboration gives a small group of citizens’ sufficient power to make decisions that are inappropriate and may even provide sufficient political will to force the implementation of these decisions. If the uninformed public view the process as legitimate, or worse, more legitimate, elected officials, those who are constitutionally authorized to make decisions in behalf of the public, discover they are unable to fulfill this responsibility because the collaborative group has seceded their power through this process. From this vantage, collaboration does little to enhance democracy and much to infringe on its institutional application in our society.

Based on the RAP experience, however, this may be less of a threat than Weber has made it. The RAP committees were not able to change large governmental programs, alter budgets, or in many cases, even, influence the outcome of their own programs. This was accomplished by the agencies keeping a focused understanding between themselves and the RAP members that their role was advisory in nature. Not unlike a policy analyst or planner, the RAP committee could serve only to

provide recommendations. The acceptance and implementation of the recommendations were still subject to both agency and political approval. The accountability in the RAP process was thus even more important because the participants must ensure their plan was acceptable to a much smaller, far more interested and powerful group of evaluators.

6.4 Political Economy

Neuman (Neuman, 2000) suggests that consensus based processes fail to capture the political realities of public decision making because consensus planning usually happens in a setting divorced from traditional power structures. He further suggests that the use of consensus (1) avoids important issues to reduce conflict, (2) creates general and vaguely worded agreements, (3) forces interest-based negotiation when position-based may be a more appropriate, (4) forces the proliferation of perceived differences instead of enhancing communal meaning by forcing participants to wear sectoral hats, (5) results in decisions thin in substance.

One of the predominant planning theories of planning not discussed in Chapter 1 is that of the urban political economy. This theoretical approach argues that urban life is understood in terms of the existing structures of society, particularly the political and economic structures. These structures influence action in much the same way that power and language influence planning in that they restrict the possible modes of approaching a problem. Patsy Healey (Healey, 1997b), a communicative planning theorist, argues that while communicative planning theory helps explain human rationality, it is incomplete without political economy theory because communication occurs within the urban political economy. As she put it, "I needed the work of the urban political economy [to maintain an] awareness of structuring driving forces, to help me see the specificity of local histories and geographies, the dynamics of the power relations, the constraints and the opportunities for change that could be available in particular places" (pp .77).

The RAPs were definitely routed in some of the power structures and not in others. RAPs included representatives from the federal, state, and local bureaucracies as well as private interests. The problems they were engaged in were regional, cross-jurisdictional, and had a substantial history of political debate already. The RAPs were subjected to the inherent change in political winds that accompany such a diverse endeavor. They dealt with funding changes, personnel changes, and changes in the political direction several times as election came and went. The interesting thing is that in spite of be immersed in the traditional power structures the process maintained strength for fifteen years and have succeeded in accomplishing many of their goals. As suggested above, however, they were not subjected to accountability, at least not in the sense that elected-officials and there designated decision-makes are.

Within the RAPs, dealing with the political economy was an often-heard complaint and a significant factor in the entire process. This critique suggests that collaboration is not possible given this reality. The assumption is that the political economic structures with which planners are faced are somehow overcome in the traditional operation of agency planning. In reality, what was reported was that the agencies were less able to overcome the political and economic factors under which they operated than the collaborative processes. Funding changes didn't just affect the ability of an agency person to get a study done, it resulted in their losing their job and being taken out the process altogether. Political ideology changes that resulted from changes in the elected officials overseeing agencies just did not create a difficult environment in which a person had to function,

for the agency person it meant unemployment, reassignment, or relocation. The RAPs, being run by people who were somewhat removed from the structures that political economist's criticize, were more capable of overcoming these barriers because the structures were less influential in terms of directly altering their life circumstances. As has been demonstrated throughout the reporting of these findings, the RAPs were able to endure funding cuts, staff changes, political shifts, economic shifts, and the many political economic factors with which they were faced. As has also be suggested repeatedly, this may not be an improvement in all regards. By removing the threats, the incentive to make an appropriate decision is also removed.

There is some evidence that collaboration resulted in vaguely worded decisions. This did indeed occur, but not in all cases and certainly not detrimentally. The RAP documents are extremely complex planning documents that often include in excess of a hundred recommendations, the majority of which are very specific and direct. Some of the recommendations, however, had to be written more generally in order to achieve wording that was acceptable to all parties. Occasionally, recommendations were included without consensus because the substantial number of participants agreed with a single approach. This represented only one or two of all the recommendations derived in the process. The important point is that they were included and included in such a way as to engage all the relevant interests at a level that was acceptable to all, or at least most. The outcome was a plan that could more appropriately be called holistic rather than general. Being specific is not an asset if the result it a limited disciplinary view of a problem. The RAPs could never be considered to have taken a narrow approach of this nature, rather the outcome more accurately reflected the broad values represented in our societies.

With very few exceptions the interviewees disagreed that decisions were thin in substance, regardless of which sector they represented. While many conceded that they could see the logic and potential in such a statement, in their RAP it simply could not be construed as such. Instead they insisted precisely the opposite was true of their experience. To demonstrate this perspective a State agency scientist describes the results of the process as follows:

The plan was broader in scope, addressed more issues, and was better integrated because of the diversity of people involved and because of the kind of process we had. There was a lot of integration and a lot of interaction between the committees. I think we produced technically a much better plan because of it. I also think that we were really, when I look back over those two years, the amount of information and the synthesis that occurred of technical information and of thoughts of people. I think it would have if we would have just taken these technical committees off on there own, written a set of technical recommendations and then brought it in cold to this citizens group and ask them to tell us what they think, that is compromise. I think the reason that it didn't go that way was because of the education process that we went through. We kept trying to bring this diverse group of stakeholders and also people with different disciplines, although they were technically competent people they had very different disciplines – to get the economist together with the biologist and the toxicologist. Then try to all agree on something. We educated each other on a whole host of issues so that when it came time to make a decision about the stringency of an objective and just how far ... there was a better buy in and less need to compromise because we thoroughly informed each other about how we arrived at those recommendations.

In addition to arguments that it was more substantive, several suggested that it was simultaneously “much more based in reality.” In other words, not only were more perspectives considered and

included but also they were considered in light of what could realistically be done, presumably meaning the chance of implementation was greater.

6.5 Conflict and Competing Interests

The RAPs began by dealing with the so-called “important” issues, which is really nothing but a toned down way of saying “different interests.” As has been pointed out throughout the findings, the first year was nothing but engaging these issues head on. They discovered that this is unproductive and gets nobody anywhere. Through the process of debating the important issues, collaboration allows for a central unifying important issue to emerge and for those involved to rally around that issue. Once a common interest is discovered, the other important issues are recognized to be simply components of that central issue and everyone abandons their false sense of “priority” in favor of a more holistic view of what is important. Nobody is ever forced to give up on their important issue; they just simply come to see it in light of all the other important issues and this allows them the more realistically prioritize for the accomplishment of what has the most societal relevance.

The distinction between interests in positions is often overstated. It assumes an adversarial, conflictual relationship between participants. It also assumes that negotiation is a central component in the collaborative process. In the RAPs, this simply was not the case. There were discussions but rarely did these resemble negotiations. They could be more clearly understood as knowledge acquisition processes or learning processes. Participants engaged in a process of exchanging what they knew and formulated a broader understanding of the conditions. Through discussion, an appropriate solution was created that included the interests of all. In most cases, the solution was “obvious” and not simply a matter of compromising on either interests or positions.

Sectoral designations were clearly a part of the original selection process but these designations became unimportant as the process progressed in most of the RAPs. The few that maintained the importance of “sectoral hats” did have some difficulties achieving the unification necessary. This was not a significant problem because most of the participants spoke on their own behalf and from their own personal perspectives. They would offer caveats to many of their comments that reflected their original sectoral designations but this did not generally mean they were “forced to wear sectoral hats.” Communal meaning, whether it was even conceived as such when the process began, was the place at which all the successful RAPs arrived at before they could even begin the planning process. Without it the RAPs got nowhere.

There were examples of entrenchment of interests in the RAP process, but these could be accounted for more clearly by other factors. Again, the idea of entrenchment assumes that different interests are incompatible. There just wasn’t evidence that this was the case. Agendas may not have been compatible but through a process of discussion and education, agendas changed. This does not mean that interests or positions changed but merely the reasons or approach that people took to their involvement changed. In successful RAPs people realized that they could meet their individual objectives (interests or positions) by pursuing the overarching common goal of which their ideas were only a part. As one environmental activist described it, “It really did change people.”

Collaboration required little in terms of conflict management in the RAPs. The way competing interests were dealt with was through education and communication. By exchanging information about interests participants were able to get a the bug picture. This allowed for the discovery and creation of solutions that everyone could agree upon.

6.6 Institution building

Collaboration is not merely a decision-making process; it is an institution building process. People who were engaged in the process were changed by the knowledge they gained from their social interaction with others. First, they gained environmental education through intensely constructive processes. Lack of environmental awareness is a serious deficiency that most Americans now experience. Second, they recognized their capacity to influence public opinion and policy; this led to their becoming more involved in civil society. Third, because they were changed, their new ideas had the effect of changing the organizations in which they functioned. Recognizing to a greater degree the issues involved in environmental regulation, industries clean up voluntarily, agencies adopted new partnership approaches and abandoned less desirable “heavy hammer” approaches, and non-profits became less confrontational and more capacity and network building. The result was a better-networked community influencing the various players in society towards a common, public goal that was not derived politically but through dialogue.

The degree to which this networking extended beyond the RAP committee was not well tested in this study. Based on some of the comments made, there is reason to speculate that the RAPs influence reached at least into the sponsoring organizations and changed how business practices there. Whether or not this has the capacity to more broadly influence society is unclear and would require more additional study.

6.7 Other critiques

The RAP process was by no means the solution to all that ails public processes. There were some significant problems that are not easily addressed. The first of these are the differences in cultural norms that do not encourage direct confrontation of problems between people of perceived differing levels of authority. The example cited in these findings considers the First Nation norm that problems are dealt with privately and individually between people rather than in public forums. It may well be that, while Americans and Canadians of European-descent may feel comfortable in an open setting of discussion, other cultures may be more marginalized by these processes than by more traditional approaches.

The second problem was the time intensive nature of the process. A planning process that could have been conceivably accomplished in a couple of years looks more like it will only be accomplished in a couple of decades. While the problems addressed by the RAPs could endure such a lengthy process, other situations might not be appropriate for this approach.

Finally, understanding collaborative processes and the effective implementation of them is an exercise in the management of individual personalities. Individuals were one of the most volatile variables in the failure and success of these programs. Certainly novice personnel managers will struggle to learn all of the implications of what this entails. Instead of understanding the scientific

and policy elements of the process what becomes important is the knowledge of human psychology and groups processes, a set of skills that are rarely possessed by those serving in the agency positions responsible for them.

6.8 Summary

Collaboration offers much in terms of enhancing the information used in ecosystem planning. The resulting plans are often more substantial and yet realistic. Collaborative committees are able to endure many of the difficulties that emerge when planning in the complex public domain. Their resilience is owed to an unwillingness of the public to give up in the face of difficulties that often undermine such processes within government. Planning through collaboration often influences the organizations from which participants are drawn as these people return with a greater insight into the complexity and interest of others. These advantages make collaboration an attractive alternative approach to planning. Nonetheless, claims that collaboration has important implications for democracy are overstated. Collaborative processes may even undermine existing institutions of democracy by handing decision-making authority to non-elected laypersons. Doing so removes the ability to hold decision-makers accountable. In addition, those that suggest collaboration as a tool for inclusion fail to recognize that novel approaches to planning such as this are untested in different cultural groups and may actually increase the exclusion of certain groups because of their discomfort with public confrontation. Finally, planning in this manner has limited application. The time intensive nature of the process simply reduces its application in many, if not most, problems that must be addressed by planners. Essentially, problems like ecosystem management may be among the few applications that meet the characteristics in which it is a valuable tool.

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Appendix A: Web Site



Virginia Tech RAP Study Introduction

Welcome!

Français

Thank you for your interest in our study. Your participation is greatly appreciated.

Purpose of this study:

The intent of this study is to better understand how participants in group environmental planning processes use and acquire information. Your experience in the RAPs will offer valuable insights that, hopefully, will lead to improved procedures for implementing future planning efforts of this nature.

Researcher:

The researcher for this study is David Keuhl, a doctoral candidate at Virginia Polytechnic Institute and State University (Virginia Tech). This research constitutes a portion of the dissertation work necessary for the completion of his doctorate degree. He has been involved in the study of environmental planning procedures for the last 5 years.

Nature of the survey:

The survey that follows takes about 15 minutes to complete. On the first 4 pages you are asked to simply rank 9 statements based on your personal experience in the RAP planning process. Following each ranking you are asked to apply your ranking to the RAP process in which you were involved. The final page asks a few questions that helps us categorize your data. If you do not understand what to do, press the **HELP** button on any page.

Confidentiality:

The information you provide will be kept strictly confidential. Only the researcher listed above will have access to it. When reporting the findings of the study the information will be shared only in a manner that absolutely protects the identity of the individual participants.

Rules for taking the survey:

1. Please answer each question honestly and from your own perspective. We are interested in **your** ideas and perspective.
2. Do not consult with others about the answers to any of the questions. Remember, there is **no** right or wrong answer.
3. If you are unable to complete the survey in its entirety and must come back at another time, you will need to begin over again.

If you have any questions about the survey or the study please contact:

David Keuhl

Environmental Design and Planning (0113)

Virginia Polytechnic Institute and State University

Blacksburg, VA 24060

(540)231-2291 dkeuhl@vt.edu

If you are ready to begin, click here 

INSTRUCTIONS: Your task is to assign each statement to a category. You may assign only a specific number of statements to each category as shown in the legend below.

| Legend | | |
|--------|----------------------------------|------------------------|
| Symbol | Rank Categories | Assign # of Statements |
| MI | Most important | 1 |
| I | Important | 2 |
| N | Less important or Does not apply | 3 |
| SU | Somewhat unimportant | 2 |
| LI | Least important | 1 |

To see the statements in YOUR designated order.

Review

When you are finished assigning statements.

Submit

If you need additional instructions.

Help

PRESS HERE FOR QUICK INSTRUCTIONS

Question 1: What information was important to you?

During the RAP planning process you used many different types of information. Rank the following statements based on how important each type of information was to **you personally** as you determined what **you thought** should be done.

| | LI | SU | N | I | MI |
|---|-----------------------|-----------------------|----------------------------------|-----------------------|-----------------------|
| A hunch I had/gut reaction. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The opinion of another participant. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My personal values and beliefs. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Site visits/field trips. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My professional training and skills. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My past experience with the issue. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Training I received as part of the RAP. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Scientific and technical data. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| How something sounded/felt to me. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |

INSTRUCTIONS: Your task is to assign each statement to a category. You may assign only a specific number of statements to each category as shown in the legend below.

| Legend | | |
|--------|----------------------------------|------------------------|
| Symbol | Rank Categories | Assign # of Statements |
| MI | Most important | 1 |
| I | Important | 2 |
| N | Less important or Does not apply | 3 |
| SU | Somewhat unimportant | 2 |
| LI | Least important | 1 |

| | |
|---|--------|
| To see the statements in YOUR designated order. | Review |
| When you are finished assigning statements. | Submit |
| If you need additional instructions. | Help |

INSTRUCTIONS: Your task is to assign each statement to a category. You may assign only a specific number of statements to each category as shown in the legend below.

| Legend | | |
|--------|----------------------------------|------------------------|
| Symbol | Rank Categories | Assign # of Statements |
| MI | Most important | 1 |
| I | Important | 2 |
| N | Less important or Does not apply | 3 |
| SU | Somewhat unimportant | 2 |
| LI | Least important | 1 |

| | |
|---|--------|
| To see the statements in YOUR designated order. | Review |
| When you are finished assigning statements. | Submit |
| If you need additional instructions. | Help |

Question 2: What helped you learn the information?

To help make planning decisions in the RAP, you needed to learn a lot of information. Rank the following statements based on how important each was to helping **you personally** learn the information you needed in order to decide what **you thought** should be done.

| | LI | SU | N | I | MI |
|---|-----------------------|-----------------------|----------------------------------|-----------------------|-----------------------|
| Giving everyone the opportunity to share information and ask questions. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Assessing the limitations of the information we had. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Seeking out information jointly with others in the group. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Discussing/knowing what each group member knew about the issue. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Keeping notes and reviewing minutes. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Agreeing on/discussing what information meant and how it helped us. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Receiving training and/or attending workshops. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Outlining what information we needed up front. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The opportunity to clarify information. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Question 3: What communication issues affected the information?

You obtained a lot of information by talking with others in the RAP. Rank the following statements based on how important each was in influencing **your personal** acceptance of information you received from others through discussions.

| | LI | SU | N | I | MI |
|---|-----------------------|-----------------------|----------------------------------|-----------------------|-----------------------|
| Whether it was consistent with my own thinking. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Whether I thought it was offered sincerely. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Whether I believed that it was correct/true. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Whether it made me feel comfortable. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Whether it was well said grammatically. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Whether I understood/comprehended what was said. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Whether it was discussed and clarified or simply stated without feedback. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Whether I thought it was good/right. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Whether it was stated logically. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |

INSTRUCTIONS: Your task is to assign each statement to a category. You may assign only a specific number of statements to each category as shown in the legend below.

| Legend | | |
|--------|----------------------------------|------------------------|
| Symbol | Rank Categories | Assign # of Statements |
| MI | Most important | 1 |
| I | Important | 2 |
| N | Less important or Does not apply | 3 |
| SU | Somewhat unimportant | 2 |
| LI | Least important | 1 |

| | |
|---|---------------------------------------|
| To see the statements in YOUR designated order. | <input type="button" value="Review"/> |
| When you are finished assigning statements. | <input type="button" value="Submit"/> |
| If you need additional instructions. | <input type="button" value="Help"/> |

Question 4: Which outside factors influenced the information?

Outside factors sometimes affected what information was used in the planning. Rank the following based on **your perception** of how important each was in influencing what information was used by the RAP during the planning process.

| | LI | SU | N | I | MI |
|--|-----------------------|-----------------------|----------------------------------|-----------------------|-----------------------|
| The perspective of specific experts that assisted/participated in the RAP. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The consistency of participation (same people stayed involved). | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Effect/severity of the problem directly on a certain participant/organization. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| A perceived need to work together in order to solve the problem. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Decision-making authority of certain members of the group. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Preexisting relationships between participants/organizations. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Commitment of the leadership of the RAP. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Person in possession of the financial resources needed. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Differences in personal/organizational goals/objectives. | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |

To assist us in categorizing your data, please answer the following questions. Remember the data you submit will be kept completely confidential. (* - you must answer these questions to complete the questionnaire. Others are optional.)

*Which RAP did you work with: *Nationality:

If you have been involved in multiple RAP list others here:

*Which of the following best describes your role in the RAP:

If you have participated in different capacities list others here:

*Age: *Education level: *Gender:

Please check if you would be interested in receiving a copy of our findings.

E-mail address:

(We would like to be able to contact you if we have any questions regarding your answers.)

Appendix B: Survey

Purpose of this study:

The intent of this study is to better understand how participants in environmental planning processes use and acquire information. Your experience in the RAPs will offer valuable insights that will lead to improved procedures for implementing future planning efforts of this nature.

Researcher:

The researcher for this study is David Keuhl, a doctoral candidate at Virginia Polytechnic Institute and State University (Virginia Tech). This research constitutes a portion of the dissertation work necessary for the completion of his doctorate degree.

Confidentiality:

The information you provide will be kept strictly confidential. Only the researcher listed above will have access to it. When reporting the findings of the study the information will be shared only in a manner that absolutely protects the identity of the individual participants.

Rules for taking the survey:

1. Please answer each question honestly and from your own perspective. We are interested in **your** ideas and perspective.
2. Do not consult with others about the answers to any of the questions. Remember that there is **no** right or wrong answer.

THANK YOU for your participation! It is greatly appreciated.

Sincerely,

David Keuhl

Ph.D. Candidate

Environmental Design and Planning

(540) 231-2291 dkeuhl@vt.edu

Instructions: Please read carefully before beginning.

You are asked to answer four questions. For each question you are given nine statements. To answer the question, assign a level of importance to each statement using the following short forms. You must assign only a certain number of statements according to the chart below.

| | | |
|----|------------------------------------|--|
| MI | Most important | Assign to only one statement. |
| I | Important | Assign to exactly two statements. |
| N | Less important or Does not apply | Assign to exactly three statements. |
| SU | Somewhat unimportant | Assign to exactly two statements. |
| LI | Least important (most unimportant) | Assign to only one statement. |

Question 1: What information was important to you?

During the RAP planning process you used many different types of information. Rank the following statements based on how important each type of information was to **you personally** as you determined what **you thought** should be done.

- Site visits/field trips.
- Scientific and technical data.
- My professional training and skills.
- Training I received as part of the RAP.
- A hunch I had/gut reaction.
- The opinion of another participant.
- My personal values and beliefs.
- How something sounded/felt to me.
- My past experience with the issue.

How well did the RAP planning process incorporate the information you thought was important into the discussion and plan? _____ Excellent
 _____ Very good
 _____ Good
 _____ Fair
 _____ Poor

Question 2: What helped you learn the information?

To help make planning decisions in the RAP, you needed to learn a lot of information. Rank the following statements based on how important each was to helping **you personally** learn the information you needed in order to decide what **you thought** should be done.

- Outlining what information we needed up front.
- Discussing/knowing what each group member knew about the issue.
- The opportunity to clarify information.
- Receiving training and/or attending workshops.
- Keeping notes and reviewing minutes.
- Agreeing on/discussing what information meant and how it helped us.
- Seeking out information jointly with others in the group.
- Assessing the limitations of the information we had.
- Giving everyone the opportunity to share information and ask questions.

How well did the RAP planning process help you learn what you needed to know to contribute to the discussion and plan? _____ Excellent
 _____ Very good
 _____ Good
 _____ Fair
 _____ Poor

Question 3: What communication issues affected the information?

You obtained a lot of information by talking with others in the RAP. Rank the following statements based on how important each was in influencing **your personal** acceptance of information you received from others through discussions.

- Whether I understood/ comprehended what was said.
- Whether it was stated logically.
- Whether I thought it was good/right.
- Whether it was well said grammatically.
- Whether I believed that it was correct/true.
- Whether it was consistent with my own thinking.
- Whether it made me feel comfortable.
- Whether I thought it was offered sincerely.
- Whether it was discussed and clarified or simply stated without feedback.

From your perspective, how well was information shared though discussion in the RAP? Excellent
 Very good
 Good
 Fair
 Poor

Question 4: Which outside factors influenced the information?

Outside factors sometimes affected what information was used in the planning. Rank the following based on **your perception** of how important each was in influencing what information was used by the RAP during the planning process.

- Commitment of the leadership of the RAP.
- Person in possession of the financial resources needed.
- Preexisting relationships between participants/ organizations.
- Differences in personal/ organizational goals/ objectives.
- A perceived need to work together in order to solve the problem.
- The consistency of participation (same people stayed involved).
- Effect/severity of the problem directly on a certain participant/ organization.
- Decision-making authority of certain members of the group.
- The perspective of specific experts that assisted/ participated in the RAP.

How well did the RAP process minimize the influence of outside factors on the discussion? Excellent
 Very good
 Good
 Fair
 Poor

To assist us in categorizing your data, please answer the following questions. All information that is provided will be kept completely confidential.

Which RAP(s) did you work with? _____

Nationality: ___ Canadian ___ American ___ Native/Indian/First Nation ___ Other

Which of the following best describes your role in the RAP:

- | | |
|--|---|
| <input type="checkbox"/> Federal Government Agency | <input type="checkbox"/> State/Provincial Government Agency |
| <input type="checkbox"/> County/Regional Government | <input type="checkbox"/> Local Government |
| <input type="checkbox"/> Indian Band/Tribe | <input type="checkbox"/> Research/Technical |
| <input type="checkbox"/> Environmental group | <input type="checkbox"/> Citizen's advocacy group |
| <input type="checkbox"/> Other non-profit | <input type="checkbox"/> Commercial business |
| <input type="checkbox"/> Recreational business | <input type="checkbox"/> Industrial manufacturing |
| <input type="checkbox"/> Sportsman/Recreational club/association | <input type="checkbox"/> Watershed Association |
| <input type="checkbox"/> Tourism Association | <input type="checkbox"/> Legal Firm/Association |
| <input type="checkbox"/> University/College | <input type="checkbox"/> Public School |
| <input type="checkbox"/> Member of general public | <input type="checkbox"/> Other |

Age:

Gender: ___ Male ___ Female

- 0 - 20 21 - 30 31 - 40
 41 - 50 51 - 60 > 60

Education level:

- Less than high school High school
 Some college/university College/ University graduate
 Masters Ph.D.
 Other

We would like to be able to contact you if we have any questions regarding your answers. If you would be willing to allow this contact, please provide one of the following:

Name: _____ Phone #: _____

E-mail Address: _____

Please return the survey to:

David Keuhl
Environmental Design and Planning (0113)
Virginia Polytechnic Institute and State University
Blacksburg, VA 24060-0113
(540) 231-2291 dkeuhl@vt.edu

Appendix C: Interview Questions

Process (asked of all participants)

1. How did people come to participate in the RAP?
2. How was the RAP structured?
3. Describe the roles of the agency and non-agency people?
4. What kind of participants were selected to participate?
5. Who lead the group the process?
6. Did you have any operating protocols (examples: rules, procedures)
7. How did you make decisions?
8. What were the objectives of the group?
9. Did you utilize subcommittees? How?
10. Did you include other members of the public in any way?

Specific Questions (one section asked of interviewee based on q-sorts)

Communication

1. What communication issues arose as you collaborated?
2. What things were done to improve communication in your RAP?
3. What barriers existed to your comprehending what others said? How were these overcome?
4. How did you judge whether something was true or not?
5. Did you ever perceive someone as not being sincere? How did that affect your perception of what was said?
6. Did you mistrust someone? How did this affect your interaction with that person? Were you able to overcome your mistrust of someone? If so, how?

Knowledge Management

1. How did you identify what information was needed?
2. How did you acquire new information?
 - How did you determine where new information could be found or generated?
 - What role did participants play in determining where new knowledge could be found?
3. How was information used once you had it?
 - How did you use these different kinds of information?
 - How did you use it to make decisions?
4. What were the formal arrangements/process for sharing information?
 - Were there any informal opportunities to share information?
5. How did you decide when some information wasn't important?
6. How did you decide what information meant?
7. Describe how you personally kept track of all the information that was important?
8. Describe how you evaluated information?
 - When did you know you had enough information to make a decision?

Information

1. What information was used to make recommendation decisions?
2. How was each kind of information used in the process?
3. How did people respond to each kind of information?

- Were all types of information accepted as legitimate?
4. Which was most important and why?
 - What information was least valuable and why?
 5. How did you decide what information should be kept and what information should be disposed of?
 6. How did you deal with gaps in information?
 7. Did you receive any training? What part of it was most and least valuable to you?
 8. How did you perceive your (or others) past experience related to the issue?
 9. How did you view people's education and professional training?
 10. Were people's values important to the decisions and why? How were they perceived and used?

Influencing factors

1. What factors outside the group influenced what happened in the group the most?
2. What was the effect of these factors?
3. How did you perceive that these factors changed what information was actually used in determining the recommendations?
4. What was the influence of financial resources on the process?
5. What was the influence of political clout on the process?
6. What was the influence of implementation authority on the process?
7. What was the influence of experts on the process?
8. What influence did preexisting relationships have on the process?
9. Did you perceive that any individuals had bettering personal or organizational objectives in mind rather than the best decision?
10. Did you perceive conflicting goals and missions of individuals or organizations as a factor?
11. What affect did the leadership of the RAP have on the process?

Summary Questions (asked of all)

Critiques of Communicative Planning

1. From your view did discussion tend to move towards consensus or to entrench dissent?
2. Were the solutions that emerged weak and watered down as a result of the collaboration?
3. Were there legal requirements that got in the way of any decisions that you were trying to recommend?
 - Did the agency ever say – “We are not allowed to do that.” Or “Our policies prohibit that.”

Personal perspective

1. What are you personally taking away from this process?
2. What were you able to accomplish that couldn't have been accomplished if the agency had just done the planning themselves?

Appendix D: Q-sort Rankings

Table D-1: Q-sort Rankings for Information Concourse

| Statement | % Most or Somewhat Important | % Least or Somewhat Unimportant |
|---|------------------------------------|---------------------------------------|
| Scientific and technical data. | 80 | 4 |
| My professional training and skills. | 61 | 21 |
| My past experience with the issue. | 43 | 16 |
| Site visits/field trips. | 36 | 20 |
| My personal values and beliefs. | 27 | 20 |
| Training I received as part of the RAP. | 21 | 36 |
| The opinion of another participant. | 19 | 32 |
| How something sounded/felt to me. | 8 | 71 |
| A hunch I had/gut reaction. | 3 | 75 |

Table D-2: Q-sort Rankings for Knowledge Management Concourse

| Statement | % Most or Somewhat Important | % Least or Somewhat Unimportant |
|---|------------------------------------|---------------------------------------|
| Outlining what information we needed up front. | 52 | 23 |
| Assessing the limitations of the information we had. | 41 | 29 |
| Agreeing on/discussing what information meant and how it helped us. | 40 | 17 |
| Giving everyone the opportunity to share information and ask questions. | 36 | 27 |
| Discussing/knowing what each group member knew about the issue. | 31 | 37 |
| The opportunity to clarify information. | 31 | 20 |
| Seeking out information jointly with others in the group. | 31 | 32 |
| Receiving training and/or attending workshops. | 27 | 51 |
| Keeping notes and reviewing minutes. | 12 | 57 |

Communication:

Table D-3: Q-sort Rankings for Communication Concourse

| Statement | % Most or Somewhat Important | % Least or Somewhat Unimportant |
|---|------------------------------------|---------------------------------------|
| Whether I understood/ comprehended what was said. | 63 | 1 |
| Whether I believed that it was correct/true. | 59 | 16 |

| | | |
|---|----|----|
| Whether it was stated logically. | 47 | 15 |
| Whether it was discussed and clarified or simply stated without feedback. | 45 | 11 |
| Whether I thought it was good/right. | 35 | 25 |
| Whether it was consistent with my own thinking. | 19 | 36 |
| Whether I thought it was offered sincerely. | 19 | 36 |
| Whether it was well said grammatically. | 5 | 79 |
| Whether it made me feel comfortable. | 4 | 75 |

Influencing factors:

Table D-4: Q-sort Rankings for Factors Concourse

| Statement | % Most or Somewhat Important | % Least or Somewhat Unimportant |
|---|------------------------------------|---------------------------------------|
| Commitment of the leadership of the RAP. | 60 | 11 |
| The perspective of specific experts that assisted/ participated in the RAP. | 55 | 23 |
| A perceived need to work together in order to solve the problem. | 47 | 19 |
| The consistency of participation (same people stayed involved). | 36 | 27 |
| Person in possession of the financial resources needed. | 21 | 48 |
| Effect/severity of the problem directly on a certain participant/ organization. | 21 | 33 |
| Decision-making authority of certain members of the group. | 21 | 37 |
| Preexisting relationships between participants/ organizations. | 17 | 53 |
| Differences in personal/ organizational goals/ objectives. | 17 | 48 |

Appendix E: Models of Knowledge Management

Figure E-1: Jay Liebowitz (Liebowitz, 2000)

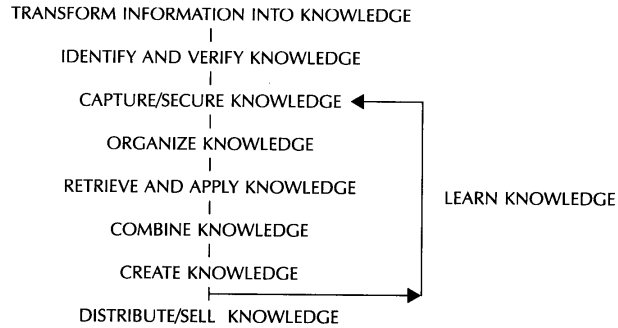


Figure E-2: Huseman and Goodman (Huseman & Goodman, 1999)

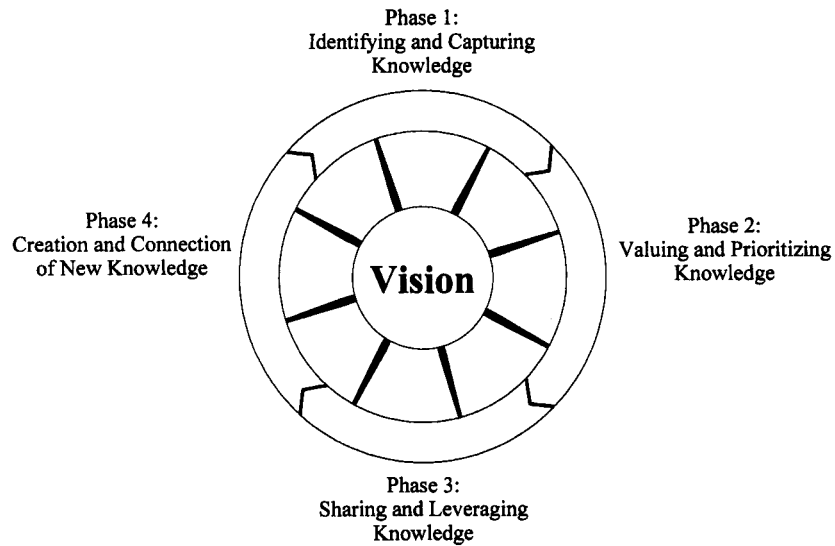


Figure E 3: Probst, Raub, and Romhardt (Probst et al., 2000)

