Public Involvement, Conflict Management: Means to EQ and Social Objectives[a]

By Jerome Delli Priscoli[2]

Abstract: Engineers, scientists, and even some social scientists prefer to look at water resources planning and management as primarily analytical. However, more and more of the water professionals' analytical work depends on people-oriented techniques either to relate their activities to outside interests or to build better internal team relationships. Frequently, the major problems that engineers and scientists face are not technical. They are problems of reaching agreement on facts, alternatives, or solutions. Public involvement and conflict management techniques are keys to servicing such needs. After briefly describing public involvement and conflict management techniques, seven observations on why incorporating social and environmental objectives into water resources planning and management require these process techniques are presented.

Introduction

Engineers, scientists, and even some social scientists prefer to look at water resources planning and management as primarily analytical. However, more and more of the water professionals' analytical work depends on people-oriented techniques either to relate their activities to outside interests or to build better internal team relationships. Frequently, the major problems that engineers and scientists face are not technical. They are problems of reaching agreement on facts, alternatives, or solutions. Public involvement and conflict management techniques are keys to servicing such needs. After briefly describing public involvement and conflict management techniques, this paper presents seven observations on why incorporating social and environmental objectives into water resources planning and management require these process techniques.

Public Involvement (PI) and Conflict Management (CM)

Conflict management has been added to the vast public involvement literature. Neither CM or PI is sufficiently solidified to offer widely shared agreement on definitions. James Creighton, in Fig. 1, provides a useful way to relate both concepts. Both PI and CM offer means to build and to achieve consensus, both among professionals and other interests. For this paper, this means consensus on environmental and social objectives in water resource planning and management. As Fig. 1 shows, techniques of PI and CM can be viewed along a progression of having knowledge about a decision; being heard before the decision; having an influence on the decision; and, agreeing to the decision. This is really a degree of consensus continuum. Obviously,

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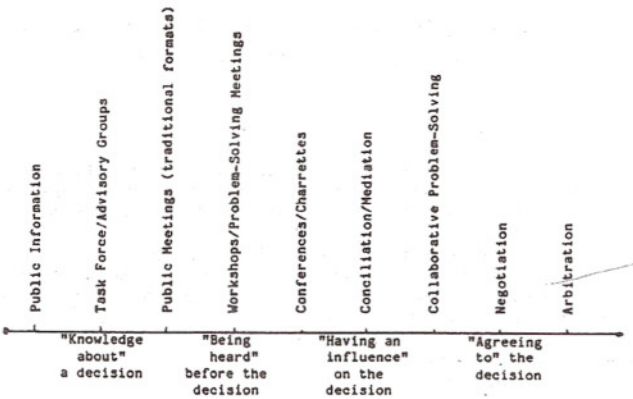

FIG. 1. Public Involvement and Conflict Management Techniques (From Creighton 1986)

agreeing to the decision among all professionals and interested parties is not always necessary. Sometimes, only knowledge about a decision is required.

The right portion of the continuum, toward negotiation and arbitration, represents those techniques most associatd with conflict mangagement. As we move to the left toward public information, traditional public involvement techniques are represented. Actually, CM and PI are different sides to the same coin. Indeed, it is becoming more difficult to differentiate between CM mediation and PI facilitation. Generally, conflict management techniques more explicitly emphasize consensus building and power sharing, while PI focuses on information exchange and discussion.

Both PI and CM seek to increase the legitimacy and acceptability of decisions. They are designed to create incentives for reaching middle ground and to move away from polarization. These techniques attempt to increase the probability of implementation. Both emphasize bringing the parties of interest together to build alternatives and agreements around interests and values.

Seven Observations Why Public Involvement and Conflict Management Help Incorporate Environmental and Social Objectives into Water Resource Planning and Management

PI and CM Help Define the Relationship between Environmental Quality and Other Social Values

Environmental quality (EQ), like national economic development (NED), is itself a social objective. There has been a shift in public values from the self-evident consensus around economic development toward environmental quality (Milbraith 1980). However traditional water resource agencies have lagged behind this shift. Numerous rational analytical frameworks to incorporate EQ and NED and to patch up benefit cost analysis have been debated over the last 20 years. The field has gone from two objectives to four accounts to four objectives and now some say back to one objective, NED constrained by EQ and something called social. As several authors have

noted, these all share the same realities of water politics—the attempt to use rational analytical technologies to justify projects which themselves are a result of a distributive logrolling system (Lord 1979; Ingram 1971, 1972).

Institutions are the embodiment of values in regularized patterns of behavior (Laswell 1971). The shift of public values supporting EQ and the tendency of traditional agencies to define themselves more by certain products rather than by a broadened conception of Federal water engineers and constructors, has caused adjustments in our national institutions. Most federal water engineering and construction dollars are now spent in EQ areas such as toxics and wastewater, by a newer agency embodying EQ values. The advent of environment has not really meant a great loss of water-related federal engineering and construction dollars. It has meant a new alignment of where and how the federal dollars are spent. In corporate terms, traditional water resource agencies have been losing market shares of the water engineering and construction market of federal dollars.

Nevertheless, projects do remain and conflict management and public involvement are tools to help define the balance among environmental and economic development concerns within those projects. With the passage of P.L. 99-662, PI and CM are more important today than ever. For example, cost-shared planning and innovative financing, the political prices for P.L. 99-662, mean that non-Federal sponsors and federal agencies must work more as partners. This will elevate the skills of collaborative problem solving and negotiating to prime importance for Federal planners.

For example, consider the PI and CM techniques in the context of a specific water project. Further, assume that planning for a large water project has just been completed. Throughout planning, our public participation was wonderful by all standards. However, at the end, our planning process produced what some might call inappropriate or marginal environmental decisions. What should be done?

I have heard many concerned individuals answer: That is impossible. You cannot have a bad environmental decision and a good public participation process. The same question may be posed to developers: What would you do if you had a good public participation process, but produced a weak development decision? When we examine how we feel about these questions, these feelings demonstrate the relationships among environmental quality and other social values.

Environmental quality (EQ) is a social goal. While most people do not wish to kill themselves or the public, there are also degrees of acceptable EQ. Other social values such as: open inquiry, free expression, or homeostatic needs, are constantly traded off against environmental quality. The question we face is What is the appropriate and legitimate process for raising such issues and for trading off among their impacts?

Look at this relationship in another way. To the environmentalist, one might say, "Ok, you wanted to raise our consciousness. It is being done. Knowledge about ourselves, as part of an organic whole earth, is growing. Now, what do we do with this new self-reflective knowledge? How do we use such knowledge to grow? What choice for change do we make? Indeed, what is our responsibility: to change or grow? Is it to stop growing? Is it to model ourselves after some vision of the pristine past? If we are to grow, in what way?"

To the engineer, one might say, "Ok, we wanted to play God. Now we control a major river. Do you want and are you willingly to accept respon-

sibility for choosing who will be flooded downstream by your releases to compensate increased stream runoff from the snowmelt?"

These metaphors and questions are only suggestive. They are used to sensitize us to the interplay between environmental quality and social values. There are no easy answers. Different answers are appropriate for different people at different times. Appropriateness, in this project context, itself, is more a consensus, convergence, or agreement. In his book, *A God Within,* Rene Dubos (1972) states:

> But reverence is not enough, because man has never been the passive witness of nature. He changes the environment by his very presence and his only options in dealings with the earth are to be destructive or constructive. To be creative man must relate to nature with his senses as much as with his common sense. . . . Reverence for nature is compatible with willingness to accept responsibility for a creative stewardship of earth (p. 174)

Public Involvement and Conflict Management Clarify the Relationships between Social Values and Structure

The institutions and organizations that supply and distribute water resources reflect society's values toward equity, freedom, and justice. Engineers have actively participated in using water resource development to effect social behavior and to project how that behavior will affect water resources. Yet little is known of this interaction. A growing body of historical literature is beginning to examine some of these relationships. Social scientists have long recognized that political and social structures are related to the way societies organize, supply, and distribute water. In fact, water resource development has helped to transform previously blighted sections within numerous countries. Yet we know little of how current water resource development is affecting population and wealth distributions such as around coastal and arid areas.

In his book, *Oriental Despotism,* Carl Wittfogel (1957) presents his hydraulic civilization hypothesis. Wittfogel sets out to understand total power and authority. He ends by explaining autocratic power and authority through the hydraulic civilizations. As man develops and water needs grow, he builds irrigation and water systems which encourage greater centralized social structures. These social structures then become autocratic; and society, itself, becomes dependent upon a certain political/social structure. While a simplistic overview of Wittfogel, the point is that the drive to develop, to organize, to maintain, and to deliver water results in a centralized political structure.

In *Rivers of Empire,* Donald Worster (1986), recently applied this thesis to reclamation project in the U.S. West. Other historians and social scientists, such as Glick (1970) and Maas (1970), have taken somewhat different positions. They have shown how more decentralized social/political structures can develop from the same search for providing irrigation and water supply in arid areas. All of these studies indicate a relationship between how one organizes to distribute water and the resulting political and social structure. We should know what those relationships have been. We should be conscious how our water management behavior today, even in the micro sense, is contributing to our macro political and social structures.

Public Involvement and Conflict Management Techniques Can Help Reclaim the Civil in Engineering

Historically, civil engineers trusted with the keys of technology have been leading instruments in the process of social adaption and growth. They have been critical to what Brownowski (1973), in *The Ascent of Man*, calls man's essential nature ". . . the explorer or nature . . . the ubiquitous animal who did not find what has made his home in very continent." To the degree civil engineers act according to this image as a purveyor of technology fix, they draw us close to a future of deterministic entropy rather than one of evolutionary and visionary growth. As Samuel Florman (1976) notes in his *Existential Pleasures of Engineering*, his view denies the civil engineering profession its creative and artistic roots. Florman states:

> Analysis, rationality, materialism and practical creativity do not preclude emotional fulfillment. They are pathways to such fulfillment. They do not reduce experience as is so often claimed; they expand it. Engineering is superficial only to those who view it superficially. At the heart of engineering lies existential joy.

Much civil and water resource engineering is seen as structural intervention into natural systems. Such interventions are justified for the best of reasons—to minimize stress on the social system and to create new growth opportunities. Although useful, this view can be dangerously limiting. Civil engineering can suddenly become the application of one set of solutions to many problems. Problems than become defined more in terms of a narrow understanding of possible technical solutions than broader social needs and values. Civil engineering then adopts the role of defining social limits rather than assisting social dreams. This position is fraught with conflict which can place engineers at odds with those whom they serve.

How often have you heard, "Well, they want everything." "They want power, but they don't want the dam." "They want energy and lights in the house, but they don't want the nuclear plant." "They want the water for boating and fishing, but they don't want the concrete." "How can they be so irrational?" There is truth here, the frustrations are real. But there is also truth that the engineer has a creative as well as a limiting responsibility. The engineer represents a large societal overhead investment. If all we can do in responding to social dreams, as unrealistic as they appear, is to say *no*, then we shouldn't be surprised if we are jettisoned in favor of some irrational faith or belief. Civil engineers must ask, "Do we seek to create new options and to fill dreams or do we spend most of our time killing off options in the name of practicality or even in the name of being comfortable?" Society will not long tolerate indifference toward its dreams and it may even retreat to a new era of "irrationalism."

Today cost sharing and innovative financing arrangements have created what is being hailed as a "new partnership" among federal, state, local, private and public interests. Sponsors of projects are becoming partners in management and even in engineering design! The Corps of Engineers is just beginning to feel the impacts of these new requirements. Do we build 50-year flood protection? We once built 100-year protection because that is where we agree. Does this agreement compromise engineering standards? What is a performance standard and what is an engineering standard? Who

will assume liability when 50-year protection is breached? You know the old adage, it is everybody's and nobody's responsibility. Are we building to engineering or budget criteria? Can we really negotiate public safety? How should public engineering agencies define risk to public safety? Does agreement among sponsors equal acceptable risk? Is willingness and capability to pay the whole project story? Who will represent and pay for EQ?

Twelve years ago, while training my initial public involvement Corps classes, I remember students saying, "We can't do this public involvement and bring the environmentalists into projects. Our project sponsors won't stand for it." I would respond, "Why don't the sponsors come to the public meetings?" Well, now these sponsors are partners in projects, what do we say? Who do we represent?

These questions define the Water Resources Project Level environment. In such an environment, collaborative problem solving, facilitating and mediating, and public involvement are and will be more important than ever. They offer the means which managers will use to reach agreement on what EQ and social objectives mean in their projects.

The point in "reclaiming the civil in engineering" is to rediscover the "existential pleasures" of civil engineering, the art or creative aspects of engineering. This is best achieved through the clash of conflicting values in designing engineering alternatives. PI and CM provide the water resources planner with tools to turn this clash into positive results.

PI and CM Techniques Help to Constructively Deal with Values or Competing Visions How the World Ought to Be

Intense environmental conflicts and frustrations for managing them have forced engineers to seek a better understanding of why such conflicts are generated. Beneath the surface of seemingly irrational endangered species rescue operations, ecological doomsday jargon, and developmental zeal, lurk major social value conflicts such as public versus private engineering, growth versus no growth, economic versus other social values, science versus popularism, and technical versus political values. Environmental conflicts in the 1970s have reaffirmed that civil engineering has social effects and objectives beyond technical construction and narrow economic development. The engineer, trained and rewarded for technical excellence, is frequently frustrated by what are perceived as extra social or environmental design constraints. However, far from constraints, broadening the social objectives of engineering presents new opportunities for engineering service if one makes the effort to look. The clash of values that we see around us can be seen as a negative burden or as an opportunity for creativity. But what are these values? Let's look at some examples.

Some time ago, the Corps sought projections for electrical energy needs to the year 2000 in the Pacific Northwest. What they found is not surprising. One projection showed steady growth in electrical energy needs to the year 2000. This projection was done by utility companies. Another projection showed a steady downtrend to the year 2000. This projection was done by environmental groups. One or two projections were found somewhat nearer to the center, these were done by consultant groups. Now what does this say? Each projection was done in an statistically "pedigreed" fashion. Each was logical and internally elegant, if not flawless.

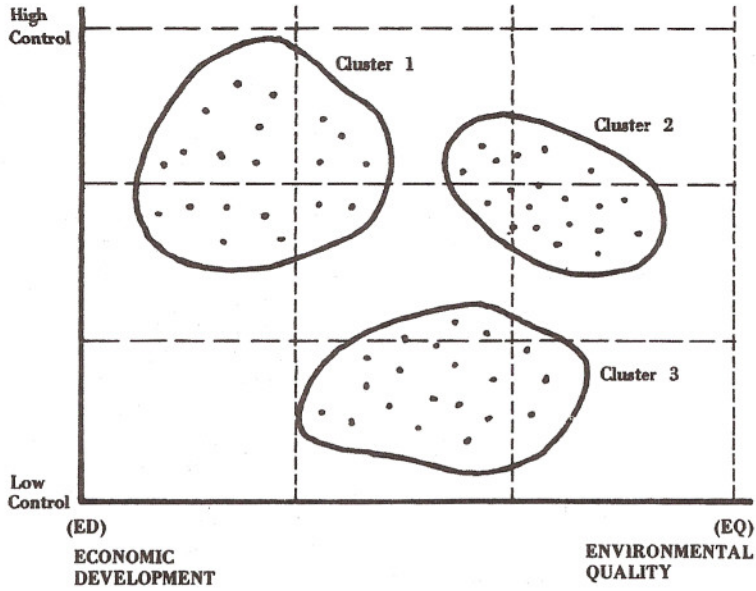

FIG. 2. Value Matrix (From Creighton 1978)

The point is, once you know the group, you will know the relative position of their projections. That is, the group, organization, or institution embodies a set of values. These values are visions of the way the world ought to be. These visions become assumptions which, in turn, play out into numerical results. Therefore, we have trend lines going in different directions. While you probably could not know the exact number, you could tell the relative position of these projections.

The problem water resource professionals face is to understand that the assumption game around the competing values should be mediated. But how can we do this when the arena for playing that game uses highly technical knowledge? What percentage of the population can understand the statistical language necessary to play this projection game? We must not call our projections value-free facts and then masquerade them as objective when they are really an elegant extension of our values. So to start engineering design, the water resources planner or manager must find processes which mediate and somehow negotiate among the value-driven assumptions which build projections.

Let's take a look at values from another perspective (Creighton et al. 1983) Fig. 2 has two axes. The bottom axis shows tradeoffs between environmental quality (EQ) and economid development (ED). The vertical axis shows tradeoffs between high government control and no government control. On the bottom axis imagine a person at the EQ end. This person sees man as ruining nature; man would be better in a pristine state of nature such as described by Rousseau. Imagine a person at the ED end of this continuum. This person sees the land existing for man's use; we should pave America. Where would you fall on this continuum?

Now look to the vertical axis. At the top end of the axis at high government control, imagine a person who believes that, left alone, man will become anarchistic and end up killing himself. This person feels that man is Hobbesian, he needs order and political control. At the bottom end of the axis, low government control, imagine a person who believes the best government is that which governs the least. Where would you fall on such a continuum?

These continuums require tradeoffs and balance. Both describe familiar value trade-offs found in water resource development. Suppose you are to trade off against each of these continuums; into which of the nine boxes would you fall? To make the figure even more relevant, think of organizations with which you normally deal, such as the Corps of Engineers, the Fish and Wildlife Service, the state natural resource agencies, or the chamber of commerce. In which box would you put those organization?

For the sake of argument, suppose we have a water problem such as an urban flooding. Suppose we had 20 agencies, interest groups and other organizations involved. How different would the engineering design be if we did the following? First, we identified where such groups fell in this figure. We could indicate where groups fell by placing little dots with their name on the chart. That has been done hypothetically without including names! Once we had distributed 20 dots around that chart, we would probably find various clusters. Circles are drawn around these hypothetical clusters on the figure. Once having drawn such clusters, we can then say to the engineer, Design alternatives." That is, design specific alternatives each of which solve the flooding problem for each of the three value clusters.

Look at what has been done. We have said to the engineer, understand the values; find how those values cluster; and design alternatives to service those values. By using such a thought process, the engineer can design *to* values as opposed to presenting solutions which themselves include values, and frequently too narrow a range of values. In this way, fewer alternatives may be developed which also represent a broader range of values.

Designs which flow from such a thought process will greatly reduce the time spent on unmeaningful alternatives. The point is: the engineer needs process techniques to understand competing values and to provide a road map for turning such competing values into the creative generation of alternatives and successful implementation.

Public Involvement and Conflict Management Techniques Help Us Meet Demands of an Emerging Paradigm of Knowledge

Popular books about the new physics, the mysticism of physics, and science abound. From the self-help movement, to social work, to science, to the legal professions, we witness the emergence of a new sense of how we come to know. The "subject object" distinctions and what has been called the Newtonian or mechanistic view of the world is breaking down. Just as Hiesenberger noted in the 1930s, our instruments of measurement themselves affect that which we measure. Social scientists have long noticed this and called it "interactive bias." This interactive bias or, the interaction with that which we measure, is certainly true in water resources planning and management.

This new paradigm of knowledge includes an awareness of at least the following for water resource planning:

1. Planning creates as much as predicts the future.
2. The validity base of planning is found in an "intersubjective transfer of knowledge," not in an "independent-observer" position and that reality is more a shared process of creation than an independent observable fact.
3. Planning is as much political as it is technical. As Norton Long states:

> The question is not whether planning will reflect politics, but whose politics will it reflect . . .? Plans are in reality political programs . . . in the broad sense they represent political philosophies . . . ways of implementing different conceptions of the good life.

4. The planner's role is to design win-win rather than zero sum or lose-lose alternatives.
5. The way we forecast has a major impact on the type of society in which we live.

To the degree these principles form the way we come to knowledge, we need processes, not just analytical techniques, to arrive at agreement on even the "facts" of projects.

Public Involvement and Conflict Management Recognize that "Process Communicates Content"

We know from communications theory and practice that communications have both process and content components. How you do something can have as much influence on acceptability as the actual substance. How frequently have you heard an engineer exclaim, "The equation was perfect, they just don't understand, they're idiots." Such frustration is not directed at illiterate publics, but also at other technical engineers who speak the same technical language! When we communicate, we must understand the relationship among us as well as the content we are communicating. It does no good to perfect content, but foster incongruent relationships.

Let me illustrate with the case of a public hearing. Few people like public hearings. Fortunately, if we have managed to change one thing in the last ten years, it is that formal public hearings are not the only way to meet the public! In the old days, we often saw a scene like this. It is evening in the local high school gymnasium or church hall, all the chairs are set in classroom style. A podium stands in front, with an American flag on the right, a state flag and maybe a Corps of Engineers flag on the left. Fifty to a hundred people are sitting.

Into this scene walks a district engineer in full uniform followed by his aids. This well-meaning and thoughtful public servant stands behind the podium and speaks to the audience. "Good evening ladies and gentlemen. I am here to listen to your views on the project." Nothing in that room says that he is here to listen! Everything in that room says "authority" and that he is here to inform.

Now, there are many instances where such a format is appropriate. But it is not appropriate for purely listening. So, right from the beginning, the relationship and content are in conflict. While the district engineer has said he is here to listen, all of the relationships he has set up through the format are communicating the opposite. Indeed, most people are probably subconsciously or consciously feeling as if there is some trick or lie being played,

With this example, I simply want to illustrate that process can communicate content. No matter what the content, the way it will be received and communicated will, to a great degree, be determined more by that process than even what is said.

Process techniques are needed to both understand relationships and to deal with the relationship aspect of communication so that the important content, scientific, analytical or otherwise, can be exchanged.

Public Involvement and Conflict Management Techniques Are Keys to Defining Main Dimensions of Social Acceptability

To illustrate this point, let's look at three dimensions. The first is salience. It is often difficult for engineer planners and managers to understand. What is salience? We all have numerous important issues on our agendas. Which of these important issues will we deal with first? I frequently hear water resource professionals come together to affirm the importance of water issues while bemoaning the decision-makers' inabilities to understand this importance.

Water is salient to water people, but not always as salient to decision-makers. Salience is, as most politicians know, crucial to decision making. Professors Coplin and O'Leary (1976), in their book *Prince*, have developed an excellent way to examine and profile salience in political decisions. Essentially one looks at an issue and around that issue, and identifies actors. For each actor you identify his or her position on the issue, rate his or her power, and then rate the salience of the issue to the actor. It is the salience that becomes crucial. For example, we might identify actors who are negative or positive and possess high power, but for whom the issue is not salient. The problem is not changing their position or counteracting their position or power, but rather changing the salience of the issue. That is, moving the issue further up on their agendas.

A second dimension is relative deprivation. One good description of this concept can be found in Ted Gurr's book, *Why Men Rebel*. Essentially, the concept says that we see ourselves relative to others. To illustrate, let's take a water resources project with recreation benefits. The reservoir is built. Now, there is boating, fishing, and water sport recreation where previously none existed. Nevertheless, intense conflicts develop. Joe now has twice as much recreation as Dick. Although neither Joe nor Dick had recreation before the project, Joe now has twice as much as Dick. This causes some conflict. That is the concept of relative deprivation. In fact social instability often occurs in such times of change. So, from our point of view, engineers should know how project alternatives will affect perceptions of "relative deprivation." It is not just the expansion of the pie or just the redistribution of a fixed pie, but distribution of the expanding pies that are important.

A third dimension, already touched, is values and interests. A succinct description of values, needs, attitudes, and opinions can be found in the book *Human Values* by Milton Rokeach (1973). We have already lingered on values, but what of opinions and attitudes. Rokeach says, "an attitude differs from a value in that an attitude refers to an organization of several beliefs around a specific object or situation. A value, on the other hand, refers to a single belief of a very specific kind. It concerns a desirable mode or behavior in-state that has a transcendental quality to it . . ." (p. 8). Opinions

are even more transient than attitudes. They are some of the "stuff" from which attitudes are made.

Interests, which are the ranking or salience of values in specific policy situations, are at the center of a major approach in the conflict management literature—Interest Based Bargaining. This approach is best summarized in Roger Fisher's (1971) book, *Getting to Yes*. Interest-based bargaining essentially says go beyond positions and understand the interests behind the positions. Once we understand the interests behind positions, we can negotiate issues into positions which serve each others interests. Interests are essentially sets of values. While we cannot supplant another's values, we can substitute and find common grounds of mutually satisfying interests. If we do this, we can avoid conflict aftermath. We do not want to avoid conflict, but rather the aftermath from poorly managed conflict. Interest based bargaining seeks durable settlements by achieving procedural, psychological, and substantive satisfaction with agreements.

For example, the Corps has used facilitation processes and encouraged interest based bargaining to write general permits for Section 401 permitting (Delli Priscoli 1987). By bringing parties together, with neutral facilitators, people who are traditional adversaries are able to go behind their positions and to understand each others interests, and to negotiate durable agreements. Environmentalists, industry groups, and developers have been able to discover their shared interests in time and money. In one case environmental groups, while not preserving all wetlands, preserved a significant proportion of wetlands. But also, construction activities were conducted according to agreed procedures. Thus, the environmental groups were freed to fight on more salient battlegrounds. For industry and developers, the reduced development was compensated by certain five year future no delays.

Summary

The process by which EQ and social objectives are defined is critical to water resource professionals because much of the content of EQ and social objectives is ultimately negotiated. Public Involvement and Conflict Management refer to techniques which help define and incorporate EQ and social objectives into water management and planning. In this paper, I have reviewed seven reasons why I think this is true.

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