

Water Resources Planning: A Collaborative, Consensus-Building Approach

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Abstract—*Public involvement in water resources planning is traditionally limited. While decision makers may solicit public input, affected parties rarely have the opportunity to participate directly in the decision-making process. In recent years, this lack of meaningful public participation has been exacerbated by an increase in the number of individuals and groups interested in water management. In light of these limitations in and new demands on water resource planning, there has been a loud call for the development of new mechanisms to enhance public involvement and conflict management. The state of Montana has responded to this call by developing a state water plan through a collaborative, consensus-building process that directly involves the public in water policy decisions. In general, the process is based on the principles of environmental dispute resolution. After reviewing these principles, the design and implementation of Montana's state water plan is examined. The advantages and limitations of this collaborative, consensus-building process are outlined, along with the conditions necessary for successful implementation.*

Keywords: Water resources planning, public involvement, collaboration and consensus building, environmental dispute resolution.

Introduction

Public involvement in water resources planning is traditionally limited (Wengert 1971; Hrezo and Howe 1985). While decision makers may solicit public input at certain phases throughout the process, they are on their own when it comes to evaluate the input and incorporate it into their decision. In each step of the process, however, value judgments and resource tradeoffs are made. Rarely do affected individuals and organizations have the opportunity to participate directly in the decision-making process, to clarify or expand on their concerns, or to correct inappropriate responses to the issues they raised (Wondolleck 1986). Affected parties rarely have the opportunity to see how and where their concerns were incorporated, why some issues could not be incorporated, and how their comments affected the final decision. As people with a stake in the final decision are separated further and further from the decision-making process, they are not only at a loss with respect to how their interests are incorporated, but more important, they are "in the dark" on the rationale for the final decision. Conversely, decision makers are put in the position of second-guessing the public's concerns, weighing and balancing tradeoffs, and hoping the affected parties will see the logic of the decisions and accept its outcomes. In practice, however, there is often widespread dissatisfaction with both the decision-making process and its outcomes (Pierce 1979).

In addition to the lack of meaningful public involvement in traditional planning processes, the number of affected and interested parties has increased. As the focus of water policy has evolved from structural solutions to better management, the number of individuals affected by or interested in water decisions has multiplied, and decision makers must now deal with a variety of interest groups that have broad, distinct, and often conflicting concerns and objectives (Howe 1988). Informed consent by these numerous publics is now a prerequisite for progress. Projects and programs can no longer be based simply on technical feasibility, but must incorporate the interests and values of an array of politically influential individuals and groups.

In light of these limitations in and new demands on water resources decision making, there has been a loud call for the development of new mechanisms to enhance public involvement and conflict management (Doerksen and Pierce 1975). Getches (1987, 7; 1988, 161) recommends wide public participation and federal agency coordination in the development of comprehensive water plans and policies. Viessman (1988, 583) suggests that future decision-making processes should foster interactive problem solving and conflict management among the public, resource management agencies, and decision makers. Finally, Amy (1987) and Howe (1988, 8) believe that mediation, facilitation, collaborative problem solving, and consensus building offer opportunities for greater public participation in environmental decision making and are increasingly needed to allow new policies, programs, and projects to proceed.

The purpose of this paper is to examine a water planning process that has responded to this call. The state of Montana is developing a state water plan through a collaborative, consensus-building process that directly involves the public in water policy decisions. In general, the process is based on the principles of environmental dispute resolution. After reviewing these principles, the design and implementation of Montana's state water plan is examined.

Environmental Dispute Resolution

As an innovative approach to public involvement and conflict management in natural resources policy making, environmental dispute resolution (EDR) refers collectively to a variety of approaches that allow affected parties to meet face to face to reach a mutually acceptable resolution of the issues in a dispute or a potentially controversial situation (Bingham 1986). Although there are differences among the approaches, all are voluntary processes that involve some form of negotiation, joint problem solving, and consensus building (Cormick 1980; Mernitz 1980; Lake 1980). Public involvement in EDR processes is thus much more direct than in traditional decision-making processes. Affected parties help define the issues, collect and analyze data, assess competing values and tradeoffs, and make decisions. Participants may also become involved in implementing whatever decision is reached, thereby expanding their influence on a particular issue.

The process of making decisions through an EDR process is guided by several well established principles (Susskind and Weinstein 1980, 336; Bidol et al. 1986, 17-18; Susskind 1986). An effort is made to include in the process all the parties affected by or interested in a given issue. Whenever necessary an effort is made to assist parties in acquiring the expertise, information, and skills necessary for their full and equal participation in the process. Prior to discussing any substantive issues, these parties agree to the ground rules that guide and govern the process. The parties then educate each other about issues and interests through nonadversarial negotiations. The best available scien-

tific and technical expertise is used to create a jointly acceptable data base and framework for analyzing the issues and their potential impacts (Hollings 1978). The parties generate several options to resolve the issues and collaboratively bargain over the acceptability of the options. An external third party or mediator is often used to assist the parties in reaching a negotiated settlement (McCarthy and Shorett 1984). Decisions are made or largely influenced by the parties as they work toward mutually acceptable solutions (Bacow and Wheeler, 1984, 21-41). If the parties are successful in reaching such a solution, it is written down and includes provisions for implementations, monitoring, enforcement, and evaluation.

According to the literature, EDR offers several advantages over traditional decision-making processes (Cormick 1980; Susskind and Weinstein 1980; Bingham 1986; Levinson 1988). From the perspective of public involvement, however, two advantages stand out. First, EDR provides for much more meaningful participation by affected and interested parties in the decision-making process. These parties no longer simply provide input into the process but become decision makers with opportunities to directly influence the process and its outcomes directly. The second major advantage is that, because the affected parties guide the EDR process, it tends to focus more satisfactorily on the issues and concerns raised by the parties (Painter 1988, 169). It often allows for a broader and more sophisticated range of issues to be addressed than in traditional decision-making processes. EDR processes also promote communication, cooperation, and the sharing of values and interest (Burgess 1981). They encourage joint fact finding and the resolution of scientific and technical uncertainties (Ozawa and Susskind 1985, 23-29). Finally, EDR processes are flexible and may be designed to fit the specific circumstances of a particular case (Bingham, 1986, 53).

While EDR offers many advantages over traditional public involvement and decision-making processes, several procedural concerns have nevertheless been raised by a number of analysts (Golton, 1980, 62-66; Lake 1980, 64-65; Shorett 1980, 59; Amy 1987; Blackburn 1988, 564-565; Rabe 1988, 585-601). The six most common concerns raised by the critics are (1) problems of representation; (2) difficulties of setting an appropriate agenda; (3) obstacles to joint fact finding; (4) cooptation resulting from unequal political power or bargaining ability; (5) difficulties of binding parties to their commitments; and (6) obstacles to monitoring and enforcing negotiated agreements. While these issues may limit the success of EDR processes in certain cases, they can be overcome with the application of innovative techniques and, when necessary, the assistance of a skillful and astute mediator (Susskind and Ozawa 1985).

The principles of EDR have been applied to a wide variety of situations, including site-specific cases, policy-level issues, and negotiated rule making. Site-specific cases involve disputes or potential controversies over the allocation of resources in a particular project or plan (Cormick 1976). Policy-level issues focus more on the development of broad policy goals, guidelines, and procedures to address a general problem area (Murray 1978). Finally, negotiated rule making or regulatory negotiation is a consensus-building process which brings together representatives of the interests that would be affected by a regulation to develop the initial draft of the regulation through direct negotiations (Harter 1984; Perritt 1986). A recent survey of environmental dispute-resolution cases found that approximately three-fourths of the cases involved site-specific issues, while the remainder focused on policy issues and rule making (Bingham 1986, 32-33). Substantively, EDR has been applied to at least six broad categories of issues, including land use, natural resource management and use of public lands, water resources, energy, air quality, and toxics (Bingham 1986, 30-44).

The use of an EDR process is particularly appropriate in the development of water policy because the issues typically expand beyond any one agency or jurisdiction; they involve multiple parties with wide disparities in interests, power, and resources; there may be technical issues involving controversial data interpretation and scientific uncertainty; and the issues often affect the broader public interest (Talbot 1983; Bingham 1986; Carpenter and Kennedy 1988, 21–36). The following case study presents an example of how public involvement and conflict management can be improved through application of the principles of EDR.

The Montana State Water Plan

In 1967, the Montana legislature passed the Water Resources Act which outlines several water management goals for the state (Mont. Code Ann. 85-1-101). The legislature also called for the development of a state water plan as the mechanism to accomplish the goals (Mont. Code Ann 85-1-101(10)). According to statutory guidelines, the state water plan should be comprehensive; coordinated; provide for a multiple uses; set out a progressive program for the conservation, development, and utilization of the state's water; and propose the most effective means by which the state's water resources may be used for the benefit of the people, with due consideration of alternative uses and combinations of uses (Mont. Code am. 85-1-203).

The State Department of Natural Resources and Conservation (DNRC) is responsible for developing the state water plan. In the process of formulating the plan, the DNRC is to consult with and solicit the advice of the legislature's Water Policy Committee; hold public meetings prior to plan adoption; adopt the plan with the approval of the Board of Natural Resources and Conservation; publish the plan; and submit it to the Water Policy Committee and to each general session of the legislature (Mont. Code Ann. 85-1-203).

Prior to 1987, efforts to develop the state water plan focused on basin plans (Martin 1987). While these plans resulted in volumes of technical information, they never considered the institutional and political feasibility of implementing their recommendations. Consequently, the plans provided little guidance to resource managers in resolving water management problems and ended up as "shelf art."

The traditional basin plans were also inappropriate vehicles for addressing the state's most critical water resource issues, such as interstate water allocation, reserved water rights, water use efficiency, instream flow protection, groundwater management, and nonpoint source pollution. Faced with these types of issues and given limited institutional resources, the DNRC realized that, to be successful, water planning must focus on specific, critical issues facing the state. It should examine the feasibility of existing laws and policies, administrative structures, funding commitments, and information and technical capabilities to resolve these issues. Planning must also provide for new institutional mechanisms that operate across jurisdictional boundaries and incorporate all affected parties early in the process. It should provide a continuous process that is adaptable to changing needs and desires. Finally, and perhaps most important, planning must lead to recommendations that will be implemented on the ground.

In 1987, the DNRC embarked on a new approach to developing the state water plan. After reviewing the water planning processes of other western states, the DNRC decided to adopt an approach used by the Kansas Water Office (Kan. Stat. Ann. 82a–903). This approach allows individuals and groups affected by water management decisions to participate directly in the development of policies, programs, and management deci-

sions. It is designed to develop water management solutions through collaborative problem solving and consensus building. The new process is also consistent with a 1985 declaration by the legislative Select Committee on Water Marketing that "well reasoned policies must be developed with the participation of the legislature, other involved agencies, and the public" (Select Committee on Water Marketing 1985, 17).

The New Planning Process

As currently envisioned, the Montana state water plan will provide a comprehensive, coordinated, and integrative framework for managing the state's water resources. It is an issue-oriented plan designed to address the full range of water management issues facing the state. The planning process recognizes that a large number of federal, Indian, state, local, and even regional entities have a role in the management of Montana's water and that several parties are affected by water management decisions, including irrigators, municipalities, energy and industrial developers, and fish, wildlife, and outdoor enthusiasts. Accordingly, it provides an opportunity for all these parties to be involved in formulating and implementing the plan, thereby promoting coordination and cooperation in achieving water management objectives. Finally, the planning process is continuous and adaptable, allowing for changes in social, economic, and environmental objectives and needs.

The development of the plan consists of two phases. During the first phase, which is the focus of current activities, the planning process is designed to document, evaluate, and revise the legal and institutional framework for addressing statewide water management issues. The objective of this phase is to develop the best possible set of legal and institutional tools for resolving selected water management issues. Once the most critical statewide issues have been addressed, the planning process will focus on basin-specific water management plans.³ These plans may focus on a single issue at a time, such as water pollution, or may consider multiple water uses at the same time. Using the legal and institutional tools developed during the first phase of the process, the long-term objectives of the basin-specific plans are to document available water supplies and existing uses and rights; to project future water resource needs and priorities; and to integrate water, land, environmental, social, and economic goals, identify conflicts, and assess tradeoffs in order to optimize water use within the basin.

To facilitate formulation of the plan, the governor appointed a State Water Plan Advisory Council (SWPAC) (Office of the Governor 1986). The SWPAC consists of ten members who represent a broad range of interests in water resources, including the directors of the state departments of Natural Resources and Conservation, Fish, Wildlife and Parks, and Health and Environmental Sciences; a representative from the Governor's Office; four legislators (representing agricultural, Indian, and environmental interests); and two representatives of the public (a recognized water law expert and the manager of a large irrigation district). As is seen below, the SWPAC assists in identifying and selecting issues, developing objectives and strategies to resolve water management issues, and implementing and evaluating the recommended actions. While the SWPAC is the principal decision-making body in the state water planning process, the DNRC facilitates the process and serves as staff to the SWPAC.

Implementation During 1988

During 1988, implementation of the new planning process consisted of several steps.⁴ The first step was to identify and select issues to address. Throughout 1987, the Water

Resources Division (WRD) of the DNRC met informally with water managers in other state and federal agencies, as well as with the legislative Water Policy Committee, to identify critical water resource issues facing Montana. This effort resulted in a list of about twelve issues, which were then presented to the SWPAC. The SWPAC selected four of the issues to address in 1988, including water data management, federal hydro-power licensing and state water rights administration, agricultural water use efficiency, and instream flow protection.

The next step was to begin drafting issue papers in January on each of the four issues selected. The issue papers provide background information; define goals and objectives; document and evaluate existing policies, programs, and practices associated with the issue; identify problems; examine several options for resolving the problems; and develop recommendations. The issue paper on water data management was researched and written by staff with the state's Natural Resource Information System, which is located in the State Library (Montana Department of Natural Resources and Conservation 1988a). The other three issue papers were researched and written by staff in the WRD (Montana Department of Natural Resources and Conservation 1988b, c, and d).

As the issue papers were being drafted, the WRD identified several individuals to serve on Technical Advisory Committees (TACs) for each issue. Initially, these groups were to consist of "technical" experts that would review and revise the issue papers. However, after the original Instream Flow Technical Advisory Committee, composed exclusively of instream flow advocates, suggested several "radical" proposals to the SWPAC, the council recommended that the TACs should have a more balanced representation. Consequently, the TACs were formed to represent all the parties affected by a given issue, not just the technical experts and advocates. The SWPAC also specified that the role of the TACs should consist of identifying problems, examining options, and making recommendations. Consistent with the philosophy of the new process, the goal of the TACs was to develop consensus recommendations for consideration by the SWPAC.

From March through June each TAC met once, with the exception of the instream flow TAC which met twice, to discuss the problems, options, and recommendations outlined in the issues papers. Most of the meetings began with a certain amount of posturing and exploring the role of the broad-based group. Some participants, particularly those from the agricultural sector, argued that representation on the instream flow and agricultural water use efficiency TACs was not balanced. Eventually the TACs focused on the content of the issue papers, as well as additional concerns that emerged from the discussions. Consensus recommendations were reached on some of the issues. However, on many of the more controversial issues, the TACs could reach agreement only on the options and their pros and cons.

Two observations emerged from the TAC meetings. First, more time was needed to address adequately the issues and concerns of the affected parties. One eight-hour meeting simply did not provide the time required to build a consensus on the number and scope of issues being discussed. Second, many of the TAC participants felt that the DNRC had unfairly defined the agenda of the TACs by preparing the issue papers before any input by the affected parties. However, the WRD continually emphasized that the issue papers were only a starting point, designed to stimulate thinking and discussion. Moreover, many of the ideas in the issue papers were significantly revised in light of the TAC meetings.

After the TAC meetings, the WRD revised the issue papers and prepared executive summaries for the SWPAC. The SWPAC then held two all-day meetings to consider the

findings and recommendations of the four TACs. As with the TACs, the SWPAC was initially unsure of its role and responsibility. However, under the leadership of the DNRC director, the chairman of the SWPAC, the council eventually focused on the issues, options, and recommendations presented by the TACs. While the SWPAC jointly and openly discussed the various proposals, they were not able to reach consensus on many of the issues. Consequently, to keep the process moving, the chairman was forced to call for a vote on several of the major issues.

Based on direction from the SWPAC, the WRD staff then prepared preliminary plan sections for each one of the issues (Montana Department of Natural Resources 1988e, f, g, and h). These plan sections are short, four-, to six-page summaries of the issues. They provide background, present a policy statement, examine the issues and options, present preliminary recommendations, outline actions for implementation (including legislative, administrative, and financial requirements), and include a time table and criteria for evaluation. The preliminary plan sections were then mailed to more than a thousand interested parties, including the SWPAC, the TAC the legislative Water Policy Committee, the Board of Natural Resources and Conservation, state and federal natural resource agencies, irrigation districts, municipalities, environmental groups, and the media.

The next step in the process was to receive public comment on the preliminary plan sections. In late August and early September, the WRD held nine public meetings throughout the state. Almost two thousand people attended the public meetings and nearly two hundred letters were received commenting on the plan sections (Montana Department of Natural Resources and Conservation, 1988i). Nonetheless, many individuals expressed concern over the lack of public involvement in the process. They criticized the DNRC for not involving the public earlier in the process, prior to making final decisions. In reality, however, affected parties and the general public were on the "ground floor" in developing the plan. Not only were representatives from several interests involved in developing the preliminary plan sections, but no final decisions or proposals had been made prior to the public review and comment period. Other comments expressed concern over unbalanced TACs, the fact that certain issues, such as water storage, were not addressed, and the short time frame for developing the state water plan. Some commentators also perceived that the DNRC had too much control over the planning process and that, as a regulatory agency, the DNRC has an inherent conflict of interest that affects its credibility in the planning process. Finally, many comments praised the collaborative, consensus-building nature of the planning process.

In early October, the SWPAC met to discuss the public comments (Montana Department of Natural Resources and Conservation 1988j). Several of the preliminary recommendations in the instream flow protection and agricultural water use efficiency plan sections were significantly revised by the SWPAC in light of the public comments (Montana Department of Natural Resources and Conservation 1988k, l, m, and n). The SWPAC also called for more public involvement throughout the process and extending the planning cycle to two years for complex, controversial issues. More important, the SWPAC reached consensus decisions rather than resorting to a vote.

The next step in the process will be to hold three public hearings on the revised plan sections. After the public hearings, the SWPAC will meet to make final recommendations. Depending on the public comment, they may adopt, revise, or completely withdraw the revised plan sections. Final plan sections will then be produced and presented to the Board of Natural Resources and Conservation, which must approve the DNRC's adoption of the plans (Mont. Code Ann. 85-1-203). Given that the board has not been intimately involved in developing the plans but apparently has some authority over their

final adoption, it is not clear what role it will play in the process. However, given the amount of broad-based collaboration, consensus building, and public involvement throughout the process, the board is not expected to challenge the plan's recommendations.

Once the board approves the plan sections they will be delivered to the legislative Water Policy Committee and the entire legislature. Implementation of the various actions will begin, and new issues will be selected for 1989. Based on the timetables outlined in each plan section, the implementation of the recommended actions will be monitored and evaluated. If implementations is somehow delayed or ineffective, or if new problems or opportunities emerge with a given issue, the TACs and the SWPAC will go back and revise the plan section accordingly.

Discussion and Conclusion

While it is still too early to judge its long-term success, Montana's state water planning process nevertheless represents an innovative model for public involvement and conflict management in water policy. Although the DNRC is responsible for developing the state water plan, it has realized that the most valuable role it can play is not to determine what decision or outcome is reached, but how decisions are made. The DNRC has decided to facilitate the development of the state water plan by focusing on such concerns as who is involved in the process; how issues are identified, framed, and their consideration bounded; what information is brought to bear; how alternatives are developed and analyzed; how tradeoffs are made; and what the procedures are for implementing, monitoring, enforcing, and evaluating the final decisions. Based on the principles of EDR, the state water planning process provides a forum for the broad set of interests affected by water management decisions to voluntarily sit down together, exchange information, and develop solutions through negotiation, collaboration, and consensus building. The process is designed to incorporate all the parties that have a stake in a given issue; allows them to define the problems, generate options, and negotiate over the acceptability of the options; establishes realistic commitments and implementable agreements, and develops written (though not necessarily enforceable) plan sections.

Montana's first year of implementing this new approach to water planning has largely been a learning process. The DNRC, along with all the participants in the process, were often perplexed and frustrated as to how the process should unfold. There was often much criticism on both the process and its outcomes. Unfortunately, this criticism was often based on misinformation and misunderstanding about the new planning process and its objectives. While the state water plan has been the focus of many controversial and heated discussions on water management, this interest was partly generated by one of the most severe droughts in the state's history. Although the first year of implementation resulted in several trials and tribulations, many innovative ideas emerged from the process in terms of solving water management problems, particularly instream flow protection and agricultural water use efficiency. Moreover, the state water plan provided more opportunities for public involvement and affected parties to influence water management decisions than perhaps any natural resource planning process in the history of the state. During the next planning cycle, both the process and the participants will have to make adjustments to incorporate the lessons learned and the opportunities for improvement.

Perhaps the most significant benefit of this collaborative, consensus-building ap-

proach to water planning is that, by including affected interests in actively determining the outcome of the planning process, these groups have a stake in the final decision and in seeing that it is implemented. This should avoid the costly and time-consuming outcomes of unmanaged conflicts, such as administrative appeals and litigation. The process also encourages the participating individuals and groups to focus on specific water management issues rather than assuming adversarial positions which leave little room for pursuing mutually acceptable solutions. Other benefits include the consideration of diverse perspectives and interests; the cooperative and systematic analysis of technical information, the formation of more pragmatic, equitable, and mutually acceptable goals and alternatives; and the improvement of relationships among diverse, often competing water user groups.

In addition to the benefits of this new approach to water planning, there are also several limitations. First, the process may sometimes result in raising an issue to a higher level of conflict, as with instream flow protection in Montana. Second, final decisions may depart so radically from existing conditions that implementation is neither administratively nor politically feasible. Third, the credibility of the process may be questioned if the recommendations of the working groups (e.g., the TACs) are not embraced by the decision-making bodies (e.g., the SWPAC). The credibility of the process may also be questioned if the final decision is not completely acceptable by all the parties. Finally, a collaborative, consensus-building process may require more money, staff, and other resources than an individual or group may possess in light of competing demands. This lack of resources may limit a party's effective involvement in the process.

While Montana's state water planning process represents an innovative model for public involvement and conflict management in water resources planning, several conditions are necessary for successfully implementing such a process. Susskind and Weinstein (1980, 336) list nine steps to successful collaborative, consensus-building processes.⁵ Bingham (1986, 91-125) also explores several factors that affect the success of such processes.⁶ These factors or necessary conditions relate to the parties involved in the process, the process itself, and the substantive issues addressed. Based on these observations and suggestions, Montana's state water planning process could be revised and may be improved.⁷

The first condition is that all the parties affected by or interested in a given issue must be represented in the process. The exact composition of the group will vary, depending on the issue, but is likely to include representatives from state and federal natural resource agencies, Indian tribes, water and energy utilities, agriculture and municipal interests, and fish, wildlife, and outdoor enthusiasts. While both the TACs and the SWPAC in Montana represent a broad range of interests, there may be opportunities for expanding representation on these groups, particularly the SWPAC. However, it is also important to limit the size of the groups to make them workable. A balance must be struck between having all the interests fairly represented and the total number of individuals participating. Participants should have a stake in the issue being addressed and perceive that their underlying interests are likely to be satisfied by the new planning process. At the same time, they must realize that the resolution of the issue is beyond the jurisdiction of any one organization and depends on the cooperation and collaboration of all parties. The participants must also understand and be able to articulate their interests and be willing and able to delegate decision-making authority to a spokesperson. (For example, the agricultural sector must select a representative to participate in the process and give that person the authority to speak for the group's interests). Finally, there must

be a low degree of polarization among the key stakeholders, and each party must participate voluntarily in the process, negotiate in good faith, and be committed to implementing the outcomes of the process.

The second condition is that the affected parties must be directly involved in jointly selecting issues, defining problems, identifying the relevant facts, outlining alternatives, assessing the pros and cons, and suggesting recommendations. They must also agree to several procedural issues, such as the decision-making criteria, the time-frame for the negotiations and analysis, and who should participate. The affected parties must also develop an agenda that is not only manageable, but addresses the concerns of all affected parties. During Montana's first year of experience, the DNRC often took the lead role in regard to these activities and was severely criticized as a result. The DNRC should be involved in this process, as both a substantive participant as well as the facilitator, but it should allow the TACs to have a more direct role in defining the agenda and developing the issue papers.

In an effort to identify issues for the 1989 planning cycle, the DNRC held a meeting with state and federal natural resource agencies to identify and prioritize issues that should be addressed by the state water plan. Although the meeting did not result in a strict prioritization of water management issues, it did achieve a consensus among the participants on a relatively short list of issues that might be addressed in 1989, including nonpoint source pollution, drought management, adjudication of water rights, groundwater management, reserved water rights, and wild and scenic rivers. The general public was also asked to identify critical water management issues during the public meetings in August. While several of the issues mentioned above were raised, there was an overwhelming call for evaluating the issue of water shortage and development. Finally, the DNRC will hold a broad-based public meeting early in 1989 to identify and further prioritize issues to address in the state water plan.

Another very important condition affecting the success of collaborative, consensus-building processes is that there must be sufficient time to allow for negotiations and joint problem solving. As many participants and observers in Montana noted, there was simply not enough time to develop consensus on the issues being addressed. As a result, the SWPAC has extended the planning cycle for certain issues to provide more time for collaborative research, analysis, and negotiation. The timing of the planning process, however, must be arranged so that the outcomes of the process may be incorporated into and influence the more formal policy and management processes of both state and federal governments. Using a two-year planning cycle, corresponding to the biennial legislative sessions, seem to be a logical time frame. It will also provide enough pressure to force the participants to resolve the issues in a timely manner.

A fourth condition is that the role and responsibilities of existing decision-making bodies must be clearly specified. Without clear role definition, opportunities for delay and modification of consensus solutions increase significantly. In Montana, it is unclear what the roles and responsibilities are of the legislative Water Policy Committee and the Board of Natural Resources and Conservation. Each one of these decision-making bodies is assigned a statutory role in developing the state water plan, and thus each represents a separate clearance point in the process. However, there has been little effort to distinguish the duties of these two bodies and the SWPAC.

In a similar fashion, the role of the lead agency or organization must be clearly articulated. In Montana, the DNRC is called upon both to facilitate the planning process and to participate as a state agency with water management responsibilities. This requires not only adequate technical skills, but also the ability effectively to manage joint

problem-solving sessions and large public meetings. It also raises a broader concern or question as to the appropriate institution for implementing such a process. Given its regulatory and management responsibilities, the DNRC has been criticized for having a conflict of interest in developing the state water plan. In Kansas, which has a similar process for developing its state water plan, implementation responsibility is located in the Kansas Water Office, whose sole mission is to facilitate the development of the state water plan. As a matter of principle, the lead group for a collaborative, consensus-building water planning process should be a relatively neutral or at least nonregulatory body.

A fifth condition is that the general public must understand and support the planning process. In Montana, many of the comments received at the public meetings and through the mail suggest that there are several misunderstandings and misperceptions. Thus, there should be an increased effort at educating the public on basic principles of western water law, the goals and mechanics of the new planning process, and the issues being addressed. Involvement of the general public should also be increased throughout the planning process. Both of these objectives could be improved in a variety of ways, such as annual workshops to identify and examine the critical water management issues, basin-wide committees to facilitate education and discussion on both the process and issues, and periodic newsletters, brochures, and similar communication devices (Kaufman and Shorett 1977). Whatever modifications are made along these lines, they must provide the public a sense that they are on the "ground floor" and that no final decisions will be made without their input.

Another condition is to ensure that the issues addressed are amenable to collaborative problem solving and consensus building from the perspective of all affected parties. Certain issues in Montana are so controversial, such as reserved water rights, or so complex, such as the state adjudication process, that the state water planning process, at least as it is currently designed, may not be the most appropriate forum for their resolution. To provide the impetus for participation by the public, the issues must be perceived by all parties as important and worthy of discussion. The issues must also be sufficiently defined to focus discussion and debate.

A seventh and final condition is that the solutions reached through the collaborative, consensus-building process must be implemented. If the decisions are not implemented, the credibility of the process will suffer. Moreover, the ultimate test of the process is whether it improves the management of water resources.

To the extent that these necessary conditions are satisfied, collaborative, consensus-building processes may improve public involvement and conflict management in water planning. However, such processes should not be viewed as a panacea (Lord 1980). Every water policy issue is beset by its own set of technical, administrative, and political constraints. Consequently, not every issue will be amenable to collaboration and consensus building. This type of planning process should be regarded as a supplementary tool that may or may not be more effective and efficient in particular circumstances. Traditional public involvement, conflict management, and planning processes remain important options. Water and natural resource issues are so varied that no one decision-making process is likely to be successful in all situations.

Acknowledgments

An earlier version of this paper was presented at The Second Symposium on Social Science in Resource Management, Urbana, Illinois, June 1988. The author wishes to

thank the anonymous reviewers along with colleagues in the Montana Department of Natural Resources and Conservation for their comments on a previous draft of this paper. However, the views expressed in this paper are solely the authors and not necessarily those of the Montana Department of Natural Resources and Conservation.

Notes

1. An excellent body of literature, from variety of disciplinary perspectives, is developing in support of this field. Prominent recent examples include MacDonnell and Painter (1988); Mills (1988); Bingham (1986); and Bacow and Wheeler (1984).

2. Several water management issues may be addressed by the state water plan. Water quantity issues may include agricultural water use efficiency, hydropower licensing and state water rights, water information management, instream flow protection, adjudication of water rights reserved water rights, water storage and development, and groundwater allocation. Water quality issues may include groundwater management and non-point source pollution. Other issues may include water quantity/quality management and river protection.

3. The state of Montana can be divided into three major watersheds or river basins—the Columbia, Missouri, and Yellowstone. These major river basins, in turn, can be divided into fifteen subbasins. As currently envisioned, the state water plan will eventually develop an issue-oriented plan for each of these basins through the same collaborative, consensus-building process as the one currently employed for statewide water management issues. The primary architects of the basins plans will be Citizen Advisory Committees, composed of citizens and affected parties located within a particular basin.

4. The steps taken to implement the state water plan during 1988 include the following:

1. WRD identified issues
2. SWPAC selected issues
3. WRD drafted issue papers/established TAC
4. TACs reviewed issue papers
5. SWPAC reviewed TACs recommendations
6. Public reviewed and commented on plan sections
7. SWPAC responded to public comments
8. Public hearings were held on revised sections
9. Final SWPAC decisions were made
10. BNRC approved plan section, and,
11. Implementation, monitoring, and evaluation were carried out.

5. Susskind and Weinstein (1980, 336) list nine steps to successful EDR processes, including:

1. Identifying the parties that have a stake in the outcome of the dispute
2. Ensuring that groups or interests that have a stake in the outcome are appropriately represented
3. Narrowing the agenda and confronting fundamentally different values and assumptions
4. Generating a sufficient number of alternatives or options
5. Agreeing on the boundaries and time horizons for analysis
6. Weighing, scaling, and amalgamating judgments about costs and benefits

7. Determining fair compensatory actions
 8. Implementing the bargains that are made, and
 9. Holding the parties to their commitments.
6. Bingham (1986, 91–25) examines three groups of factors that affect the success of collaborative, consensus-building processes. Party-related factors include the identification and involvement of all affected interests, the number of parties involved, and the type of parties involved. Process- and context-related factors include agreement on procedural issues, the presence of a deadline, the possession of sufficient incentives, the ability to satisfy each party's underlying interests, whether the dispute was in litigation, the maintenance of good representative/constituency relationship, and negotiation in good faith. Substance-related factors include the issues in dispute, agreement on the scope of issues, and agreement on the facts.
7. The planning process could be revised in the following ways:
 1. Broad-based public involvement (including the legislature) helps identify issues
 2. SWPAC selects issues and establish initial TACs
 3. TACs revise membership, scope issues, and define agendas
 4. SWPAC reviews agendas and defines policy statement
 5. TACs examine issues, define options, assess pros and cons, and make recommendations
 6. SWPAC considers TAC findings and adopts preliminary plan sections *or* TACs reexamine issues
 7. Public reviews and comments on preliminary plan sections
 8. SWPAC responds to public comments and makes draft final decisions *or* TAC's reexamine the issues, options, and recommendations
 9. SWPAC makes final decisions
 10. Public hearings are held on the draft final decisions
 11. SWPAC considers public comments and makes final decisions
 12. BNRC approves plan sections, and
 13. Implementation, monitoring, and evaluation are carried out.

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