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TOWARDS A THEORY OF ENVIRONMENTAL DISPUTE RESOLUTION

*Lawrence Susskind**

*Alan Weinstein***

I. INTRODUCTION

Almost every effort to protect or enhance environmental quality is perceived as a challenge, at least at the outset, by groups or individuals whose economic self-interest—or political beliefs—are threatened.¹ Similarly, almost every attempt to promote economic development or technological innovation is viewed as a potential insult to the quality of the natural environment or a threat to the delicate “ecological balance” upon which we all depend.² Environmental and developmental interests, if the shorthand is permissible, are locked in a fierce and widening battle.

Supported by public opinion and a sympathetic judiciary, environmental groups have been able to wield substantial power.³ Although the extent of popular support for pollution abatement and environ-

* Associate Professor and Head, Department of Urban Studies and Planning, Massachusetts Institute of Technology; B.A. 1968 Columbia University; M.C.P. 1970, Ph.D. 1973 Massachusetts Institute of Technology.

** Assistant Professor of Urban Planning, School of Architecture and Urban Planning, University of Wisconsin-Milwaukee; B.A. 1967 University of Pennsylvania; J.D. 1977 Boalt Hall Law School, University of California, Berkeley; M.C.P. 1979 Massachusetts Institute of Technology.

1. See I. KRISTOL, *TWO CHEERS FOR CAPITALISM* (1978); H. SPROUT & M. SPROUT, *ENVIRONMENTAL POLITICS* 52-53 (1978).

2. See T. Gladwin, *The Management of Environmental Conflict: A Survey of Research Approaches and Priorities* (1978) (NYU Faculty of Business Administration Working Paper #78-09); See also B. FRIEDEN, *THE ENVIRONMENTAL PROTECTION HUSTLE* (1979), for an interesting perspective on the legitimacy of “environmental opposition to development.”

3. See Bowman, *The Environmental Movement: An Assessment of Ecological Politics*, 5 *ENV. AFF.* 649 (1976); Marcus, *The Disproportionate Power of Environmentalists*, 2 *HARV. ENV. L. REV.* 583 (1977).

mental protection efforts has not diminished substantially,⁴ government and private industry have managed recently to win substantial public sympathy for their claims that environmental protectionism has "gone far enough."⁵ All the parties to environmental disputes now claim popular support, aggravating the intransigence of the contending interest groups.

At the same time that the number and intensity of environmental disputes—controversies in which the use of natural resources or the choice of appropriate standards for environmental protection are involved—have been growing, the ability of our social, political, and legal institutions to resolve these disputes in a timely, efficient, and decisive manner has diminished.⁶ In our pluralistic (and increasingly individualized)⁷ society, there is no longer a broad base of shared values. Disputes among groups with conflicting values are epidemic.

Government seems unable to address these disputes satisfactorily; in part because government itself is often a party to them, but primarily because the vitality of our political institutions has been sapped by the fragmentation of political parties into shifting alliances that do not so much govern as react to the pressures of special interest groups and other organized constituencies.⁸ The resulting paralysis in government, most particularly in Congress, has placed an enormous burden on our legal system; a burden that, in the view of many qualified observers, the courts may not be able to handle.⁹

It is in this context that we are evaluating new approaches to resolving environmental disputes that offer some means, in addition

4. The continuing substantial popular support for environmental protection efforts is summarized in *The Public Speaks Again: A New Environmental Survey*, RESOURCES 1 (No. 60 Sept.-Nov. 1978) (Newsletters of Resources for the Future, Inc., Washington, D.C.).

5. A number of recent events indicate this trend: the push for regulatory reform in the Congress, see *Regulatory Reform Passes Senate Test*, N.Y. Times, December 20, 1979 at 17; the perception, even among environmentalists, that energy issues may overwhelm some environmental concerns, see *Energy Is Key Issue Facing Sierra Club*, N.Y. Times, September 16, 1979 at 54; and a retreat from stringent environmental standards under the pressure of inflation, see *US Lowers Sights 50% on Smog*, Boston Globe, January 27, 1979 at 1.

6. The seemingly unending environmental dispute has become a staple of news reporting: e.g., the Seabrook nuclear plant, the Tellico Dam—snail darter controversy.

7. See, e.g., C. LASCH, *THE CULTURE OF NARCISSISM* (1979).

8. See, e.g., Broder, *The Unnecessary Evil of Special-Interest Groups*, Boston Sunday Globe, January 21, 1979 at A1; *Single-Issue Lobbies Create Woes*, Milwaukee Journal, October 7, 1979 at 17.

9. See D. HOROWITZ, *THE COURTS AND SOCIAL POLICY* (1977); Leventhal, *Environmental Decisionmaking and the Role of the Courts*, 122 U. PA. L. REV. 509 (1974); Cramton & Boyer, *Citizen Suits in the Environmental Field: Peril or Promise?*, 2 ECOL. L. Q. 407 (1972).

to traditional legal or political devices, for resolving conflict. Called environmental dispute resolution, conflict avoidance, mediation, or just plain negotiation, these approaches share a critical element: each aims to resolve environmental disputes through out-of-court bargaining rather than through adversarial legal procedures. All of these new approaches seek to manage conflict and to foster voluntary agreements.¹⁰

Efforts to avoid or resolve environmental disputes are increasing in number. In some instances, mediators, or neutral intervenors, are being called upon to facilitate dispute resolution efforts. Various ideas about when and how to mediate environmental disputes are being debated by practitioners in the field.¹¹

It is our contention that successful environmental dispute resolution will depend on a thorough understanding of (1) the forces and conditions that have given rise to a search for negotiated solutions and (2) the unique qualities of environmental disputes that make their resolution difficult. We propose a series of steps to address environmental disputes, drawing heavily on the experience of the planning profession with bargaining and negotiation in public participation programs. We recognize that problems remain with our approach and consider how these may be analyzed and addressed. The article concludes with two steps that could be taken towards resolving remaining problems.

A. Definitions

In discussing the various approaches to dispute resolution it is important to distinguish among their principal features. Although there is, as yet, no formal definition of environmental mediation, a working definition has been advanced by Gerald W. Cormick, Director of the Office of Environmental Mediation at the University of Washington's Institute for Environmental Studies:

10. See text at note 12 *infra*.

11. See Cormick, *Mediating Environmental Controversies: Perspectives and First Experience*, 3 EARTH L. J. 215 (1976); O'CONNOR, ENVIRONMENTAL MEDIATION: THE STATE-OF-THE-ART (E.I.A. Review No. 2, Oct. 1978) (published by the Laboratory of Architecture and Planning, M.I.T.); ENVIRONMENTAL COMMENT (May, 1977), which devoted its entire issue to environmental conflict resolution; ENVIRONMENTAL MEDIATION: AN EFFECTIVE ALTERNATIVE? (1978) (a report of a conference held in Reston, Virginia, January 11-13, 1978, sponsored by RESOLVE, Center for Environmental Conflict Resolution, The Aspen Institute for Humanistic Studies, and the Sierra Club Foundation) [hereafter cited as ENVIRONMENTAL MEDIATION]; *Environmental Mediators*, NEWSWEEK, March 17, 1980 at 79.

Mediation is a voluntary process in which those involved in a dispute jointly explore and reconcile their differences. The mediator has no authority to impose a settlement. His or her strength lies in the ability to assist the parties in resolving their own differences. The mediated dispute is settled when the parties themselves reach what they consider to be a workable solution.¹²

In contrast to mediation, which is characterized by the use of, and need for, a neutral party, "negotiation" is a method for consensual dispute settlement in which only the principal parties participate. Disputants must reach a voluntary settlement themselves without the assistance of an intermediary.

To avoid confusion, it is important to remember that mediation requires the use of a neutral facilitator, while negotiation does not. Confusion arises, of course, because even in the process of mediation we would ordinarily say that the parties are negotiating, i.e., they are involved in the give-and-take of bargaining. Further adding to the potential for confusion is the fact that both negotiation and mediation may be used to resolve a particular dispute. If a negotiation effort between the principal parties fails, a mediator may be invited to join the discussions in the hope of achieving a settlement. To help keep these definitions clear, we use the word "bargaining" to refer to *any* process of discussion and compromise that leads to the resolution of a dispute, reserving the word "negotiation" for that process of dispute resolution which involves only the principal parties. "Mediation" is used only to designate a process of dispute settlement aided by a neutral party.

II. THE PUSH FOR CONSENSUAL APPROACHES TO ENVIRONMENTAL DISPUTE RESOLUTION

Three factors have contributed heavily to the movement towards consensual approaches to resolving environmental disputes: the costs of environmental conflict, dissatisfaction with traditional approaches to dispute resolution, and the success of some preliminary efforts using consensual methods. The growth of the environmental movement led to the passage of federal pollution control legislation

12. See ENVIRONMENTAL MEDIATION, *supra* note 11, at 2. Professor Lon Fuller, of Harvard Law School, identified the crucial role of the mediator in the process of dispute resolution: the mediator has the "capacity to reorient the parties toward each other, not by imposing rules on them, but by helping them to achieve a new and shared perception of their relationship, a perception that will redirect their attitudes and dispositions toward one another." Fuller, *Mediation—Its Forms and Functions*, 44 SO. CAL. L. REV. 305, 325 (1971).

that gave environmentalists enough legal clout to ensure that their concerns would not be ignored.¹³ The resulting conflict between business and environmental interests has often been quite intense.¹⁴ Faced with an apparent inability of courts and regulatory agencies to deal effectively with environmental conflicts, both sides have searched for alternative approaches. The potential for successful dispute resolution shown by some initial efforts at negotiation and mediation has spurred the momentum for change.

A. *The Costs of Contentiousness*

Both environmental and business interests have borne substantial costs directly attributable to the delays caused by extended environmental litigation and regulatory reviews. Carrying costs on large-scale land development projects, opportunity costs associated with often-delayed energy facility projects, and the inflationary impact of rising materials and construction costs have fallen heavily on real estate developers, utility companies, and bondholders.¹⁵ Environmentalists also point to the "costs" they have incurred while prolonged legal actions or political debates have delayed implementation of tougher codes and standards or allowed development to proceed in areas where the loss of habitats or species might not be reversed in our lifetime.¹⁶ Perhaps the most accurate assessment is

13. By the end of the 1960's, environmentalism had clearly gathered sufficient strength and breadth of support to be dubbed a social movement. See Bowman, *supra* note 3 at 651. Further, it was a movement with the capacity to translate the concern of its members into legislative action. Between 1969 and 1972, environmentalists scored numerous political victories capped by the passage of substantive federal legislation to control air and water pollution, and the halting of action on such major projects as the cross-Florida barge canal and the development of an American SST to compete with the Anglo-French Concorde. See W. ROSENBAUM, *THE POLITICS OF ENVIRONMENTAL CONCERN* 6 (1977).

14. The annual demonstrations held at the Seabrook nuclear plant construction site in the late 1970's were just one example.

15. Other substantial costs for business arise from the uncertainties created by prolonged conflict. A company may not be able to make intelligent investment decisions when an environmental dispute centers on the proposed regulatory standards for its products or processes. Businesses also lose substantial flexibility because capital is committed to projects that are tied up in extended litigation.

16. Some of the costs to the environmental movement are less obvious. To win a small number of precedent-setting cases, environmental groups have devoted enormous sums of money to protracted litigation while other critical programs such as public education and political action are short changed. For example, in 1977, the Natural Resources Defense Council (NRDC) spent \$1.5 million, more than half its budget, on environmental litigation and associated activities—primarily scientific support for the litigation. By contrast, NRDC's public education efforts received only a tenth as much money as litigation, \$136,000. Similarly, the Environmental Defense Fund (EDF), in 1977, spent \$854,000, slightly more than half its

that it is the "average" citizen who has had to shoulder all these costs through higher prices and increased morbidity (or mortality) rates.

In a period of inflation, economic stagnation, and fiscal stringency, as the costs of conflict mount, businesses would prefer to avoid drawn-out battles that threaten their economic well-being. Indeed, current economic difficulties account for much of business' willingness to explore consensual approaches to environmental conflict resolution. Conflict, and the delay it creates, simply costs too much.¹⁷

Economic factors are also turning environmental groups away from protracted disputes. There appears to be a growing anxiety about the continued willingness of the public to support environmentalism as the economic trade-offs become more obvious and quite severe. Environmentalism—like any social movement—was a creature of its time. Popular concern is now focused more on the problems of energy, inflation, and employment.¹⁸ Environmental interest groups, fearing some loss of momentum, find compromise strategies appealing not only because they make for good public relations but also because they provide a hedge against all-out defeat in a "win-lose" confrontation where popular and political support may not be sufficient to guarantee victory.¹⁹

budget, on environmental litigation. See NATURAL RESOURCES DEFENSE COUNCIL, INC. ANNUAL REPORT (1978); ENVIRONMENTAL DEFENSE FUND, INC. ANNUAL REPORT (1978).

17. See, e.g., Friedman, *Environmental Checklist*, in ENVIRONMENTAL LAW FOR THE CORPORATE COUNSEL 335 (1978).

18. See note 5 *supra*; Bowman, *supra*, note 3, at 657. It seems unlikely that we will again see anything like the federal legislative response to the emergence of the environmental movement, and not merely because the need has been lessened. The Kennedy-Johnson administrations—combining "New Frontier" optimism in the nation's ability to solve its problems with "Great Society" beliefs in new government programs and increased spending as *the* solution—furnished both the precedents and momentum for the environmental legislation of the Nixon-Ford years. Now, with government spending under attack, energy costs a primary concern, and inflation once again reaching double-digit levels, government programs to protect the environment will be closely scrutinized.

19. An interesting example of the abandonment of confrontation tactics by an environmental group occurred in the summer of 1978. The Clamshell Alliance, a loose-knit federation of "affinity groups" and individuals protesting the construction of a nuclear power plant at Seabrook, N.H., had scheduled an illegal occupation of the plant site for the weekend of June 24, 1978. Plans called for an even larger demonstration than that held the previous year when over 1400 protesters had been arrested. But when it became clear that these plans were leading to a possibly violent confrontation with state police, Clamshell leaders chose to avoid the conflict. Negotiations between the group's leaders and New Hampshire Attorney General Thomas Rath produced a compromise that gave state approval to a peaceful three-day rally and "energy fair" held near the plant site. Over 15,000 people attended, there was no reported

B. Dissatisfaction With Traditional Means

Another factor pushing environmentalists and business interests toward out-of-court settlements is increasing dissatisfaction with traditional means of resolving conflicts. This dissatisfaction has been expressed largely as criticism of the role that government regulatory agencies and the federal courts play settling environmental and other disputes.²⁰

The environmental protection legislation that capped the growth of the environmental movement in the 1960's gave federal agencies a major role in implementing, monitoring, and enforcing new standards established by Congress. Within a short time, the federal courts became deeply involved in judicial review of agency practices and, by liberalizing the rules of standing²¹ and agreeing to take a "hard look" at administrative decisions in environmental cases, the federal courts opened their doors to a flood of environmental litigation that, in turn, added significantly to the rights already granted by statute.²²

Today, however, there is a general mood of dissatisfaction with both the administrative agencies and the courts. A number of critics have questioned the capacity of courts and government agencies to deal with the complexities of broad social, economic, and technical problems.²³ Others ask whether the "command and control" model

trouble, and both sides seemed happy with the solution. *See, Police Equipped to Handle Trouble*, Boston Globe, June 18, 1978; *Report from Seabrook*, Real Paper, July 8, 1978.

20. *See Discussion: Crisis in the Courts*, 31 VAND. L. REV. 1 (1978); Rifkind, *Are We Asking Too Much of Our Courts?*, 70 F.R.D. 101 (The Pound Conference) (1976); Carter, *Comment: The Environment—An Agency-Court Battle*, 17 NAT. RES. J. 122 (1977); *Overregulating the Regulators*, N.Y. Times, December 26, 1979 at 26; Leventhal, *supra* note 9, at 545-50. For a perceptive discussion of this issue in the context of the federal courts, compare the majority opinion of Judge Leventhal with the concurring opinion of Chief Judge Bazelon in *International Harvester Co. v. Ruckelshaus*, 478 F.2d 615 (D.C. Cir. 1973).

21. *See SCRAP v. United States*, 412 U.S. 669 (1973); *Sierra Club v. Morton*, 405 U.S. 727 (1972); *Association of Data Processing Serv. Orgs. v. Camp*, 397 U.S. 150 (1970); *Barlow v. Collins*, 397 U.S. 159 (1970); Stewart, *The Reformation of American Administrative Law*, 88 HARV. L. REV. 1667, 1723-47 (1975).

22. *See Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402 (1971); *EDF v. Ruckelshaus*, 439 F.2d 584 (D.C. Cir. 1971); *Calvert Cliffs' Coordinating Committee v. AEC*, 449 F.2d 1109 (D.C. Cir. 1971); F. ANDERSON, *NEPA IN THE COURTS* (1973); R. ANDREWS, *ENVIRONMENTAL POLICY AND ADMINISTRATIVE CHANGE* (1976); R. LIROFF, *A NATIONAL POLICY FOR THE ENVIRONMENT* (1976).

23. *See Stewart, supra* note 21, at 1772-73; Horowitz, *supra* note 9; Boyer, *Alternatives to Administrative Trial-Type Hearings for Resolving Complex Scientific, Economic and Social Issues*, 71 MICH. L. REV. 111 (1972); Freedman, *Crisis and Legitimacy in the Administrative Process*, 27 STAN. L. REV. 1041 (1975); Bardach & Pugliaresi, *The Environmental Impact Statement vs. The Real World*, 49 PUB. INT. 22 (1977).

of government regulation is a useful approach to protecting the environment.²⁴ There is general agreement that current administrative practices and judicial approaches to environmental dispute resolution are unsatisfactory.

A large part of the problem is that the sheer number of disputes that need to be resolved has placed an intolerable strain on our formal mechanisms for dispute resolution. Ours has been a litigious society for at least the past century and one-half.²⁵ In today's extremely pluralistic society, value conflicts are ubiquitous and, lacking any overriding consensus about their resolution, we have been true to our heritage and turned increasingly to formal legal processes for solutions.²⁶

Compounding the strain on our formal institutions is our general unwillingness to condone the use of raw power—whether political or economic—as a means of conflict resolution. Past injustices associated with the abuse of power have made us extremely wary of attempts to still opposition through force or political clout. The restraints placed on the blatant exercise of power by a regard for public opinion incline even the powerful to resolve disputes through formal legal institutions.

At the same time that our courts are facing a growing number of disputes, the nature of these disputes has become increasingly complex. Environmental disputes, in particular, are characterized by their scientific and technical content. Judges, lawyers, and government officials routinely encounter questions involving the most sophisticated concepts in such disciplines as statistics, demographics, limnology (the study of bodies of fresh water), radiology, public health, and more. Even the most conscientious among them cannot hope to grasp more than the broad dimensions of a given case.²⁷

24. See A. KNEESE & C. SCHULTZE, *POLLUTION, PRICES, AND PUBLIC POLICY* (1975); W. BAUMOL & W. OATES, *THE THEORY OF ENVIRONMENTAL POLICY* (1975); Breyer, *Analyzing Regulatory Failure: Mismatches, Less Restrictive Alternatives, and Reform*, 92 HARV. L. REV. 549, 595-597 (1979).

25. The prevalence of "legalisms" in debate and the tendency to channel "political" disputes into the legal system were both noted by Tocqueville. See A. DE TOCQUEVILLE, *DEMOCRACY IN AMERICA* (Bradley ed. 1946).

26. At the heart of many environmental disputes, for example, is the erosion of belief in the value of economic growth.

27. For example, in a recent case involving a claim that the city of Milwaukee was polluting Lake Michigan with improperly treated sewage, the trial judge had this to say about his ability to comprehend the complexities of the litigation. "It is well known to all of us that the arcane subject matter of some of the expert testimony in this case was sometimes over the heads of all

A less obvious, but perhaps even more important, factor contributing to the complexity of environmental disputes is the nearly inseparable conjunction of values and facts at the heart of most disputes. As a society we simply fail to recognize that few "scientific" judgments are ever value-free.²⁸ When we defer to scientists and technicians to sort out complex issues and make "right" decisions for us, we actually obscure the debate. Discussions focus on supposed scientific fact while the more critical value choices underlying these "facts" go unexamined.

These quantitative and qualitative strains on the capacity of our legal institutions are compounded by their decisionmaking procedures. A good illustration of the problem is the way dispute resolution is constrained by the processes of our court system.

Despite the liberalization of standing rules in recent years, courts still do not accept the legitimacy of the "ideological" plaintiff. This excludes many interested parties from direct participation in the courtroom, even though they may represent significant concerns and could furnish information and insights that might assist in resolving larger issues in a dispute.²⁹ Courts are normally not interested in these larger issues. Judges seek to restrict the scope of their decisions to the narrowest set of issues in an effort to dispose of the litigation before them. In the context of environmental disputes, such constrained judgments may leave a host of associated problems and concerns unresolved, opening the door to further conflict.

of us to one height or another. I would be certainly less than candid if I did not acknowledge that my grasp of the testimony was less complete than I would like it to be, but short of enrolling in a university course directed toward a reorientation of my entire education and spending the years that would involve, I know of no remedy for the problem." *People of the State of Illinois v. City of Milwaukee*, No. 72 C 1253 (N.D. Ill., July 29, 1977); see also Boyer, *supra* note 23.

28. See WHEN VALUES CONFLICT (L. Tribe, C. Schelling & J. Voss eds. 1976); B. ACKERMAN, S. ROSE-ACKERMAN, J. SAWYER, JR. & D. HENDERSON, THE UNCERTAIN SEARCH FOR ENVIRONMENTAL QUALITY (1974); Stone, *Should Trees Have Standing?—Towards Legal Rights for Natural Objects*, 45 S. CAL. L. REV. 450 (1972); *Sierra Club v. Morton*, 405 U.S. 727 (1972).

29. Professor Stewart notes: "There may . . . be instances where only an ideological plaintiff, direct or surrogate, will suffice to secure representation of important affected interests. For example, there might be cases of environmental degradation in remote wilderness areas, where no individual may be able to establish material injury. Or there may be serious conflicts between the interests of those suffering material injury and other, more remotely involved interests that should nonetheless be considered. Problems of this sort are likely to be generated by governmental policies that have important effects on the preferences and well-being of future generations . . ." Stewart, *supra* note 21, at 1746-47. Stewart then argues that, despite the fact that ideological interests should, at times, be considered, their inclusion in the adjudicatory process through liberalization of standing rules may "strain the logic of representation, and risk turning the courts into 'planning agencies.'" *Id.* at 1747.

Judicial interpretation of the jurisdictional requirement of a "case or controversy"³⁰ further narrows the scope of formal dispute resolution in the courts to cases that have "ripened" and are thus legally recognizable. Courts simply will not address most situations of potential, rather than actual, conflict. This can lead to a disjointed, episodic, and possibly contradictory "solution" when courts address complex environmental disputes affecting varied interests over a period of time.

Within the courtroom, the adversary system introduces an unfortunate "gaming" aspect to the judicial process that discourages the search for "win-win" solutions to a dispute, or "joint net gains." For example, adversarial tactics, in conjunction with the technical rules for admission of evidence and testimony at trial, assure that potentially useful information will be eliminated from consideration. The parties and their attorneys have far more—and more accurate—information than they are willing—or allowed—to communicate.³¹

By limiting the access of interested parties, restricting the information available for consideration, restricting the range of concerns to legally recognizable causes of action, and "segmenting" complex and interrelated problems into discrete legal actions, the courts make it practically impossible to reach a judgment that acknowledges the real concerns of all interested parties.

The strain of too many cases and too much complexity on formal decisionmaking processes has overloaded our legal institutions. They are too often inefficient, indecisive, and unable to act with dispatch. The prospect of lengthy and frustrating legal battles in which victory is seldom assured and too often Pyrrhic, combined with a growing recognition of the costs of protracted conflict, have accelerated the search for consensual approaches to environmental disputes. Pre-

30. See U.S. CONST. art. III § 2.

31. See Renfrew, *Settling Commercial Litigation: The Role of the Court* in SETTLING COMPLEX COMMERCIAL LITIGATION 72 (1978). Problems with the amount and quality of information available for decision making also arise in judicial review of agency actions. Reviewing courts are limited to examining agency decisions for legal error, deferring to the agency's judgment on factual matters. Despite this apparent bar to a reviewing court's consideration of the facts decided by the agency, one *legal* issue—the question of the sufficiency of the evidence, or as it is referred to in administrative law, the substantial evidence rule—allows the court to determine, as a matter of law, whether the agency's decision is justified in light of the amount and reliability of the evidence (i.e., information) available to it. The substantial evidence rule thus leads to an examination of factual issues by the reviewing court, but such an examination is inherently restricted because the court is powerless to go beyond the record of agency decision making, i.e., the court is attempting to evaluate the sufficiency and probity of factual matters without access to *further* information—e.g., additional research or expert testimony—that might assist in the evaluation.

scriptions for regulatory and judicial reform are emerging from many quarters.³²

We believe that current dissatisfaction with traditional means of resolving environmental conflict is indeed appropriate, but question whether existing proposals for reform are a sufficient answer. It is our view that many environmental conflicts exceed the decision-making capacity of our existing institutions and will require new institutional arrangements for resolution.

C. First Efforts at Consensual Approaches

The push for consensual methods of environmental dispute resolution has been bolstered by preliminary efforts in this direction to date. It appears that mediation and informal negotiation may prove an attractive alternative. Mediation and out-of-court negotiation have been able to lower the costs of dispute resolution and, significantly, lessen the constraints imposed by traditional legal processes. Informal bargaining techniques have made it easier to tailor settlements to the special circumstances of each case, and "tailored" settlements, free from the more restricted procedures imposed by formal institutions, have turned win-lose confrontations into joint problem-solving efforts.

An example of just such a "tailored" settlement is the agreement reached in late 1978 that resolved the Grayrocks Dam controversy.³³

32. The Congress and Supreme Court, for example, have both moved recently in search of a solution to the problem of inordinate delay in the regulatory process. In *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519 (1978), the Court opted for increased judicial deference to the agencies' choice of procedures. In a sharply worded opinion, Justice Rehnquist criticized the D.C. Circuit's fault-finding with NRC procedures in two power plant licensing cases as "judicial intervention run riot," describing the lower court's reasoning on one point as "Kafkaesque." To curb such excesses in the future, the Court held that reviewing courts, with rare exceptions, are not empowered to require administrative agencies to employ procedures beyond those specified in the Administrative Procedure Act (APA) or other relevant statutes. *Id.* at 1202; see *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.: Three Perspectives*, 91 HARV. L. REV. 1804 (1978).

While the Court is increasing judicial deference to agencies' *procedural* judgments—so long as they follow statutory authority—the Congress is seeking to remove from agencies' *substantive* judgments the presumption of validity they have, to date, enjoyed. The so-called Bumpers Amendment, S. 111, 96th Cong. 1st Sess. (1979), for example, would force agencies to prove, by a preponderance of the evidence, the validity of their regulations whenever challenged. See Woodward & Levin, *In Defense of Deference: Judicial Review of Agency Action*, 31 AD. L. REV. 329 (1979).

33. See J. Wondolleck, *Bargaining for the Environment: Compensation and Negotiation in the Energy Facility Siting Process 19-48* (June 1, 1979) (unpublished Master's Thesis, Department of Urban Studies and Planning, Massachusetts Institute of Technology); *Rare Whooping Crane vs. Western Power Project*, Washington Post, November 27, 1978 at A1.

In this case, environmentalists charged that the proposed dam for an electric generating plant in eastern Wyoming would jeopardize the continued existence of the endangered Whooping Crane or adversely affect its critical habitat along the North Platte River in Nebraska. At issue was the impact on the Whooping Cranes' habitat of the decreased water flows in the North Platte that would occur when the Grayrocks Dam and its reservoir were completed. The Whooping Cranes normally nest on the sand bars in the "Big Bend" area of the North Platte during their semi-annual migrations between the Gulf Coast and Canada. The "Big Bend" is particularly suitable because the spring floods in the North Platte each year sweep away the vegetation on the sand bars leaving no hiding place for possible predators. The birds instinctively recognize the safety provided by these open stretches and will not nest where tall grass or reeds provide cover for predators. The environmentalists feared that the Grayrocks Dam project would diminish the spring floods enough to prevent their scouring the sand bars and thus deter the Whooping Cranes from nesting at "Big Bend," with possibly serious consequences for the birds' continued existence.

A second, broader, issue was the possible impact of the decreased water flow on irrigation projects in Nebraska, a major concern for a state with an agriculture-dominated economy. Because both environmentalists and state officials wanted to prevent the Grayrocks project from siphoning too much water from the North Platte, they joined forces in a federal court suit against the U.S. Army Corps of Engineers and the Rural Electrification Administration (REA), charging that they had issued permits and loan guarantees for the project without having adequately considered its environmental impacts.³⁴

Although the State of Nebraska was initially successful in that litigation, the decision was appealed to the U.S. 8th Circuit Court of Appeals³⁵ and it appeared that the parties would be enmeshed in a lengthy legal battle. The developers of the project were anxious to complete it on schedule, however, and to avoid the costs and delay of an extended court battle. After a series of negotiating sessions involving all the concerned parties,³⁶ an agreement was reached in late

34. J. Wondolleck, *supra* note 33, at 24, 33-34.

35. *Id.* at 35-36.

36. *Id.* The parties represented in these negotiations were: the National Wildlife Federation, the National Audubon Society, the Powder River Basin Resource Council, and the Laramie River Conservation Council (environmental groups); the State of Nebraska, the Wyoming Municipal Power Agency, the Rural Electrification Administration, the U.S. Army

1978 that allowed the project to go ahead while furnishing guarantees to the environmentalists and Nebraska officials that water flows in the North Platte would remain at acceptable levels.

This "tailored" settlement established maximum limits on water consumed by the Grayrocks project, specified the minimum flows to be maintained in the North Platte and established a monitoring system to confirm that the flows specified in the settlement were being met. Finally, among other provisions, the parties agreed to establish a trust for the purpose of funding activities to protect and maintain the Whooping Cranes' critical habitat along with "Big Bend."³⁷

There have been other significant successes—and some failures—in environmental dispute resolution over the past few years.³⁸ While mediation, negotiation, and other consensus-building strategies are not necessarily useful in all environmental conflicts—and, more importantly, are not a guarantee of "good" decisions—our experience with these processes suggests they are useful. Our task now is to explore the problems that arise when these techniques and strategies are, in fact, used.

III. THE SPECIAL DIFFICULTIES INVOLVED IN RESOLVING ENVIRONMENTAL DISPUTES

Many practitioners of environmental dispute resolution have attempted to describe when and how to proceed with mediation or negotiation.³⁹ More often than not they have noted that (1) the parties-at-issue must have a strong desire to resolve their differences; (2) they must be prepared to make reasonable compromises and enter into written agreements if a settlement is reached; and, when mediation is involved (3) they must find a neutral (but concerned) party capable of employing dispute resolution techniques and understanding the technical issues underlying the dispute.⁴⁰

Corps of Engineers, the Land and Natural Resources Division of the U.S. Department of Justice (government agencies); and the Basin Electrical Power Cooperative (the developer).

37. \$7.5 million has been provided in perpetuity for the trust. See, *Whooping Crane Safety Promised, Dam Fight Ends*, Washington Post, November 28, 1978 at A1.

38. See Cormick, *supra* note 11, for a published account of the settlement in the Snoqualmie/Snohomish case, a land use dispute involving plans for flood control in a river valley. For other published cases, see O'Connor, *supra* note 11; M. RIVKIN, *NEGOTIATED DEVELOPMENT: A BREAKTHROUGH IN ENVIRONMENTAL CONTROVERSIES* (1977); O'Connor, *Resolving the Bachman's Warbler Controversy*, Conservation News (August 1, 1977).

39. See sources listed at note 11 *supra*.

40. *Id.*

While these prescriptions are helpful, they do not speak to the very special difficulties involved in resolving environmental, as opposed to other types of, disputes.

Some of the special problems of environmental dispute resolution can be highlighted by contrasting environmental disputes with collective bargaining efforts in the labor relations field, long a model for conflict management.⁴¹ We have noted a number of properties of environmental disputes that merit special attention: "irreversible" ecological effects may be involved; the nature, boundaries, participants, and costs are often indeterminate; one or more of the parties to most environmental disputes often claims to represent the broader "public interest" (including the interests of inanimate objects, wildlife, and generations yet unborn); and implementation of private agreements is difficult.

Environmental mediation is further complicated by the fact that some decision-makers and a large fraction of the public-at-large believe that environmental disputes are basically scientific disputes that ought to be decided by impartial referees who can sort out the technical issues involved and make "right" decisions on our behalf. It is our contention, however (and this is a view shared by others), that environmental disputes are at least as much value disputes as scientific controversies. It is the fact that there is confusion over whether environmental disputes are "different" or not that creates a special problem.⁴²

41. See ENVIRONMENTAL MEDIATION, *supra* note 11, at 2-3. Before noting the many differences between environmental and labor-management disputes that make resolution of the former so difficult, we should note what elements they share. If there is not a significant overlap between these two cases, it would be futile to contrast their differences.

In both cases, the parties must be willing to agree that their goal is to reach a decision through compromise; they should not view bargaining as a "stalling" tactic that will enable them to hold out for an extreme position, or agree to a settlement that they know to be unworkable. The parties must also stand in some relative balance of power. There can be no meaningful bargaining or compromise if one party has nothing to trade. In both cases, mediation involves the use of third-party intervenors who work from an impartial base. The neutrality and impartiality of the mediator is critical whether it is a labor or environmental dispute. Thus, whether it be an environmental or labor-management conflict, bargaining efforts require and share these common elements: parties with something to trade and a willingness to bargain, a commitment to reaching a decision through compromise, and, when appropriate, the use of a neutral mediator. *Id.* at 18-19.

42. David Passmore makes a useful distinction between ecological problems, that are primarily social and political, and problems in ecology that are mostly scientific, see D. PASSMORE, *MAN'S RESPONSIBILITY FOR NATURE* (1974). Ashby points out that while it is for the scientists to say whether there is a hazard to the environment and what its causes are, it is for administrators and politicians to decide what to do about the alleged hazard, see E. ASHBY, *RECONCILING MAN WITH THE ENVIRONMENT* 30-31 (1978). The scientific question—the problem in ecology—has to be answered first. Hard facts have to be separated from the distorted

A. Irreversible Effects

In labor-management disputes, a disastrous strike—or settlement—may drive a company into bankruptcy, induce it to leave the state or country, or have a devastating impact on the financial and personal lives of workers: all changes that apparently are irreversible. But bankrupt firms can be reorganized or sold while production continues. Massachusetts may lose jobs, but Georgia gains them. Workers can be retrained for new jobs. Most critically, however, nearly all of these changes *could* be reversed. If society had a desire to revive the New England textile industry it would only be a matter of assembling the necessary resources.

An environmental dispute, on the other hand, may involve truly irreversible effects such as habitat destruction or species extinction. E.P. Odum writes:

Until recently, mankind has more or less taken for granted the gas-exchange, water-purification, nutrient-cycling, and other

reporting of the hazard. Again, as Ashby points out, this sounds simple enough. However, it is not so simple to separate fact-statements from value-statements.

(1) The scientist does not deal with “the whole crystal of reality,” he deals with only one facet at a time. Problems in ecology are complex; the only way to tackle them is to simplify them, and the only way to simplify them is to cut out less relevant information. When the scientist gives an opinion, it is important to ask what simplifications he has made.

(2) The responsible authority may not appreciate reservations in a scientist’s report. The “might’s,” “possibly’s,” and “probably’s” are typically brushed aside. The temptation is for the journalist who reports the story and for the politician who has to interpret public opinion to strip away all the conditions surrounding the report of the evidence.

(3) An indisputable fact (such as this sample of air contains so much ozone) is value-free, but as soon as a scientist claims that there is a 20 percent chance of a particular amount of ozone being present, he is expressing, numerically, a degree of belief, i.e., making a value judgment. When he makes predictions from probabilities (and that is what scientific advice often entails), he is assuming that the thing he has measured will continue to behave as consistently in the future as it has in the past. While this assumption is well-founded in simple physical situations, it is unlikely to be true in complex ecological situations. (On the complexity of ecological problems, see H. SPROUT & M. SPROUT, *supra*, note 1, 56-65).

(4) Another difficulty in separating fact-statements from value-statements is that the scientist may not have asked the right question. In the 1960’s, scientists were asked, “Do phosphates in detergents endanger lakes and if so, what can replace phosphates that will not harm lakes?” The answer was yes, excess phosphate does harm some lakes, and yes, a substance called NTA could replace phosphates in detergents and not harm lakes. It was only later that the scientists added to their reply a piece of information for which they had not been asked, namely that under certain circumstances NTA in drinking water might cause cancer. So, the scientist often has to reinterpret the question about which he has been asked to give advice in light of the social or political purposes behind it. This clearly draws value considerations into play.

In summary, there are problems in ecology about which the policy makers and the public want factual information, but these statements of fact, to the extent that they can be value-free (which is only partially), do not answer the question of what ought to be done. And, it is the “ought” that lies at the heart of most environmental disputes. *Id.* at 40-53.

protective functions of self-maintaining ecosystems, chiefly because neither his numbers nor his environmental manipulations have been great enough to affect regional and global balances. Now, of course, it is painfully evident that such balances are being affected, often detrimentally.⁴³

Certain important features of ecological systems are now well-documented. First, limits are ubiquitous.⁴⁴ Not only are there limits to resources, there are limits to the rate at which the environment can receive wastes and return them in usable form, and to its capacity for storing them in innocuous form. Second, ecosystems are made up of interdependent components, and ecosystems are open and linked to each other.⁴⁵ As a result, events at one place in the environment are bound to have repercussions in other places at other times. Because of the interconnectedness and complexity of the environment, some consequences are bound to be unpredictable.

Third, actions which are massive enough, drastic enough, or simply of the right sort will cause environmental changes which are irreversible.⁴⁶ Species extinction is one form of irreversible change. Another is ecological "simplification." When human interference with the natural environment becomes too extensive, it can produce an environment no longer suitable for complex ecosystem interaction.⁴⁷ Such "simplified" environments tend to be highly unstable, and additional interventions (for example, pest control on land recently cleared for farming) tend to be inherently destabilizing. The result is environmental change that cannot be reversed.⁴⁸

The question of the reversibility of man's impact on the environment is confused by the notion that we can "fix up" troublesome situations. For example, if a method could be devised for profitably using the sulphur in coal, the assumption is that the electric power companies would extract it from their fuel or from their stack gases, and air pollution by sulphur oxides would disappear. Usually, though, technological solutions do not merely remove the problems at which

43. Odum, *The Strategy of Ecosystem Development*, 164 SCIENCE 262 (1969).

44. See ENVIRONMENT: RESOURCES, POLLUTION, AND SOCIETY 26 (W. Murdock ed. 1972).

45. *Id.*

46. *Id.*

47. *Id.* For example, the author notes: "Typically, when tropical forests are removed and the soil exposed (this process is occurring today in Brazil's Amazon region, see *Governments Move to Stem Amazon Destruction*, N.Y. Times, November 20, 1979 at C3), the mineral nutrients (already poor) are leached by the rain. The soil usually becomes hardened and thereafter the forest will not grow back again, nor can crops be grown. Such irreversible changes will almost always produce a simplification of the environment."

48. *Id.*

they are aimed. Indeed, most of our environmental deterioration is the direct or indirect result of advances in technology. "In effect, we are using technology to climb out of technological traps of our own devising. But the new technology may, in fact, create new technological traps from which we will be able to extricate ourselves only with further technology, and so on, indefinitely."⁴⁹

While there are remedial actions we can take to reverse some adverse environmental impacts (such as the addition of certain micro-nutrients to "reverse" the eutrophication of a lake), efforts to fix one problem tend to create new ecological difficulties. This is not an argument against all development or industrial expansion; rather, our intention is merely to underscore the fact that the irreversibility of certain environmental impacts is an important agenda item in most environmental disputes and a concern that sets environmental disputes apart from other social conflicts.

All irreversible effects are not, in and of themselves, harmful, but the destabilizing impact of most of man's interventions and the resulting ecological simplification must be taken into account in any decision likely to have a substantial impact on the natural environment. This is especially difficult because we have few tools or techniques for predicting long-term catastrophic impacts, let alone for working them into cost-benefit calculations.

B. The Indeterminate Nature, Boundaries, and Costs of Environmental Disputes

In a labor dispute, what is at issue is reasonably clear. Contract terms such as wages, fringe benefits, and work conditions provide a common vocabulary for the parties. Further, the parties are usually comfortable comparing competing offers in dollar terms.⁵⁰ The "boundaries" of the labor dispute are also clear or can be readily estimated. Thus, the disputants are known,⁵¹ it is clear that the set-

49. AMERICA'S CHANGING ENVIRONMENT at xxxi (R. Revelle & H. Lansberg eds. 1970). An illustration of the dilemma may be seen today in the very example we have given. Electric power companies are presently removing much of the sulfur from coal (via "scrubbers") in order to comply with federal ambient air quality standards. But this "solution" to an air pollution problem has created a new solid waste problem—how to dispose of the toxic sludge produced by the "scrubbers" in an environmentally sound manner.

50. When serious disagreements about the issues do arise, it is often because they involve problems that are not readily translated into dollars: for example, the role of the worker in controlling his work schedule or the introduction of innovative production processes designed to make work in the factory less tedious and dehumanizing.

51. The National Labor Relations Act, 29 U.S.C. §§ 151-169 (1976), provides a system for determining the size ("boundary") of the union bargaining unit in a labor dispute. Section 9(b)

tlement will include only those parties, and there is little question as to the impact of the settlement.⁵²

Costs are also fairly "symmetrical" in labor disputes. A strike prevents the employer from making a profit and the employee from earning a wage, and it is not always the employer who can absorb the costs of conflict more readily. When a strike occurs at the start of a retail merchant's "busy season," or when a manufacturer has a depleted inventory, it may be the employer, not the workers, who is damaged more by the action. The important things to note are: (1) each side has the ability to inflict costs on the other, but by doing so, must also absorb some—perhaps even greater—costs, and (2) there may be costs to a bad agreement as well as a strike. If an exorbitant wage agreement prices a company's products out of the market, both sides suffer. In an extreme case, of course, the company fails and both workers and the employer absorb tremendous costs as the result of a "bad" settlement or a prolonged strike.

Environmental disputes, in contrast, are often marked by an inability to make precise—or even general—determinations about costs, parties, and boundaries. The symmetry seen in the assignment of costs in labor disputes is also almost wholly missing from environmental disputes. For the relatively minor cost of litigation, an environmental group can inflict millions of dollars in added interest charges and other costs of delay on a developer. On the other hand, the victorious developer will proceed with his project, inflicting real (if impossible to quantify in dollars) costs on the environmentalists who see the things they value—cleaner air and water, a more "natural" use of land, less radioactive waste, etc.—endangered.

Thus, instead of symmetrical costs, as is the case with labor disputes, the costs of environmental disputes are skewed in two ways. First, environmentalists can initiate a conflict, at relatively minor cost to themselves, that may impose large costs on a developer, industry, or community. Second, because developers do not attach the same value to the costs of environmental "change"

of the Act (29 U.S.C. § 159(b) (1976)) permits the National Labor Relations Board (NLRB) to "decide in each case" whether the "appropriate unit for purposes of collective bargaining shall be the employer unit, craft unit, plant unit, or subdivision thereof." Thus, for example, the NLRB could decide whether the appropriate bargaining unit for a union in the automobile industry was: (1) all the workers at Ford; (2) all machinists throughout the industry; (3) the workers at a single plant; (4) the workers in a section of a plant; or, (5) some other appropriate subdivision. See R. GORMAN, *LABOR LAW* 66-92 (1976).

52. The major area of uncertainty, typically, is the effect of the contract on future employment; i.e., will the settlement be so costly as to curb the company's growth or create incentives towards relocation, increased automation, etc.?

that environmentalists do, it is the environmentalists who bear most of the costs—in environmental degradation—caused by a defeat or a “bad” settlement (i.e., one that provides insufficient protection). Working together, these asymmetries tend to make environmental conflict more prevalent and more intense because conflict costs relatively little to initiate and the costs of defeat are borne almost entirely by the losing party.

There are also several general difficulties that arise in attempting to calculate costs in environmental disputes. These are the problems of setting geographic boundaries and an appropriate time horizon for the analysis of costs and benefits; the problem of translating environmental impacts into a common unit of analysis (such as dollars); and the problem of summing the various judgments of different individuals and groups, each of which has a different “objective function.”⁵³

The implications of an agreement to compensate environmentalists for the adverse impacts of a proposed project are not easily determined. By changing the geographic boundaries of an environmental dispute, additional stakeholders are either drawn-in or excluded and by definition, the costs of compensation are changed. Similarly, second and third order impacts are either counted in as a part of the impact for which fair compensation has to be negotiated, or counted out. There are no correct geographic boundaries for a particular environmental dispute. This is a matter that must, itself, be negotiated.

The problem of setting an appropriate time horizon is equally troublesome. Some environmental impacts do not appear for decades. Is the developer responsible for compensating parties that are not affected until decades later?⁵⁴ Also, it is difficult to attach a discounted value to adverse impacts that build up or continue for generations.⁵⁵

In calculating fair compensation for adverse environmental im-

53. See E. STOKEY & R. ZECKHAUSER, A PRIMER FOR POLICY ANALYSIS 130-33 (1978).

54. The conflict over a proposed co-generation facility in Boston, the Medical Area Total Energy Plant (MATEP), illustrates another aspect of the time horizon problem. The proposed design called for the use of diesel engines. A dispute arose about the proper time period for measuring the nitrogen oxides in the diesel exhaust. Opponents of MATEP were concerned about possible harmful concentrations of only an hour's duration, while the developer was seeking an emission standard based on average concentration during a 24 hour period. See FREIDMAN, CITIZEN PARTICIPATION IN THE ENERGY FACILITY SITING PROCESS: A CASE STUDY OF THE MEDICAL AREA TOTAL ENERGY PLAN (MATEP) (Energy Impacts Project Technical Report No. 17, Laboratory of Architecture and Planning, M.I.T., 1979).

55. See STOKEY & ZECKHAUSER, *supra* note 53, at 159-176.

pacts it is important to consider the *benefits* of environmental protection, and to subtract these from the costs, in developing an overall accounting. Unfortunately, there is no consensus on how to value environmental benefits. What is the value of clean air, untouched wilderness, or scenic beauty? We can measure pollution costs (at least indirectly) by estimating the additional days that workers are productive when their health is not impaired by air pollution. We can measure the cost of eliminating a wilderness area in terms of days of recreation lost (translated, in part, into fees and employment benefits). And we can measure the loss of property value in areas where standards for environmental protection are not maintained. The intrinsic benefits of clean air, wilderness preservation, or scenic beauty, however, are very hard to calculate, especially if we attempt to take into account the benefits to future generations.

Neither environmental costs nor benefits translates easily into a common unit of analysis. Much has been written about the inadequacy of dollars as a unit of environmental value.⁵⁶ Traditional economic analyses have had difficulty evaluating the replacement resources, and consequently, there is no basis for calculating the economic value of the resources. Attempts have been made to use "units of energy" to bridge economic and environmental values,⁵⁷ but these are still in the exploratory stage.

The problems of summing the various judgments or cost-benefit calculations of different individuals and groups are also well documented.⁵⁸ In theory, the amalgamation is not possible. The best we can hope for is a set of different cost-benefit calculations representing the different vantage points of each interested party. These groups can (and in fact do) use their own cost-benefit calculations as the basis for the positions they take in negotiations. There is no known way, however, for a single analyst or public agency to add all

56. See B. ACKERMAN, *supra* note 28. As an illustration of the problem, consider an environmental dispute in which the parties agreed that a proposed power plant would emit "x" tons of stack gases per day. In the ensuing debate over whether "x" tons is an acceptable level, it might be shown that one of the costs of "x" tons of emissions per day is a probable increase in human morbidity or mortality. For many environmentalists, translating such costs into dollar terms would be morally and philosophically repugnant. Further, any such translation would most likely involve proxies for morbidity and mortality—e.g., lost wages and productivity—that would be perceived as inadequate in measuring non-economic loss.

57. See LAVINE, BUTLER, & MEYBURG, ENERGY ANALYSIS FOR BRIDGING ECONOMIC AND ENVIRONMENTAL CONCERNS 28 (E.I.A. Review No. 2, Oct. 1978).

58. See VOLKER & HOBBS, ANALYTICAL MULTIOBJECTIVE DECISION-MAKING TECHNIQUES AND POWER PLANT SITING: A SURVEY AND CRITIQUE (Nat'l Technical Information Services (NTIS) No. ORNL-5288, 1978).

the costs of environmental impacts experienced by all the groups affected and determine the correct amount of compensation to be paid. Each group will value a particular impact differently, depending on its distance from the source of the impact and its socio-economic status. Wealthy families will pay a very substantial amount to block even a small intrusion into a recreational or second-home community. Such adverse impacts mean a lot to them and they have the ability to pay a substantial amount to stop them, probably much more than lower-income families could or would be willing to pay to stop similar intrusions.

In a much publicized and bitterly attacked article, *Environmentalism and the Leisure Class*, William Tucker suggests that,

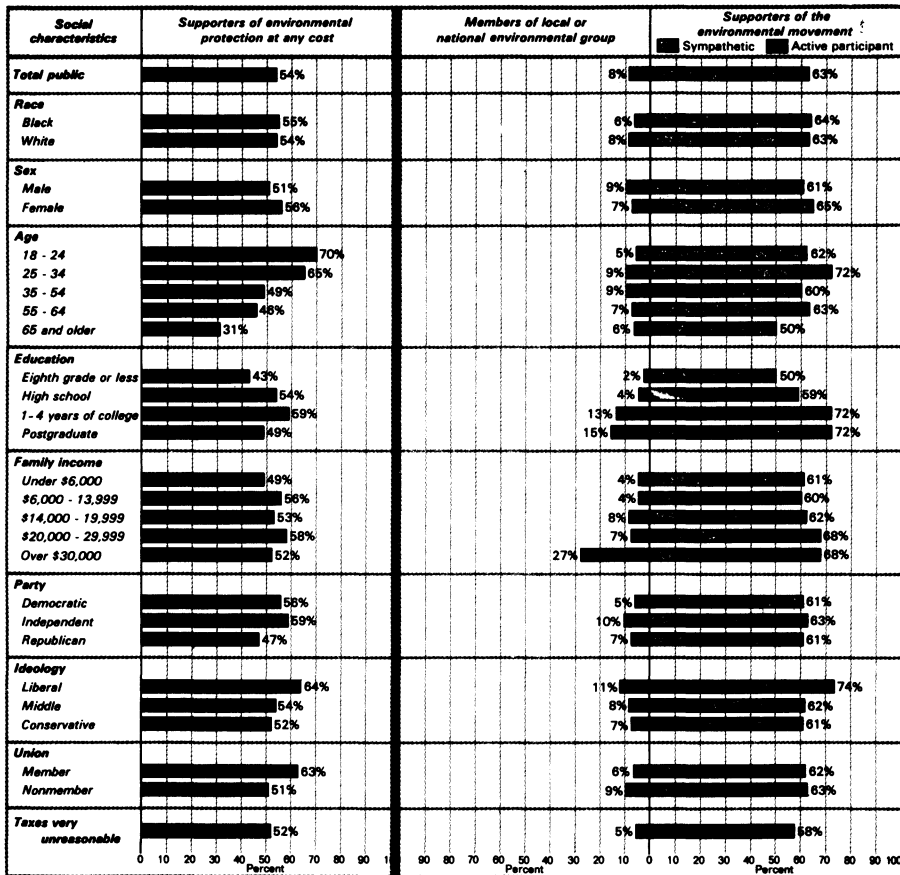
to say that one is an environmentalist . . . is to say that one has achieved enough well-being from the private system and that one is now content to let it remain as it is—or even regress a little—because one's material comfort under the present system has been more or less assured.⁵⁹

This view coincides with the often repeated assertion that the environmental movement is something that only wealthy people can afford to support. If this assertion is correct, it will make environmental mediation much more difficult. Compensation for costs is not much of an incentive to a group for which fair compensation is irrelevant. The data available, however, on the socio-economic make-up of the "environmental movement" in the United States do not support Tucker's allegation.

The results of the first comprehensive survey of environmental values, conducted in 1977 by Resources for the Future, offers evidence that contradicts Tucker's view. As the table below indicates, more than half of the citizens of the United States support environmental protection "at any cost." While the older segments of the population were not nearly so enthusiastic about the need for aggressive environmental protection programs, other factors such as race, educational level, or family income do not separate the environmental supporters from the non-believers. Active supporters of the environmental movement are almost as likely to come from the under \$6,000 income bracket as they are from the over \$30,000 income bracket, although the wealthiest segments of our society are more likely to be members of local or national environmental groups. The Resources for the Future study suggests that environmental advocates do not just include the wealthiest citizens.

59. Tucker, *Environmentalism and the Leisure Class*, HARPER'S, December, 1977 at 49.

Survey by Resources for the Future^{59.5}



One further difficulty complicates the task of calculating costs in environmental disputes: the problem of determining what each party to an environmental dispute is, in fact, willing to accept in the way of a side payment or promise of equivalent environmental value. At the outset of a dispute, some of the least powerful parties are likely to exaggerate their claims in an effort to be heard. Until such time as real offers are proffered and individuals or groups must actually decide whether or not to accept, the espoused preferences or expressions of what fair compensation (costs) would have to include are somewhat suspect. The inevitable gap between “espoused” and “revealed” preferences is well documented.⁶⁰ What the disputants need

59.5 *The Public Speaks Again: A New Environmental Survey*, RESOURCES Fig. 5, at 4 (No. 60 Sept.-Nov. 1978) (Newsletter of Resources for the Future, Inc., Washington, D.C.).

60. See J. DEVANEY, G. ASHE & B. PARKHURST, *PARABLE BEACH: A PRIMER IN COASTAL ZONE ECONOMICS* (1976); STOKEY & ZECKHAUSER, *supra* note 53.

to know is not what the other parties *say* they would accept as fair compensation, but rather the amount they *would*, in fact, accept.

There have been some breakthroughs in dealing with the problems described above. The Energy Impacts Project at MIT, for example, has proposed a way to deal with these problems.⁶¹ The most promising strategies involve the use of an "auction" for determining fair compensation for adverse social and environmental impacts. Each neighborhood or community could submit a "bid" indicating the side payments, compensatory measures, and trades of equivalent environmental value it would have to receive in order to be neutral to or favorably disposed toward a proposed project. The bid would carry with it a community-wide commitment to facilitate development, assuming the costs are compensated and the developer conforms to the guidelines and impact levels advertised at the outset of the bidding process. If we assume that fair compensation or side payments of some sort are crucial incentives to bargaining, then the problems outlined above must be addressed in any environmental dispute resolution effort. They are significant, but not insurmountable, obstacles that tend to make environmental dispute resolution that much more difficult.

C. *Serving the "Public Interest"—Questions of Representation and Legitimacy*

Another unique aspect of environmental disputes is that advocates of one position or another claim that they represent not just their own concerns but the "public interest" as well.⁶² By identifying with the public interest, each group hopes to fend off political attacks and to win popular support. Unfortunately, this tends to confuse and complicate, rather than illuminate debate.⁶³ While environmentalists

61. See O'Hare, *Not On My Block You Don't!: Facility Siting and the Strategic Importance of Compensation*, 25 PUB. POL. 407 (1977).

62. Despite the long and serious debate in the social policy disciplines, most scholars would probably agree with the recent observation that: "It may be impossible to determine whether the public interest has been satisfactorily defined, let alone when it has been achieved," see DiMento, *Citizen Environmental Litigation and the Administrative Process: Empirical Findings, Remaining Issues and a Direction for Future Research*, 1977 DUKE L.J. 409, 441. For most public policy analysts, the search for a unitary public interest has long been regarded as futile. Particular decisions may be viewed as optimal because they benefit almost everyone and hurt no one, but there are no guarantees that the outcome of such a decision will be judged to be in the public interest. There are too many dimensions along which different segments of the population must evaluate an outcome, with each segment likely to have different time horizons, risk orientations and values.

63. The following statement illustrates the problem: "[T]he courts need to recognize that whereas governmental agencies are the representatives of the 'economic' interests, the con-

may feel that they represent the public interest because environmental protection is in "everyone's best interest," policy makers facing difficult environment-development trade-offs must balance a great many factors. Once a question is cast in terms of support for the public interest, rather than in terms of balancing or accommodating the interests of various publics, compromise becomes difficult.⁶⁴

Professor Stewart has noted another set of problems regarding the legitimacy of "public interest" advocates. Stewart questions "whether a public interest advocate truly represents the interest for which he purports to speak and, ultimately, how that interest is to be defined,"⁶⁵ noting that the advocate is often a lawyer who is "not subject to any mechanism of accountability to ensure his loyalty to the scattered individuals whose interests he purports to represent."⁶⁶ Stewart fears that, particularly in the context of settlements,⁶⁷ "the lawyer will not advocate the interests of the broad constituency supposedly represented, but rather his own interests or those of a few active members of that constituency."⁶⁸ Further, in Stewart's view, these problems are only partially alleviated where it is an organization, rather than scattered individuals, whom the lawyer represents. He notes that, although the lawyer will presumably be responsive to the organization's leadership and the leadership is presumed to be responsive to the membership, "often such organizations purport to represent, and are perceived as representing, a far broader class of individuals than their own members."⁶⁹

The "public interest" problem thus has two aspects. First, when one side sees itself as the only legitimate representative of the "public interest," accommodation becomes difficult. Second, there

ervation groups are more apt to represent the 'public interest'"; see Tremaine, *Standing in the Federal Courts for Conservation Groups*, 6 URB. LAW. 116, 136-37 (1972).

64. This problem has been addressed by a group organized by the American Academy of Arts and Sciences. They note "with regard to environmental disputes, value conflicts may have been submerged in the past because of a nearly universal agreement that economic growth and efficiency were desirable ends in themselves, or at least they were important in whatever system of ends might be pursued. In today's much more fluid situation, competing values, recognized by many as equally valid, are receiving widespread support. The result is an inherent tension and moral ambiguity about values—a classic instance of Hegel's conflict of "right against right." See Tribe, et al., *supra* note 28, at xi-xii; see also Marcus, *supra* note 3, at 582 n.i.

65. Stewart, *supra* note 21, at 1764; see generally, *id.* at 1762-70.

66. *Id.* at 1765.

67. *Id.* Stewart notes that: "Whenever representation is undertaken on behalf of an unorganized class, there is a danger that settlements will be reached simply to get the lawyer a fee." *Id.* at 1743 n.354.

68. *Id.* at 1765-66; *id.* at 1766 n.460.

69. *Id.* at 1767.

are real questions as to whether "public interest" advocates can legitimately be said to represent the public (or even their own constituency!).

To the extent that the parties to an environmental dispute are able to recognize their dispute as one of "right against right," dispute resolution is possible. Where one side or another, however, sees itself as the only legitimate representative of *the* "public interest"—and the dispute is thus perceived as right against wrong—the outlook for accommodation is bleak.⁷⁰

There is not only confusion over what is and what is not in the public interest, there is also disagreement over what the public itself encompasses. Justice Douglas (and Professor Stone) have argued that contemporary public concern for protecting nature's ecological equilibrium should lead us to confer "standing" upon environmental objects so that they can sue for their own preservation. It appears that this view should have us include inanimate objects as part of the public. Quoting Justice Douglas, " 'public interest' has so many differing shades of meaning as to be quite meaningless on the environmental front."⁷¹

D. Implementation

Implementation of collective bargaining agreements is rarely a problem. There are numerous reasons for this: first, the parties have entered a well-understood contractual relationship whose terms are clear both to the parties and to the court or administrative agency—usually the National Labor Relations Board (NLRB)—which may be called on to interpret it; second, collective bargaining is repeated in regular cycles, making it difficult for either party to flout an agreement since that will only make the next round of bargaining more onerous and, therefore, likely to be much more costly to both sides; third, and most important, both labor and management are aware that if implementation does not occur, the result, a renewed strike or other "work action," will be costly for both.⁷²

With environmental disputes, implementation is much trickier. Agreements in environmental disputes are novel: courts and agencies are unfamiliar with their terms and may interpret them in ways unforeseen by the parties in the event of a question in their implementation. Furthermore, because the parties to environmental

70. See Friedman, *supra* note 17.

71. *Sierra Club v. Morton*, 405 U.S. 727, 745 (1972); see Stone, *supra* note 28.

72. See text at notes 50-53 *supra*.

disputes are less readily identifiable than the representatives of labor and management, there is always the possibility that an agreement will be challenged—and its implementation frustrated—by an individual or group not included in the process. Also, because environmental groups are less cohesive than labor unions, a group that was involved in a settlement effort may fragment over a proposed agreement, with the newly-created “splinter group” attempting to halt implementation of the parent group’s bargain.

In collective bargaining, moreover, once the principal parties have agreed to the terms of a settlement there is ordinarily no question that the parties will have the ability to implement it. In rare cases an agreement may be frustrated by government—for example, because it violates wage guidelines or labor laws—or, more frequently, rejected by the union rank and file. However, in the vast majority of labor disputes the settlements achieved through collective bargaining (whether by negotiation or mediation) are implemented in due course.

In environmental disputes, on the other hand, whenever the subject matter of a settlement is within the statutory jurisdiction of a government agency, the parties to that settlement will require agency approval to implement their agreement. For example, even if local residents, environmentalists, and businessmen have negotiated the settlement of a siting dispute involving a new industrial plant, various government agencies may have jurisdiction over the location of the plant (local zoning boards and planning agencies); its mode of operation (a state air quality control board); or disposal of industrial by-products (the Environmental Protection Agency through its regulation of hazardous wastes). If these agencies have not been parties to the bargaining process and settlement, they may find that they cannot both honor the voluntary settlement and fulfill their statutory mandate. In such cases, public agencies, by denying or qualifying the necessary permits and licenses, or initiating enforcement actions, may frustrate implementation of informal agreements.

IV. “NINE STEPS” TO RESOLVING ENVIRONMENTAL DISPUTES

As should be clear from the discussion above of the special characteristics of environmental disputes, the labor-management analogy is likely to be insufficient. A conflict resolution strategy must be especially tailored to the unique demands of environmental disputes.

We believe that environmental dispute resolution shares some of

the characteristics of the public participation efforts that urban planners have tried for many years to implement. Planners have always assumed that the citizen participation requirements contained in various federal, state, and local laws were meant to bring all the stakeholders into a decision-making role. While many, if not most, participatory efforts have been little more than window-dressing,⁷³ those that have been judged successful have brought all the parties together to consider alternatives and collaborate in the design of a best way of proceeding.⁷⁴ While participatory efforts have often failed to produce consensus, they have, on occasion, yielded negotiated settlements which the parties have volunteered to support. To the extent the analogy holds, the design of an effective bargaining process ought to build in part on what the planning profession has learned.⁷⁵ The nine steps toward ad hoc dispute resolution described below are built, in part, on the attempts thus far to resolve environmental disputes⁷⁶ and on past efforts to engage competing publics in the city planning process. They also incorporate our understanding of the unique problems encountered in environmental conflicts.

*A. Step #1: Identifying the Parties That Have a Stake
in the Outcome of a Dispute*

Naming the interests that have a stake in a particular dispute is not only a procedural problem that must be solved in order for bargaining to proceed, it is also a substantive problem in some disputes. Conflict may arise, for instance, because one group feels it should be involved but a second group insists that the first group be excluded. The first step toward resolving such disagreements is to identify the parties that want to participate in a bargaining effort. (It is better to include too many people or groups than too few.)

One argument often made against wide-scale participation in bargaining or conflict resolution is that the task of sustaining effective dialogue is too difficult. Yet, the scale of negotiation in any particular dispute is not nearly as much of a problem as it might seem. The key is to shift the focus from the number of parties involved to the categories of interests that want and ought to participate. For

73. See Arnstein, *A Ladder of Citizen Participation*, J. AM. INST. PLANNERS 216-224 (July, 1969).

74. See M. FAGENCE, *CITIZEN PARTICIPATION IN PLANNING* (1977).

75. See S. LANGTON, *CITIZEN PARTICIPATION IN AMERICA* (1978).

76. See, e.g., *ENVIRONMENTAL MEDIATION*, *supra* note 11; O'Connor, *supra* note 11.

example, an environmental standard-setting controversy might involve localized interests who view a proposed change in government regulations as undesirable. Several regulatory bodies, and perhaps other elected and appointed officials, would also have an interest in whether or not such regulations are adopted. Every person in each category (local interests, government agencies, special interest groups) need not participate in the negotiations. The most important task is identifying the range of interests that have something at stake.

B. Step #2: Ensuring That Groups or Interests That Have A Stake in the Outcome are Appropriately Represented

If the way to solve the scale problem is to move to a system of interest-group representation, then it is equally essential to develop an effective means of determining whether the spokesmen who claim to represent various interests are indeed able to do so. There are three strategies for identifying legitimate interest group representatives. The first involves reliance on networks of existing organizations. The second involves ad hoc elections. The third depends on the capacity of administrators, regulators, or the mediator to select representatives who have credibility with the larger groups involved. None of these techniques is foolproof, but individually or in combination they can work effectively if the choice of a method for ensuring legitimate representation is, itself, open to scrutiny and involves the participation of, at least, surrogate group representatives.

The bargaining agents or interest group representatives need to validate the support of their organizations at regular intervals. Elected or approved representatives are not likely to maintain their credibility unless they check periodically with the stakeholders they represent. It may also be necessary, in some situations, for groups to have more than one representative. Different delegates might be assigned to represent a group's interests during various rounds of bargaining—especially if questions requiring technical expertise emerge. Usually, a problem-specific and revolving membership is preferable to figurehead leaders or representatives who are not especially knowledgeable about or interested in the items being debated.

In some cases, it may be difficult to identify legitimate participants. Disputes may arise over who should participate or who should represent an identifiable group of participants. Such disagreements are, themselves, often susceptible to bargaining. Too

often, such opportunities are missed. Early controversies over participation or representation are often brushed aside only to arise later, frustrating ratification once a solution is reached.

There are not only disagreements over who should be admitted to the bargaining process—equally difficult problems emerge when those who ought to be involved decide, for one reason or another, to remain aloof, only to sabotage an emerging consensus at a later time. Very often it is the most powerful participants who prefer to go it alone; yet these are the very participants vital to the success of the bargaining process. Those involved in a dispute resolution effort, including neutral intervenors, may find it necessary to persuade recalcitrant, but legitimate, participants to take part.

Even after all the appropriate participants have been identified, disputes may arise within interest group coalitions, challenging the integrity of team representatives. Mediation techniques can be used to avoid or settle disputes among factions.⁷⁷

It is important to be precise about the meaning of participation: not all participants can or should participate in a dispute resolution process to the same degree or over the same period of time. Those most directly concerned, for whatever reason, will want and should be permitted to participate from the start, in greater depth, and with greater frequency than those with less direct concerns. As the process continues, the parties will change. Groups whose concerns have been satisfied or who discover they have no real interest in the outcome will depart; other groups will become involved as their interests become clearer. It is crucial that everyone involved share responsibility for helping newcomers become part of the bargaining process.

C. Step #3: Narrowing the Agenda and Confronting Fundamentally Different Values and Assumptions

There are times when contending parties have only a vague idea about why they are for or against a project. Often they can express their preference in only the most generalized terms. For example, it is easy to find vocal proponents and opponents of off-shore oil exploration, but both groups would, if asked, have difficulty pinpointing the issues on which they disagree. Proponents and opponents of dam-building are easy to find, but the precise issues at stake are

77. For a discussion of such techniques, see W. SIMKIN, *MEDIATION AND THE DYNAMICS OF COLLECTIVE BARGAINING* (1971).

often hard to specify. Involved are such considerations as the protection of endangered species, the use of water by nearby as well as distant consumers, power generation, farming, sport fishing, and real estate development. When confronted with such cases, stakeholders must consider various strategies for narrowing the issues. The agenda will change as the decision cycle evolves; additional issues may emerge as new groups enter the process.

Some disputes appear to center on rather small differences in the preferences expressed by participating groups or individuals. Sometimes these mask more fundamental disagreements. It is essential that the parties understand the extent to which fundamentally different assumptions and values are in conflict.

For example, if one group assumes that air pollution causes aesthetic and minor health problems but another group assumes that air pollution kills people, it would not be surprising if they disagreed on the appropriate action to take regarding the need to close a polluting factory. While they might debate the relative effectiveness of penalties that could be imposed on the owners of the factory or the probable impact of various regulations, they would, in fact, be debating fundamentally different views about the problem of air pollution. While two or more groups might share the same assumptions about the air pollution problem, they could differ on the best way of solving the problem. Their models of man-environment interaction or their assumptions about the efficacy of various forms of government intervention might conflict.

The need to confront fundamentally different assumptions and values is clear—if only to help understand the issues at the heart of a dispute. From a tactical or strategic standpoint, the process of confrontation can lead to changes in positions or at least to a clarification of the issues at stake.

The fact that contending groups hold different assumptions or do not share common values does not mean that they are fated to disagree forever. In some instances, assumptions are based on faulty or insufficiently understood data.⁷⁸ At times, adversaries start with an emotional bias and select only data that reinforce their biases. Challenges to such selective perceptions can be effective if handled properly. People do change positions on issues; it is essential to pinpoint the information and information sources that the participants admit would effectively challenge their views.

78. See STRAUS & GREENBERG, *DATA MEDIATION OF ENVIRONMENTAL DISPUTES* (1977); *Up Front Resolution of Environmental and Economic Disputes*, ENVIRONMENTAL COMMENT (May, 1978).

D. Step #4: Generating a Sufficient Number of Alternatives or Options

Bringing all the parties to the bargaining table is a necessary but not sufficient condition for reaching a settlement. Even with adequate representation and a clarification of deeply-rooted value differences, in order to move toward a no-lose trade-off or consensus solution, it is necessary to generate a sufficient number of policy, project, or program alternatives. Every group must be able to find an option that it favors. This often means that a do-nothing or no-build option must be included. The most important measure of the sufficiency of the options generated is the ability of all the parties to a dispute to find one that they favor. This helps to ensure that all the points of contention can surface and that every group feels that there is a reason to proceed with the bargaining.

It may not be possible to know all the appropriate alternatives early in the bargaining process. This means that an effective bargaining situation is one in which new options or alternatives can be added along the way.

E. Step #5: Agreeing on the Boundaries and Time Horizon for Analysis

No matter what a dispute centers on, the need to specify the boundaries and to designate a time horizon for analysis is overriding. By broadening the boundaries used to assess the impacts of a proposed action or policy, it is possible to tip the overall balance of costs and benefits implied by a project. By shifting the time horizon, it is possible to cut off the boundaries for analysis either before or after a dramatic impact occurs.

It is often argued by environmental scientists that the boundaries for analysis, including the specification of a time horizon, are implied by the problem at hand. A dispute over air pollution standards ought to be handled by everyone in the airshed. Likewise, a water pollution control controversy ought to involve everyone in the watershed. But these assumptions rarely provide useful guidelines. Invariably, the spillover effects of efforts to control or resolve a problem exceed the natural ecological boundaries of the site or system in question. Adding to the boundaries problem is the fact that the public agencies involved in analyzing impacts or administering remedies typically have a legal or political jurisdiction that is narrower than the scope of the environmental disputes they face.

The boundaries of a problem and the designation of a time horizon

for analysis ought to be viewed as negotiable items in any environmental dispute. Again, these can be treated as procedural issues. It is difficult to make bargaining work without resolving these issues, at least tentatively, to the satisfaction of all the parties involved. They can also be viewed as substantive issues—differences in perceptions about appropriate boundaries and time horizon may be at the heart of a dispute.

*F. Step #6: Weighting, Scaling, and Amalgamating
Judgments about Costs and Benefits*

There may be impacts of special concern to each of the contending parties. While part of every bargaining process must focus on the list of impacts to be discussed, the entire group must ultimately accept the financial and time limits on the analyses available to them and reach accord on the best way of investing in research and data-gathering. How the contending parties relate to each other and judge the advantages and disadvantages of the options available depends, in large part, on the attitudes of the parties toward the appropriateness of the forecasts that are made. Appropriateness, in this instance, refers to the scales chosen for calibrating each type of impact, the weight attached to each of the many impacts that the groups have insisted on including in the analysis, and procedures used to amalgamate summary judgments.

The resolution of environmental disputes is frequently frustrated by disagreements over the facts used by opposing parties in describing base-line conditions as well as the probable impacts of proposed changes.

There are many ways in which parties can differ over facts. There can be simple differences over such easily verified questions as the precise boundary line between properties or the demographic composition of an area. Differences may occur over questions for which there are no precise answers (such as the probability of hurricanes or earthquakes), but for which there are available scientific predictions based on generally accepted methods. Factual disputes arise when different methods of collecting data are used; for example, when there are a number of different measures that can be used to determine the extent of a floodplain or the quality of air or water. There are also data questions that cannot be resolved given the current state of scientific knowledge: for example, the effect on humans and animals of high-tension electrical wires, or the effect of supersonic aircraft on the atmosphere.

Even if facts and accurate measures can be acquired, the way they

are used and the weight that is given to them in making predictions, or constructing models, can be disputed. For example, various predictions have been made regarding the effect of the proposed six-lane Westside Highway in New York City. Proponents of the highway predict that its effect will be to siphon traffic off the streets of New York, thus relieving vehicular congestion on the adjoining streets and reducing air pollution. Opponents of the highway predict that it will increase traffic coming into New York, thus increasing congestion on the neighboring streets and increasing air pollution. These predictions vary because the contending groups make different assumptions about the volume of peak hour and off-peak traffic. Many other examples of competing use of the same data are common and sometimes give rise to the "battle-of-the-printout."

Complete agreement on the facts in any given situation is, of course, impossible. On the other hand, experience to date suggests that many environmental disputes contain a higher quotient of disputed facts than would exist if data mediation were employed.⁷⁹

Data mediation can take many forms. One approach is to press the contending parties to share the information they intend to use to support their arguments. As data are gathered, all parties are asked to comment, or at least to note potential objections regarding the validity of sources, the efficacy of data collection techniques, or the appropriateness of initial interpretations.

Another approach, not yet tested, is to secure agreement from the contending parties that all modeling and predictions will be based upon a common data pool. In effect, this would mean that only one computer model would be constructed and that it would be constructed jointly.

In many cases, differences can at least be narrowed. Potential impacts can be predicted using a range of extremes. Experience has shown that somewhat different numbers or baseline data, assuming the range can be narrowed, will not yield significantly different forecasts.

G. Step #7: Determining Fair Compensation and Possible Compensatory Actions

If the options or elements of a project that can be bartered or traded are not made explicit, it is very difficult to reach a settlement. It is not clear at the outset in most environmental disputes exactly how to specify appropriate or acceptable mitigation measures or

⁷⁹. See STRAUS & GREENBERG, *supra* note 78.

compensation. For example, if one group insists that losing any additional range land is absolutely out of the question and another group has a legitimate claim on that same land, but for purposes that would eliminate grazing, there is very little room for bargaining. The problem is to determine what each group is willing to trade.

Perhaps those concerned about the preservation of the range will be willing to accept a deed for other land now in private hands or a sum of money that might be used to reclaim grazing land lost in past years. Unless and until compensatory actions can be specified, there is very little hope that a compromise can be reached.

The task of calculating appropriate compensation or determining what trades or actions are equivalent to the losses caused by a project is indeed difficult. Merely asking a group what it thinks its losses are worth will not produce an accurate estimate of the compensation that ought to be paid. Financial compensation is often inappropriate or unacceptable to certain groups. Off-site trades (swaps of land, preferential action on other matters, etc.) may be much more to the point.

H. Step #8: Implementing the Bargains That are Made

All the groups involved in bargaining must be made aware of the problems involved in implementing proposed cost compensation or impact mitigation measures. There are, sometimes, compromises that a group of disputants can reach that break a deadlock, but for reasons beyond their control cannot be implemented. There may be legal prohibitions or outside parties who refuse to cooperate.⁸⁰ Disputes that occur subsequent to a failure to implement a previous bargain are much harder to reconcile; all the parties to the bargaining have good reason to doubt the prospects of fulfilling the agreements that are being proposed. It is absolutely crucial that all parties to a bargaining process accept and understand the obstacles to implementation when they attempt to reach closure on an issue.

I. Step #9: Holding the Parties to Their Commitments

It is critical to develop mechanisms that will bind all bargaining parties to the terms of their agreements. The participants must be confident that the agreements they have made are certain and that

80. See part III, section D (*Implementation*), *supra*.

their "certainty" will be capable of objective measurement. At a minimum, this calls for agreements that are either self-enforcing (e.g., the Grayrocks Trust) or enforceable through legal means (contract or tort) and some form(s) of monitoring to insure that predicted/prescribed outcomes do not exceed or drop below anticipated levels.

A number of traditional legal devices are sufficiently flexible to adapt to the particular needs of environmental dispute resolution. The trust example has already been explored.⁸¹ Contracts are an obvious mechanism for ascertaining the rights and duties of the parties in complex agreements; they may be particularly useful in environmental agreements if they include elements of self-enforcement such as provisions for the forfeiture of bonds or liquidated damages clauses. As we will show later, many agreements may have the force of agency or court orders behind them, making the penalties for breach significantly more burdensome to the violating party. Such agreements would be difficult to flout.

In addition to guarantees that an agreement is certain and enforceable, settlements will often require that predicted or prescribed impacts and outcomes be measured and monitored. There is ample precedent for such monitoring activities⁸² and provisions for their funding may be built into the final agreement. The parties' acceptance of the reliability of the monitoring data will sharply reduce the potential for subsequent challenges to the agreement.

Even though the parties have reached a "solution" to their conflict and all that seems necessary is to formalize their settlement, it would be wrong to underestimate the importance of this last step in the dispute resolution process. Drafting a formal agreement provides the parties with an opportunity to reexamine past decisions in the light of subsequent developments and this may lead to disagreements about supposedly "settled" questions. If the parties then change their minds or renege on agreements, it becomes even more difficult to rebuild a compromise since the parties will now be extraordinarily suspicious of one another. Thus, the formalization of a settlement into a written agreement is anything but a *pro forma* chore. Great care must be taken so that agreements do not evaporate at the moment of apparent success.

81. See text at notes 33-37 *supra*.

82. An example of such monitoring is the Grayrocks Dam Controversy. See notes 33-37 *supra* and accompanying text.

J. Conclusion

These steps toward environmental dispute resolution have been presented sequentially. In fact, during the course of most disputes, it is necessary to juggle the steps, looping back to re-evaluate the outcome of an earlier decision or to reconsider the way an earlier step was handled. In addition, the order in which the steps are addressed can be flexible; the list presented above is portrayed in an idealized fashion.

V. ADDRESSING REMAINING PROBLEMS

An effective theory of environmental dispute resolution would allow us to know which factors in a particular dispute were crucial, which techniques would have the best chance of "working," and when consensual approaches might not be appropriate. The practice of environmental dispute resolution is still too primitive to provide empirical support for such a theory. A great deal more experimentation and careful reflection are needed.

Can we learn to spot "negotiable" disputes?⁸³ How should bargaining proceed? Is there a general way of approaching environmental disputes—as we have suggested—or is each conflict so special that it is amenable to resolution only on its own particular terms? We are not prepared at this time to answer these basic questions. However, we have considered two steps that might be taken now that would be helpful: (1) defining more clearly the role and responsibilities of environmental mediators, and (2) exploring the advantages and possibilities of direct government participation in environmental dispute resolution.

A. Defining the Role and Responsibilities of the Mediator

If mediation does become more a matter of course, or even if it happens only infrequently when major conflicts have reached a terrible impasse, guidelines are needed to ensure that mediation efforts

83. Preliminary studies on the nature of disputes that can be resolved through third party intervention are underway; see AMERICAN MANAGEMENT SYSTEMS, INC., *THE POTENTIAL OF MEDIATION FOR RESOLVING ENVIRONMENTAL DISPUTES RELATED TO ENERGY FACILITIES* at 21.26 (December 1979) (prepared for the Policy Analysis Division, U.S. Dep't of Energy), citing RESOLVE, CENTER FOR ENVIRONMENTAL CONFLICT RESOLUTION, *THRESHOLD CRITERIA FOR USE IN ENVIRONMENTAL CONFLICT ASSESSMENT* (1980) and AMERICAN ARBITRATION ASS'N RESEARCH INSTITUTE, *CRITERIA FOR SUCCESSFUL MEDIATION* (1980).

are structured properly and that the responsibilities of the mediator are clear. At present, there are few prescriptions and no code of ethics to guide ad hoc mediation efforts.⁸⁴

The mediator operates without the benefit of any higher authority that can force the parties to keep meeting or that can impose sanctions on one of the parties if agreements are breached. However, even though the mediator has no power to force a settlement, his other efforts can facilitate agreement if an atmosphere of trust and cooperation can be established. The perception of the mediator's neutrality is critical—it allows a bond of trust to develop between the mediator and the parties involved. This bond of trust enables the mediator to receive confidential messages from the stakeholders; these, in turn, provide clues about the direction that bargaining must take in order to achieve a settlement. The various possible functions of a mediator should be evaluated in light of the need to maintain this bond.

Simkin suggests that the mediator must perform procedural functions, communications functions, and, in some cases, play an affirmative or substantive role.⁸⁵ Each of these functions carries a different level of risk of violating the bond of trust or losing the image of neutrality. Procedural functions, which include scheduling and recessing meetings, arranging joint and separate meetings, changing the location of meetings, chairing meetings and maintaining order, proposing a discussion sequence, keeping records, and imposing deadlines,⁸⁶ rarely present much of a threat to the neutral role of the mediator. Communications functions can include facilitating communication between meetings, determining the areas of agreement through confidential talks with each side, signalling each side regarding the rigidity of their demands, and indicating how a bargain might be struck may cause problems by inviting attempts at

84. This may change rapidly. There are a growing number of groups involved in environmental dispute resolution, including: American Arbitration Association Research Institute, 140 West 51st Street, New York, NY 10020; Center for Urban and Regional Research, Old Dominion University, Norfolk, VA 23508; Environmental Mediation International, Suite 801, 2033 M Street, N.W., Washington, D.C. 20036; Office of Environmental Mediation, University of Washington, FM-12, Seattle, WA 98195; Project on Environmental Conflict, Upper Midwest Council, Federal Reserve Bank Building, Minneapolis, MN 55480; RESOLVE, Center for Environmental Conflict Resolution, 360 Bryant Street, Palo Alto, CA 94301; ROMCOE (Rocky Mountain Center on the Environment), 5500 Central Ave. Suite A, Boulder, CO 80301; Wisconsin Center for Public Policy, Environmental Mediation Project, 1605 Monroe Street, Madison, WI 53711.

85. See SIMKIN, *supra* note 77, at 77.

86. *Id.*

manipulation.⁸⁷ Through these communication functions, a biased mediator can exert a substantial influence on the direction or outcome of bargaining. Manipulation, if discovered (or even perceived), will undermine the mediation effort and destroy the credibility of the mediator. Presumably, these are sufficient inhibitions, and will serve to discourage the mediator from exercising communication functions in a way that will undermine his attempts to gain the trust of the various parties.

However, there may be occasions where a mediator is tempted to take a more active role. For example, a mediator with previous experience may be able to offer creative suggestions based on the outcome of similar disputes. This raises a point of some controversy. More substantial participation by the mediator in the details of the bargaining suggests an ever greater risk of manipulation: "mediation can attempt to deflate extreme bargaining positions, but since these positions often form part of a negotiating strategy, this action can compromise the perception of the mediator's neutrality."⁸⁸

Simkin urges mediators to minimize their active participation in the substance of settlement. If the role of the mediator increases, the parties to the dispute may attempt to manipulate the mediator for their own strategic ends. This would undercut the mediator's effectiveness.

Other proponents of environmental mediation have argued that mediators should play an active role in identifying the parties to a dispute, arranging for their meetings and helping to sort (and even evaluate) the validity of technical information regarding the issues at stake.⁸⁹ This undoubtedly makes the job of the mediator in environmental disputes much more complex than the job of the mediator in more typical collective bargaining situations.

To whom is the environmental mediator accountable? This question is foremost in the minds of some attorneys who have raised doubts about the efficacy of environmental mediation.⁹⁰ If mediation

87. *Id.*; see also C. STEVENS, *STRATEGY AND COLLECTIVE BARGAINING NEGOTIATION* (1963); T. SCHELLING, *THE STRATEGY OF CONFLICT* (1960); M. DEUTSCH, *THE RESOLUTION OF CONFLICT: CONSTRUCTIVE AND DESTRUCTIVE PROCESSES* (1977).

88. See T. Sullivan, *Negotiation-Based Review Processes for Facility Siting* (January 1980) (unpublished Ph.D. thesis Kennedy School of Government, Harvard University).

89. See Susskind, *The Importance of Citizen Participation and Consensus-Building in the Land Use Planning Process: The Alewife Case* (October 1977) (paper prepared for the Lincoln Institute Land Use Symposium, Cambridge, MA).

90. Statement of Charles Halpern, Director, Institute for Public Interest Representation, at a conference sponsored by the Environmental Law Institute at Reston, Virginia, November 30-December 1, 1978: "The Environmental Impact Statement Process Under NEPA—III."

proceeds under court auspices, some of the problems of accountability would be diminished. However, since the mediation arrangements discussed in this paper are voluntary, the mediator is only responsible to the participating parties and not to a court or government agency. Of course, it is possible for mediation to proceed under the auspices of an accredited organization such as the American Arbitration Association. If this were the case, then their code of ethics would bind the mediator.⁹¹ However, in most instances, ad hoc mediation will probably not involve "accredited" mediators, at least not in the near future. Instead, the accountability of mediators will probably be governed by the fact that they will be in highly visible, political positions. Their success will depend on their ability to maintain a bond of trust with the participants—this, in turn, will require them to behave in a manner consistent with codes applicable to elected and appointed public officials. With additional experience, it should be possible to codify a more specific ethical code appropriate to environmental dispute resolution.

B. The Role of Courts and Agencies in Environmental Dispute Resolution

We believe that judges should acknowledge the potential benefits of ad hoc bargaining processes for resolving environmental disputes and consider their use in appropriate cases. We also believe that the direct involvement of federal and state regulatory agencies in the bargaining process would help to address many of the problems inherent in environmental dispute resolution.

The ability of the courts to deal with "polycentric problems"—problems in which a large number of results are possible and many interests and values are involved—has long been questioned.⁹² We have suggested that environmental disputes are just such problems and often exceed the decision-making capacity of the courts. When faced with a complex environmental dispute, judges should consider negotiation or mediation to be a valuable addition to traditional procedures and, at a minimum, support any movement in that direction by the parties. In our view, of course, an even more active judicial role would be welcome; for example, involving the court in the selection and supervision of a mediator.

Such a role for the courts is amply supported by precedent. Judges

91. See AMERICAN ARBITRATION ASSOCIATION, CODE OF ETHICS FOR ARBITRATORS IN COMMERCIAL DISPUTES (1977).

92. See Fuller, *The Forms and Limits of Adjudication*, 92 HARV. L. REV. 353, 394-404 (1979).

normally preside over the settlement of cases by stipulation and agreement of the parties. We are suggesting no more than an expansion of this traditional role to include a judicial supervision of the mediator and an increased willingness of judges to endorse bargaining processes to the parties at the pre-trial stage.

Where government agencies are parties to litigation, courts can look for guidance to the antitrust consent order process, an example of a successful bargaining procedure to resolve complex disputes. The civil proceedings brought by the Antitrust Division of the Department of Justice are typically resolved by negotiation rather than adjudication.⁹³ In essence, an antitrust consent decree is a contractual settlement to litigation; however, the courts treat the consent order as a "judicial act" rather than a contract.⁹⁴ If courts chose to treat the contractual settlement of environmental disputes similarly, a significant element of certainty could be added to negotiated agreements: the participation of agencies in a negotiation process that, after settlement, is considered a "judicial act" would squarely address the implementation problem we noted earlier.

Experienced practitioners of environmental dispute resolution agree that implementation problems are a major concern: parties may not have the legal authority to implement their agreement, novel agreements may pose difficult problems of interpretation when challenged, and disgruntled members of participating organizations may form "splinter groups" and seek to frustrate implementation.⁹⁵

In the wide range of environmental disputes where agency jurisdiction is likely to be invoked, the participation of the agency in the bargaining process and settlement will make implementation more certain since the agency controls the very means of implementation. Agency participation can also help to insure implementation in other, less obvious, ways.

93. See T. LINDSTROM & K. TIGHE, 1 ANTITRUST CONSENT DECREES (1974); Kalodner, *Consent Decrees as an Antitrust Enforcement Device*, 23 ANTITRUST BULLETIN 277 (1978); Zimmer & Sullivan, *Consent Decree Settlements By Administrative Agencies in Antitrust and Employment Discrimination: Optimizing Public and Private Interests*, 1976 DUKE L. J. 163.

94. *Id.*

95. Author's interviews with: Jane McCarthy, environmental mediation practitioner currently engaged in research for the American Arbitration Association, New York City, March 2, 1979; David O'Connor, environmental mediation practitioner associated with Clark-McGlennon Associates, Boston, March 8, 1979; John McGlennon, environmental mediation practitioner and former administrator of EPA Region I, Boston, March 15, 1979.

Agency participation can foster implementation by assisting in the identification of all affected parties and assuring that they participate in the bargaining process. Agency requirements for public participation in government decision-making, for example, provide government officials with a model for, and experience with, including concerned parties in agency procedures. That experience may be transferred from formal to informal processes with little difficulty since the techniques for achieving participation—adequate notice and an opportunity to influence decisions—remain the same in both cases.

Since the government is likely to participate in a number of different disputes over time, agency participation can also foster implementation by introducing an element of the cyclical nature of collective bargaining. Parties may be reluctant to frustrate implementation of a consensual settlement when they know that they—or others representing similar concerns—may have to deal with the same official or agency in the future.

Government participation can also add to the bargaining process a party whose mandate is to serve the general public interest rather than a particular interest group. In environmental disputes, it is not unusual to find that all the parties identify their position with the “public interest”;⁹⁶ however, because each party really serves only its own vision of the public good, an agreement, while satisfactory to the bargaining parties, will not necessarily be concerned with more general, or diffuse, concerns. While no one, including government, can truly claim to know what will maximize the general welfare, the government is at least pledged to attempt to work towards the well-being of the whole society. Government participation, at least in those cases where the agency or official enjoys some degree of public trust, can thus enhance the bargaining process by providing the public with some assurance that an agreement will serve general, as well as particular, interests.

Agency participation in bargaining may also help to address a second aspect of the “public interest” problem. A government agency, before agreeing to participate in a bargaining effort, might seek to evaluate the adequacy and fidelity of organizational advocates—in a manner similar to that used by the federal courts in class actions⁹⁷—

96. See Stewart, *supra* note 21, at 1764.

97. See the discussion in *id.* at 1742-43.

and make its participation contingent on each advocate's ability to meet a threshold standard of accountability.⁹⁸

We have already noted the extreme difficulties posed when one group sees itself as *the* advocate of *the* "public interest." But even here, government participation may encourage the parties to take a broader view of their position. When one party stresses the "rightness" of its position, it may prove helpful if a government official, rather than the opposing party, notes that there are valid and competing interests opposed.

The participation of government in the bargaining process can also address some of the other special problems associated with environmental disputes. Regulatory agencies, for example, can provide resources and expertise in clarifying the difficult factual disputes that mark environmental conflicts. Funding for environmental dispute resolution efforts, a significant problem in the past,⁹⁹ may also be less difficult if agency resources are available. In many cases, agency personnel may be able to provide information and advice which might otherwise have to be purchased at a great expense. Agencies can also be helpful with "boundary" problems since they operate at a state or federal level and can transcend the limitations on decision making faced by local, private parties.

A crucial threshold question in this inquiry is, of course, whether an agency would choose to initiate or otherwise become involved in negotiations. Some agencies, in the past, have chosen to participate in "formal" negotiating efforts;¹⁰⁰ similarly, "informal" negotiation is a common element of agency practice at all levels of government. However, a question remains as to whether we can expect agencies to participate routinely in bargaining to resolve environmental conflict.

Certainly, there are reasons not to get involved. Because negotiation and mediation, at least at the outset, will be perceived as novel procedures, the agency that participates in a bargaining effort—even if court-supervised—may lay itself open to charges that it is exceeding its legitimate authority. Critics may claim that the agency is shirking its duty—particularly in enforcement actions—and, rather than attempting to make "deals" with those who violate environ-

98. Such a policy was successfully adopted by Gerald Cormick in his mediation of the Snoqualmie/Snohomish dispute; see Cormick, *supra* note 11.

99. See ENVIRONMENTAL MEDIATION, *supra* note 11, at 21-25.

100. See "Conversion to Coal at Brayton Point," (October, 1978) (Final Report to the New England Energy Task Force); *Environmental Mediation*, NEWSWEEK, March 17, 1980 at 79.

mental laws, should be seeking to enforce the law in the manner officially prescribed. Further, the agency may risk charges that a bargaining effort shows that it has been "captured" by the very interests it is supposed to be regulating.¹⁰¹

Agency officials may also be hesitant about offending powerful, elected officials who influence policy, control agency resources through the budget process, and suggest appointments. When an agency participates in a large-scale bargaining effort involving numerous parties, its activities may be perceived by some elected officials as an intrusion on their own political "turf": they may view such activities as just the sort of political "log-rolling" which they believe to be their private bailiwick.

Agency officials may also be reluctant to participate in bargaining because it involves a lessened role for themselves. Rather than being the central figure in a formal process, with attendant media coverage throwing a spotlight on agency personnel, the official finds himself engaged in "behind-the-scenes" discussions where discretion, not publicity, is the rule. Further, in a consensual process, the agency official neither sits in judgment nor enforces the law (both positions of power and prestige); instead, he becomes merely another actor in an often frustrating and tedious process with no guarantee of success.

To make matters worse, even though the agency is only one party to the bargaining process, because of its high "visibility" it risks being held solely responsible for an unpopular agreement or blamed if negotiations break down. An agency may also find it extremely difficult to exit from bargaining sessions, no matter how reasonable the action might be, without being accused of damaging the prospects for settlement.

There are, of course, also advantages to participation. The major advantage to the agency of informal bargaining is that it can achieve consensus and voluntary compliance. Agreement among all the affected parties minimizes the risks of extended conflict, potentially adverse publicity, and the severe drain on agency resources that often arises out of the adversary mode of formal regulatory processes.¹⁰² Voluntary compliance with agency rules also makes the agency look reasonable and creates a strong impression of competency and capable leadership.

101. See Stewart, *supra* note 21, at 1685; L. JAFFE, JUDICIAL CONTROL OF ADMINISTRATIVE ACTION 11-14 (1965).

102. See Breyer, *supra* note 24, at 582-83; Stewart, *supra* note 21, at 1772.

Bargaining is attractive to the courts also because it makes it easier to tailor different settlements to the special needs presented by an individual case and thus both encourages voluntary compliance (the regulatee gets a "better deal" through bargaining than was possible through the formal process) and makes for better solutions (the "tailored" settlement, not being bound to the more restricted and less flexible procedures of the formal process, has the potential for an innovative or localized solution that benefits both the general public and the regulatee more than a traditional approach).

In many cases, of course, agency/court participation in bargaining would have little impact on the problematic nature of environmental conflict. Where environmental disputes are marked by extreme ideological differences it is unlikely that bargaining—or, for that matter, anything at all—can convince the contending parties to acknowledge the legitimacy of each other's concerns. Government officials are not immune to confusing factual statements with value statements. Although their relative objectivity may be helpful in recognizing particularly egregious instances of fact-value confusion, they cannot provide value-neutral technical counsel.¹⁰³ Where one party to a dispute believes it can win at little cost, or the contending parties have nothing to trade, bargaining will probably not ease the conflict. Furthermore, when environmental disputes become narrowed to a yes/no choice about a "lumpy" project—for example, the decision to complete the Tellico Dam¹⁰⁴—so that nothing remains to be exchanged, it is doubtful that the bargaining will prove helpful.

But bargaining is a real possibility in the many environmental disputes that arise from the permitting, licensing, and funding decisions made by federal, state, and local agencies. Disputes arise when agency decision makers are insensitive to the desires of stakeholders or when agency personnel insist that they are not empowered to negotiate in particular situations but are instead bound by general rules and policies. In fact, agency personnel almost always have administrative discretion (i.e., they have the latitude to decide when to act, what public posture to take, what informal communications they will permit, what information they will reveal, what explanations they offer, etc.) and they are almost always in a position to negotiate with regulatees. By taking advantage of the discretion available to

103. See L. JAFFE, *supra* note 101, at 25.

104. See *Carter Signs Bill Forcing Tellico Dam Completion*, Washington Post, September 26, 1979 at A-2.

them, regulatory agencies could avoid many disputes and turn others into occasions for voluntary compliance.¹⁰⁵ The key to success is for agency personnel to admit that they are in a bargaining or negotiating role every time they attempt to license or regulate and to learn to bargain effectively.

VI. CONCLUSION

Our experience to date with new approaches to environmental dispute resolution has shown that environmental conflicts, while more complex and difficult to resolve than many social conflicts, are amenable to solution by ad hoc bargaining processes. Certainly, mediation and informal bargaining will not resolve all environmental conflicts. They will neither end litigation nor bring a halt to the continuing battle between environmental and developmental interests. Bargaining will not be applicable to all environmental disputes, perhaps not even to a great many, but these new approaches to environmental dispute resolution offer enough promise to justify continuing efforts to test out-of-court dispute resolution techniques.

If government is to play a more active role in the ad hoc bargaining process, a great deal of thought needs to be given to the scope of agency discretion in settling conflict and the means for insuring that such discretion is not abused. There is room for concern whenever an expansion of discretionary power for government is proposed. The problem with discretionary power, of course, is that it may be exercised arbitrarily and capriciously. But we must not confuse the existence of discretionary power with the abuse of discretionary power.¹⁰⁶ Although we are proposing a greater discretionary role for agencies in environmental decision making, there are basic checks on the abuse of discretion in a consensual process. Contending parties with vitally opposed interests are included in the process and their legitimate concerns will have to be addressed before settlement can be achieved. This provides a strong disincentive to agency arbitrariness.

What if the necessary representation of diverse interests is not

105. Research into bargaining within the current regulatory process is now underway at MIT. The project—entitled *Consensual Approaches to the Enforcement of Environmental Standards*—is funded by EPA and will examine bargaining in a number of regulatory settings, including: rulemaking, permitting, review of planning grants, and review of state implementation programs.

106. See K. DAVIS, *DISCRETIONARY JUSTICE* 17 (1969).

present? Is there a check on an agency if it bargains with only a few hand-picked parties and then attempts to claim that the settlement represents a consensus of all interested parties? The answer is that such arbitrary behavior by the agency is inherently self-defeating. Agreements would invariably be attacked by excluded parties and the agency would lose all the advantages of informal bargaining—particularly voluntary compliance—that we noted earlier.

We also need to address the issues raised by court supervision of informal bargaining, especially in regard to judicial review of agency decisions. Should there be a review of the bargaining process or the settlement? Both? Neither? How can there be any review of an informal, and perhaps confidential, procedure? If settlements are reviewed, what is the standard for review? It is not immediately apparent that judicial review of the substance of agency decisions would have any purpose where consensual processes are at work; and, in fact, courts have generally adopted a *laissez-faire* attitude towards consent decrees, nearly always holding them immune from third party attack.¹⁰⁷

One possible approach to this entire set of issues is to require that agencies “structure” their participation in informal bargaining through clear statements of the rules to be applied, with courts then empowered to review agency actions to determine whether these rules have been followed.¹⁰⁸ For example, an agency should be able to state its rules for admission of parties to the bargaining process. Upon challenge by an excluded party, the court could determine whether the agency had followed its announced procedures for admission. All such prospective rules could be fully reviewable as administrative procedures, allowing the reviewing court to exert “checks” on the agency’s “structuring” of its own discretion.

Many more questions remain. Will there be a need for statutory revision to foster government participation in bargaining? If so, is amendment of the Administrative Procedure Act the correct approach or would it be preferable to alter the procedures mandated by substantive statutes? What factors distinguish “negotiable” disputes? We also need to know much more about the role of mediation in the bargaining process. Mediation is often the last opportunity for settlement, yet, at present, we know very little about what constitutes effective practice.

107. See Zimmer & Sullivan, *supra* note 93, at 208.

108. See DAVIS, *supra* note 106, at 55-56.

The next step is to experiment with and document dispute resolution efforts, encourage government participation in these efforts, and begin to fund research and practice in the field. A great deal remains to be learned.