

BARGAINING, ANALYSIS AND WATER MANAGEMENT

Leonard Shabman

Director, Virginia Water Resources Research Center
Virginia Tech

My undergraduate and graduate education in resource and environmental economics, my time in academia, and my time working in government have led to a particular understanding of the outwardly mysterious ways that society makes water and land resource decisions. For me decisions on water allocation, water project spending, and water pollution control regulation have been and will continue to be, based on negotiation and bargaining — “dealmaking.” The deal describes choices made in a market-like process (ex. water rights exchanges) in an administrative process, or in the political arena. Deals are conditioned by the bargaining conventions and power relationships among negotiating parties.

When I was a student, the deal was out of favor even among economists. It was assumed that the give and take of bargained outcomes would serve narrowly self-interested participants to a negotiation while the public interest would be ignored. There was a sense that deals made in markets almost always failed to produce efficient or equitable allocation of water resources. Advocates for water rights and pollution discharge rights markets were part of a fringe element in the academic community. Instead, government spending and regulation was (almost) always necessary for achieving a socially superior water allocation. However, the deals made in government decisionmaking processes also were suspect. The literature decried the “pork barrel” and the bankruptcy of interest group politics.

Suspicion of markets, of politicians, and of bureaucrats encouraged economists and other analysts to advocate technical analyses that would expose the inefficiency and inequity of water deals being struck. Perhaps reflecting a progressive era faith in expertise, the water resources economics literature after the 1960s encouraged economic analysts to make objective and rational calculations to define the public interest that could not be established by market exchange and to reign in the irrational world of political deals.

A broad multidisciplinary background and opportunities to work in both academia and government would not let me accept this view of the world. I believed then and believe now that advocating markets for efficient and

equitable water resource allocations is a job of the economist. I believed then and believe now that the political deal is the way democratic societies define the public interest. I believed then and believe now that the job of the policy economist is to craft economic arguments and analysis to help bargaining parties discover new ways to think about the decision being made, and not to dictate the best decision. Economic analysts who treat the political deal as the enemy of their calculations for defining the public interest will find their work either ignored or coopted to justify predetermined positions taken by the deal makers.

Recently I have noticed that suspicion of the deal has given way to a certain respect for negotiation as the best process for water resource decisionmaking. In the past, deal making was the enemy of the public interest. Today, deal making both in markets and in politics has been equated to the public interest. Indeed, it is now mainstream to promote deals made in markets for allocating water use rights and pollution discharge allowances. To be sure, advocacy for market-like policy continues to be viewed with suspicion. My recent experience with designing wetland credit sales markets and in shaping the institutional conditions for allowance trading in water quality programs reminds me that making the argument for markets remains a difficult task. (See: Shabman, L., K. Stephenson, and P. Scodari, 1998. “Wetlands Credit Sales as a Strategy for Achieving No Net Loss: The Limitations of Regulatory Conditions.” *Wetlands*. 18.3 (September); and, Stephenson, K., Shabman, L., and L. Geyer, 1999. “Watershed-based Effluent Allowance Trading: Identifying the Statutory and Regulatory Barriers to Implementation.” *The Environmental Lawyer*. June 1999). Nonetheless, the number of operating market-like programs in water rights, in water quality, in air quality and in habitat management continues to grow.

Perhaps more striking than the increased acceptance of market-like water policy has been the acceptance of deal making for government decisionmaking. This so called “collaborative decisionmaking” is openly advocated for design of pollution control regulations, for water rights allocations and for hydropower dam re-licensing. The

shift to deal making is an effort to expedite water management decisions that in recent years have been characterized by stalemate and legal delays. The new understanding of “watershed management” offers the most intriguing example of the nation’s changing goals for water management and the acceptance of the deal for making decisions.

First consider the new understanding of the purpose of watershed management. At mid-century President Truman’s Water Policy Commission linked the economic prosperity of the nation to watershed management. The Commission reported that “. . . the American people are awakening to the fact that river basins are economic units; that many problems center around the use and control of water resources” When river basin and watershed (I will use the terms as synonyms) management was viewed as an engine of economic development, watershed management was expected to remove the tails from the distribution of hydrologic events; hydrologic variability prevented areas from reaching their full economic potential. In a well managed watershed, the “average” flow would become the “normal” flow through the development and operation of reservoirs. A well managed watershed would be one where wet soils were drained and water would be delivered to dry areas. Watershed management was achieved by water development projects (dams, channels, levees, and diversions) for flood control, navigation, hydropower, municipal and industrial water supply, and irrigation purposes.

In the last 30 years “de-engineering” the nation’s watersheds has come to define watershed management. Recognizing that chemical water quality improvement alone can not, in the language of the Clean Water Act, “. . . restore the physical, chemical, and biological integrity of the nations waters,” there has been a call to return the hydrologic variability necessary to support the living resources of watersheds. Variability in river flows, overbank flooding and drying of the fringe areas of rivers, lakes and estuaries, and protecting isolated pockets of wet areas have been associated with the environmental restoration of watersheds. Watershed restoration actions mean putting the tails back on the distribution of hydrologic events, by removing or reoperating dams, putting meanders back in straightened channels, breaching levees, and abandoning agriculture on farmed wetlands. Restoration may mean that some of the now valued watershed services will be lost (or produced at higher cost). Restoration *may* mean (for example) less flood protection for some properties, less navigation for some shippers, less irrigation water for some farmers, higher electric rates for some commercial and residential

customers, higher timber prices for home builders, or reduced employment in some communities.

The purpose of watershed management has been redefined, and so too have the accepted decisionmaking procedures. In the past watershed deal making was disguised by a pretense that decisions were directed by the objective calculations and comparisons of costs with benefits. Today, in a radical shift from the past, watershed management programs openly call for collaborative decisionmaking (bargaining and negotiation) to guide watershed restoration decisions. The decision to be made is whether the environmental gains (benefits) from watershed restoration offset the value of the lost services (costs). Economists might be inclined to promote benefit/cost analysis for guiding this decision. However, I doubt that *environmental benefit* analysis will make a significant contribution to watershed restoration decisionmaking.

I am *not* suggesting that participants in collaborative restoration decisionmaking have no interest in or need for analysis. The analyst’s task is to help the participants in the decision process *discover and reveal* their preferences and their willingness to make trade-offs (i.e. determine benefits). A useful economic analysis will illuminate the costs of restoration and not seek to measure the environmental benefits. Costs are more than financial outlays of government. From a current watershed condition economists must describe the “opportunity costs” of alternative levels, scales, and locations for restoration. Restoration opportunity costs include: 1) direct life-cycle financial outlays by government and individuals, 2) existing power, irrigation, flood risk, and other services that would be reduced or lost with restoration. By focusing negotiator’s attention on whether a proposed restoration action is worth its opportunity cost, restoration “benefits” are discovered and established by the decision process.

I am aware of interest in and use of analyses that compare changes in a physical measure of the environmental services of restoration (ex. incremental improvements in salmon population changes or in a water quality parameter) with opportunity costs. I am also aware that calculations of environmental benefits (ex. the money equivalent value of the use and nonuse values of a salmon) might be welcomed by those who support restoration – if the reported benefits are large enough to support their position. The same benefit calculations are rejected when they are “too small” to support a preconceived position. In general, I have found that estimates of environmental restoration benefits are used to defend an established bargaining position while

opportunity cost analysis helps negotiators determine their position.

Accurate opportunity cost analysis makes another contribution to a negotiation-based decisionmaking process. Most deals will not be made unless losers are compensated for their losses. Compensation to commercial fishermen, to forest products firms, to irrigators, to navigation interest, and to others may be needed for any plan to be politically accepted. If compensation is going to be offered, affected interests have an incentive to inflate their damage claims to maximize the payment received. If compensation is *not* going to be offered there also is an incentive to inflate damage claims to make the opportunity cost of restoration appear unacceptably high. Of course, restoration advocates will attempt to “prove” that the opportunity costs are trivial, regardless of the real opportunity costs.

Both for helping the decision process define the values derived from restoration and for helping direct compensation, economic analysts should assure that opportunity costs are accurately assessed and include more than financial outlays. Economists will be sensitive to the market adjustments that will occur. Commercial fishermen will switch species, use lower cost harvest methods, and find new sources of employment if fish harvest quotas are enforced. If restoration curtails power generating capacity, changes will be made within the power generation firms, in power marketing and on the demand side, which will minimize (not eliminate) the cost of replacement power. Higher timber prices will dampen demand and encourage more technically efficient use of wood materials in construction so the rise in construction costs will be dampened (for an example of such work see:

G. Edward Dickey, “Grain Transportation After Partial Removal of the Four Lower Snake River Dams,” <http://www.americanrivers.org/snakedam-press.html>, accessed December 8, 1999).

Collaborative decisionmaking is a new endeavor. In specific instances there may be unclear rules of procedure and representation, limited understanding of the best ways to introduce analysis into the process, and insufficient incentives for certain parties to participate. Economic analysts should pay increased analytical attention to the bargaining process and to rules for structuring that process. For example, some negotiated solutions have not been tying beneficiaries to costs; instead costs are being shifted to unrepresented general taxpayers. If beneficiaries do not bear the costs of the decisions they seek to influence, the potential for cost shifting to others will make the outcomes optimal for the parties to the negotiation but come at a cost to the society at large. What may be emerging is a new “green” pork barrel. More generally, the recent professional interest in game theory applications can contribute to the design of collaborative processes that will yield efficient and equitable (defined in many ways) outcomes.

Changes that have occurred in what we accept as legitimate decisionmaking processes are creating exciting new opportunities for analysts. The design of practical rules for implementing market-like institutions is an ongoing challenge. The need to focus on opportunity cost analysis and the design of negotiation rules for collaborative decisionmaking will keep analysts gainfully employed for the foreseeable future.