

MANAGING CONFLICT IN WATER RESOURCES MANAGEMENT: T.V.A.'S LAKE IMPROVEMENT PLAN

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REFERENCE: *Proceedings of the 1993 Georgia Water Resources Conference*, held April 20 and 21, 1993, at The University of Georgia, Kathryn J. Hatcher, Editor, Institute of Natural Resources, The University of Georgia, Athens, Georgia.

NATURE OF CONFLICT

The variety of opposing ideas, interests and people is a normal and desirable condition found in all aspects of water resources management. If opposing groups cannot find common interests on which they can work together, then it is not uncommon to have stalemates, litigation, and other negative outcomes. If conflict is properly managed, good decisions with positive outcomes frequently occur, but are not reported in the press because they are not "news." Conflict must be welcomed and managed to redirect its energy to creative development and evaluation of alternative solutions to problems.

Conflict is inherent to water resource management because water supply is limited and demands usually exceed supply. Upstream and downstream groups do not understand that they are physically linked, and make decisions and take actions that assume that they are independent of each other. Existing legislative commitments allocate water resources to interests that were important at the time legislation was passed, but do not address new needs or interests that emerge years and decades later. The enfranchised interests usually have greater access to information, expertise and funding which allows them to conduct studies, write position papers, and persuasively communicate their needs to decision makers. Emerging interests and the general public often lack the resources to compete effectively.

T.V.A. LAKE IMPROVEMENT PLAN

The management of water resources conflicts will be examined by reviewing how the Tennessee Valley Authority developed its Lake Improvement Plan. The conflict issues addressed by TVA are strikingly similar to those faced by participants in the Comprehensive Study of the Apalachicola-Chattahoochee-Flint and Alabama-Coosa-Tallapoosa River Systems, including alteration of operating purposes for existing reservoirs; changing minimum flow requirements from upstream projects to address downstream needs; lack of awareness of the how rivers are managed and of the physical limits of reservoir system

capabilities; lack of readily available information to evaluate alternatives; and the geographic diversity of viewpoints on issues, problems, options, solutions, and responsibility for taking action.

The TVA Board of Directors adopted the Lake Improvement Plan in February 1991, a little more than three years after the review of reservoir system operating priorities was authorized. The Plan increased the water quality and recreation benefits of the system while maintaining existing navigation, flood control and hydro-power benefits. Minimum flows were increased, affecting all mainstream and tributary dams; aeration improvements were authorized to increase dissolved oxygen concentrations in the tailwaters below 16 dams; and summer recreation levels were improved on 10 tributary lakes. The costs of minimum flows and aeration improvements are charged to TVA power customers, and the costs of lake level improvements are borne by Congressional appropriations. TVA received the Federal Environmental Quality Award from the President's Council on Environmental Quality on January 15, 1993, for how it incorporated environmental values and citizen participation in the decision making process for the Lake Improvement Plan.

CONFLICT MANAGEMENT

Effective Decision Process. TVA's decision making process was effective in managing conflict for three reasons:

- (1) The process brought into focus a decision for consideration by all interests involved. The involvement of all stakeholders in the reservoir system, through the procedures of the National Environmental Policy Act, was essential to identify the decision to be made.
- (2) The decision-maker for the decision to be made was identified and involved in the process. For the Lake Improvement Plan, the decision maker was the TVA Board of Directors.

- (3) The decision process created and maintained a level playing field for all stakeholders. The process included all relevant and interested parties, and all participants had an equal opportunity to make their arguments--to persuade the decision maker to choose one alternative over another.

Fair Procedure. Representatives of key stakeholder groups participated in group planning sessions with TVA staff to identify issues and options for consideration. Decision analysis techniques were used to form a level playing field by assuring that the alternatives and the information and logic used to evaluate them were sound and balanced.

The efficiency of decision making processes also affects conflict management effectiveness. Inefficient processes give opposing interests opportunities to confuse participants with extraneous information and illogical arguments, contributing to delays and the likelihood of a stalemate situation. TVA's study process took 41 months and cost about \$3-5 million. Within 15 months of the beginning of the study, stakeholders knew what issues were important to the study and what decisions would be evaluated and presented to the public for review.

Results. After the process was complete, stakeholders were satisfied that they had been heard and given a fair chance to participate. They were also pleased that a decision was made that addressed their concerns and that action would be taken to correct the problems that led to undertaking the review.

REFERENCES

- Tennessee Valley Authority, Tennessee River and Reservoir System Operation and Planning Review, December 1990.
- Ungate, Christopher D., "Equal Consideration' at TVA: Changing System Operations to Meet Societal Needs," *Hydro Review*, July 1992.