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USE OF A PREFERENCE-FEASIBILITY SYSTEM FOR ADDRESSING CHOICE CONFLICTS IN WATER PLANNING AND INSTREAM FLOW DECISION-MAKING*

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***Oral Presentation**

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When natural resources are abundant and nonrival there is little conflict over allocation, protection and management decisions. Conversely, conflicts arise and escalate when natural resources become scarce, when stakeholders diverge over single or multipurpose natural resource management practices, or when management practices involve choices among competing and conflicting interests. Historically, natural resource choice issues were generally resolved through an adversarial judicial or political process. Contemporary methods for resolving choice conflicts are based on participatory planning techniques including fact-finding, focus groups, mutual negotiation, mediation, and arbitration. These techniques involve multiple forums for decision-making, multiple and divergent parties, multiple issues concerning facts, values, interests and processes, technical complexity, scientific uncertainty, and unequal economic and political power. This paper explores the dimensions of choice theory as applied by stakeholders in the selection of management options for natural resource allocation, protection and management.

Choice selection between competing options incorporates a preference and a feasibility dimension. The preference dimension embodies underlying stakeholder interests and values and the feasibility dimension incorporates the resolution of factual or technical uncertainty. This paper reports on the use of a two-dimensional preference-feasibility model to determine the degree of fit between choices over management options compared with problem characterization.

Two Texas stakeholder studies are used to illustrate the applicability of this approach for conflict management. The first study examines the choice of tools for

providing water to maintain minimum streamflows in fully appropriated and water surplus rivers. Analysis suggests that, while stakeholders are concerned with the timing and location of instream flow requirements, the need to quantify the amount of water necessary for these flows and the importance of equity and fairness in allocating the burdens, they have high levels of preference and feasibility concurrence on the tools to provide these flows. The second study examines stakeholder choices between 20 different water management strategies as part of a revised state water planning process. Data for the study was obtained from a survey of water planning officials (N=315) in Texas. The survey had a response rate of 66 percent. Data from the study indicates widespread variability among regions regarding the selection of water management strategies. One strategy favored by all regions was the reuse of treated effluent as a source of water. Beyond this one item, water wealthy regions generally favored supply development options, whereas water poor regions favored demand management reduction and conservation strategies. Water importation was rated as a viable option for water poor areas and it was generally held in disfavor in water wealthy regions.