Foreword

This issue of ***Water Resources Update*** consists of a series of papers addressing problems and opportunities in the identification and valuation of outputs of environmental projects. The papers were prepared under the purview of the US Army Corps of Engineers (Corps) recently initiated Evaluation of Environmental Investments Research Program (EEIRP). The Corps initiated the EEIRP in response to a need to provide its field planners with methodologies and techniques to aid in developing supportable environmental restoration and mitigation projects and plans. In addition, the EEIRP will develop a framework to provide decision makers with information to facilitate the allocation of limited funds among a range of proposed projects and programs.

Throughout the Nation, awareness and concern for the protection and restoration of environmental resources is increasing. Within the Corps, new Congressional authorities (e.g., Sections 306 and 307 of the Water Resources Development Act (WRDA) of 1990, Sections 1103 and 1135 of WRDA 1986) and policy changes are providing more and more opportunities to pursue environmental initiatives. This increased emphasis on the environment, however, brings with it a need for improved techniques for evaluating and comparing environmental projects and programs.

There is almost always more than one way to address a particular problem, and there are typically more projects and programs waiting to be undertaken than funds available. Currently, however, there is a lack of accepted methods for assessing the effectiveness (does the project achieve its objective?) and efficiency (is it achieved in the least cost manner?) of investments in the protection or restoration of environmental resources. The Corps initiated the EEIRP to address these issues.

The overall objective of the EEIRP is to provide an evaluation framework, techniques, and procedures to assist planners, managers, and regulators in addressing both the site and portfolio issues: i.e., whether the recommended action is the most effective and efficient alternative for a particular location, and how to allocate limited resources among competing recommended actions. One goal of the program is the development of a series of environmental evaluation procedures manuals ("how to" manuals) addressing various steps in the planning, evaluation, and prioritization processes. To accomplish these objectives, the research program is divided into ten substantive study areas, called work units, including

- Determining and Describing Environmental Significance
- Determining Objectives and Measuring Outputs
- Objective Evaluation of Cultural Resources
- Engineering Environmental Investments - Formulating Inputs
- Cost Effectiveness Analysis Techniques
- Monetary and Other Valuation Techniques
- Incorporating Risk and Uncertainty into Environmental Evaluation
- Environmental Database and Information Management
- Evaluation Framework
- Interagency Coordination and Program Management

The papers presented in this issue of ***Update*** were prepared as part of the Monetary and Other Valuation Techniques study area. The overall objectives for this study area are to 1) identify relevant socio-economic use and non-use values associated with environmental projects; 2) improve the linkage between environmental output measures and necessary inputs to socio-economic evaluation; 3) develop, test, and provide guidance for monetary and non-monetary evaluation of environmental projects; and 4) assess the appropriateness of non-market evaluation techniques for establishing program priorities at the regional and national level.

An interdisciplinary study team was assembled to assist in the development of the conceptual foundation and institutional setting for pursuing additional study tasks. More specifically the individual team members were to identify, from their perspective, user and non-user services provided by environmental resources and systems. Team members were also directed to identify and evaluate conceptual market and non-market approaches to the measurement and valuation of these services, including a discussion of strengths and weaknesses of the alternative approaches. The first four papers in this issue of ***Update*** present the individual team member perspectives, essentially unedited. Disciplines represented by team members include ecology, ***Dr. James Heaney***, University of Colorado; psychology, ***Dr. David Schkade***, University of Texas; and resource economics, ***Dr. Leonard Shabman***, Virginia Polytechnic Institute and State University, ***Dr. Daniel Willard***, Indiana University; environmental engineering. The final paper, prepared by ***Dr. Clifford Russell***, Vanderbilt University, provides a summarization and comparative analysis of the concepts and issues raised in the previous four.

Although the first four papers represent the perspectives of individual authors, the need for a true interdisciplinary effort has been acknowledged throughout their development. The synergism from active interdisciplinary exchange during study team meetings contributed significantly to the formulation and communication of the perspectives presented.

Ultimately, all five papers will be incorporated into a more comprehensive study report that will incorporate a review of other relevant Corps and non-Corps research activities, identify the institutional constraints within which the valuation techniques must be implemented, and provide recommendations for further research and demonstration. This latter report will be published as part of the EEIRP.

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