Quality Assurance Plan for
UD-RTI Combined Projects

"Monetary Values and Restoration Equivalents for Lost Recreational Services on the Gulf Coast of Texas Due to Oil Spills and Other Environmental Disruptions"

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and

"A Convergent Validity Test of the Parameter Updating Method: Proof of Concept Project"

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1. Objectives, Data Needs, and Model Requirements

The objectives of the proposed research are to estimate monetary and non-monetary compensatory values for recreation uses of Texas beaches and to transfer monetary values to mid-Atlantic beaches. The analysis will pay special attention to inter-temporal substitution. The data requirements for the analysis are trip data for Texas residents for at least one season, site characteristic data for all relevant beaches in the state, and time series data on important events effecting trips (weather, etc.). The same data are need in the mid-Atlantic region. Random Utility Models will be estimated using discrete choice econometrics in the analysis. The transfer study uses a parameter updating method and a formal test of convergent validity.

2. Quality Assurance for Data

The Texas data were gathered as part of a project for the National Park Service. These data will be cleaned and merged with various time series data using SAS and GAUSS software. The decision criteria for excluding observations will be clearly documented on a project web site and in all published papers. The project web site will make the data and models available to the public for use and scrutiny.

The trip data were collected by a phone-mail-phone survey. A diary method was used to tract respondents over a season. While this reduces response rates (due to attrition), our initial response rate of >50% and response rate of approximately 30% for completed diaries are high for data sets of this type. We intend to develop a protocol for weighting observations to account for under sampling of certain portions of the populations. We will also be weighting to account for the stratified nature of the sample.

The site characteristic data were gathered on-site, in interviews with state and local authorities, and using travel guides. The procedure for gathering these data will be documented and provided on the project web site. As part of this documentation we will post digital photos of most of the sites. We have approximately one dozen site characteristics and may expand this beyond the current set. All beaches in the state are included in the choice set with little or no aggregation of sites.

Measuring trip distances from each person's hometown to each beach in the choice set is a critical part of the analysis. This will we done using the most current version of PC-Miler which optimizes routing and reports time and distance needed to measure trip costs. Again, all procedures will be documented on the project web site.

The mid-Atlantic beach data set is presently being gathered as part of a NOAA Sea Grant study. These data are being gathered by Knowledge Networks (KN) using a probability-based sample and in an internet survey. Approximately 2000 persons will be surveyed. KN typically has response rates above 70%. Unlike the Texas survey, the mid-Atlantic survey is not a diary. We also have a 1997 data set (n = 565) on the same beaches. These data were gathered by mail and have been used in numerous referred publications. The site characteristic data for both the 2005 and 1997 are the same and include over 12 site characteristics and use a highly disaggregated definition of site. The data were gathered on-site, in travel guides, and through person interviews with state authorities managing the beaches.

2. Quality Assurance for Models

All of the models used in the analysis will use the most current methods and software available in discrete choice econometrics. The Random Utility Theory used to design and develop the models will rely heavily on analytical modeling approaches outlined by Ken Train (2003) and George Parsons (2003). This implies use of mixed logit (random parameters logit) models to account for complex patterns of substitution across time and space. Much of the code used in the modeling will be adapted from Ken Train's mixed logit code. This code is widely used and tested and is publicly available on his web site.

We will use GAUSS software to estimate the models and verify parameter estimation with secondary software packages such as LIMDEP. (In some cases the secondary software packages are simply not able to perform the same estimation procedures as GAUSS.) Again, the code and model structure will be provided on the project web site and in all publications for public use and scrutiny.

Finally, standard statistics will be reported in all the results including standard errors and other relevant measure of dispersion. The results will also be presented in aggregate as well as disaggregated form by county and for other selected demographic categories.

G. R. Parsons, “The Travel Cost Model” in A Primer for Non-Market Valuation (edited by P. Champ, K. Boyle, and T. Brown), Kluwier. 2003.

K. E. Train, Discrete Choice Methods with Simulation, Cambridge Press, 2003.