

IEc

Natural Sounds/Quiet Valuation Study

Review of Initial Design, Materials Development & Testing and Recommendations for Next Steps

prepared for:
National Park Service
Natural Sounds & Night Skies Division

prepared by:
Industrial Economics, Incorporated

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Introduction, Objective & Charge

- NPS wishes to demonstrate the economic value that visitors and the general public hold for protecting/improving sound conditions at park units, and whether changes in those conditions may affect visitation
- Study Team
 - Chip Paterson, Mike Welsh, Jackie Willwerth (IEc)
 - Kevin Boyle (Virginia Tech)
 - John Loomis (CSU)
 - Steve Lawson, Jeff Dumont, Eddie Duncan, Nathan Reigner (RSG)

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1

Introduction, Objective & Charge (cont.)

- The Study Team is tasked with refining and building upon initial work conducted in collaboration with DOT
- Our first step was to review the initial DOT work, provide comments, and develop recommendations for next steps
- We endeavor to propose a plan forward that will:
 - 1) Address deficiencies in prior work while retaining/leveraging as much of that effort as possible
 - 2) Allow NPS to apply study results in appropriate contexts
 - 3) Be suitable for publication in a peer-reviewed journal
 - 4) Be feasible within NPS budget constraints

Summary of Prior Work

- As described in the August 14 'Interim Report' & Appendices, the DOT Team:
 - Convened an expert panel to advise on study design
 - Conducted background research on measurement & description of sound conditions
 - Drafted a non-use value/general population questionnaire and tested in 4 focus group sessions- 2 each in Los Angeles & Kansas City
 - Developed audio clips with varying durations of manmade sounds & maximum levels
 - Drafted a use value/visitor questionnaire where sound conditions are described using text (as in non-use survey) or audio clips
 - Conducted 4 'focus group' sessions in BRCA

Structure of Review & Presentation

- Comments in 3 categories:
 - 1) Overall study design
 - 2) Valuation scenario & questions
 - 3) Organizational/editorial- questionnaires
- Recommendations for proceeding/next steps

Study Design

- Valuation Methodology
 - Separate visitor and general population surveys are appropriate
 - Choice experiment is appropriate stated-preference format
 - Follow-up contingent valuation questions are likely unnecessary and may confound study insights
 - Contingent behavior (change in visitation) questions require modification

Study Design (cont.)

- Change(s) to be Valued
 - 'Man-made' noise must be thoroughly vetted & defined
 - Distinguish noise impacts from crowding/congestion
 - Articulate in different dimensions relevant to NPS
 - While NPS is not targeting specific policy applications, the survey(s) should have a consistent, well-defined baseline and offer a variety of plausible changes
 - Focus on improvements in sound conditions due to practical & conceptual difficulties valuing decrements
 - Non-use survey should address a number of similarly-situated units as opposed to one park
 - Temporal nature of improvements must also be explicit

Study Design (cont.)

- Whose Values?
 - Visitors (use survey)
 - Unit with well-characterized and representative acoustical environment (BRCA?)
 - Language and origin (up to 25% international; ZION, 2006)
 - General population (non-use survey)
 - Probability sample of households

Study Design (cont.)

- Data Collection
 - Use survey
 - Existing intercept infrastructure for unit?
 - Season
 - Non-use survey
 - Considerations (administration)
 - Response rate
 - Flexibility/sophistication
 - Cost

Valuation Scenario/Questions

- Commodity Description
 - 'Man-made'
 - Dimensions: frequency, amplitude, duration
 - Mix and levels should be sufficient to cover a range of potential applications
 - Location/context
 - Wildlife impacts
 - Percent time audible ("sounds of nature") adequate?
 - Participants could not differentiate sound clips
 - Text description should accompany clips

Valuation Scenario/Questions (cont.)

- Method of Provision
 - No mechanism identified currently
 - Stylized program of infrastructure/management changes within units that would reduce noise
 - Consequentiality
 - Remove “hypothetical” language
 - How will responses influence outcome?

Valuation Scenario/Questions (cont.)

- Payment Vehicle
 - Use survey
 - Trip cost is problematic- multiple destination, compensating adjustments
 - Admission fee problematic- vehicle vs. person, tours, passes
 - Consider special program fee
 - Non-use survey
 - Non tax-payers

Organizational/Editorial

- Technical terms
- Double-barreled questions
- Placement of use and opinion questions
 - Effect on response
 - Endogeneity
- Tense consistency
- Demographic questions must match ACS

Recommendations

- Study Team to revise survey materials
- One-on-one cognitive interviews to test revised sound clips
- Additional focus group testing (valuation scenario, questionnaire revisions, etc.)
 - Two sets of visitor/use survey groups
 - Two sets of general population/non-use survey groups

