

Contingent Valuation Literature

Adamowicz, Wiktor; Theodore Graham-Tomasi. 1990. "Revealed Preference Tests of Nonmarket Goods Valuation Methods." Journal of Environmental Economics and Management. 19(29-45). **Keywords:** contingent valuation, recreational travel, scenic amenities, environmental quality

Adamowicz, W.L.; Boxall, P.C.; Louviere, J.J.; Swait, J.; Williams, M. 1994. "Stated Preferences Methods for Valuing Environmental Amenities." in Valuing Environmental Preferences: Theory and Practice of the Contingent Valuation Method in the U.S., E.C. and Developing Countries. Editor: Bateman, I.; Willis, K. **Keywords:** conjoint, contingent valuation, stated choice.

This paper outlines the conjoint-stated preference approach and describes how it can be used to value environmental amenities. The advantages of SP techniques both in relation to CV methods and revealed preference techniques.

Adamowicz, Wiktor; Peter Boxall; Michael Williams; Jordan Louviere. 1996. "Stated Preference Approaches for Measuring Passive Use Values Choice Experiments Versus Contingent Valuation." Canada-Alberta Partnership Agreement in Forestry, February 19, 1996. **Keywords:** Passive Use Values Choice Experiments, Contingent Valuation, Conjoint analysis

This article may have been published as "Stated preference methods for valuing environmental amenities." in I. Bateman and K. Willis (Editors), Valuing Environmental Preferences: Theory and Practice of the Contingent Valuation Method in the U.S., E.C. and Developing Countries. Oxford University Press.

Adamowicz, W.; Beckley, T.; MacDonald, D. Hatton; Just, L.; Luckert, M.; E., Murray; Phillips, W. 1997. "In Search of Forest Resources Values of Indigenous Peoples: Are Non-Market Valuation Techniques Applicable?" Working Paper. **Keywords:** environmental values, indigenous people, non-market valuation, contingent valuation, cultural differences, preference structures.

This paper examines issues surrounding the potential applicability of non-market valuation techniques to Indigenous Peoples. A conceptual model examines relationships between natural and cultural environments and value systems. Problems of valuation identified include eliciting values for individuals, aggregating individuals values into measures of social welfare and comparisons of welfare across culturally different groups.

Alberini, Anna (1995). "Optimal Designs for Discrete Choice Contingent Valuation Surveys: Single-Bound, Double-Bound, and Bivariate Models." Journal of Environmental Economics and Management, 28:287-306.

This paper finds the designs for discrete choice contingent valuation surveys that maximize

the precision of a statistic of interest about the public's willingness to pay (WTP) for a change in the environmental quality, such as median WTP. An optimization problem is set up, in which the efficiency of the estimate of median WTP (or a related concept) is the objective function to optimize with respect to the survey design (i.e., the set of bids offered to the respondents). In deriving the optimal designs, we consider alternative econometric models, such as the basic "single-bound" model that uses the responses to the first payment question, the traditional interval data (or "double-bound") model for surveys with a follow-up payment question, and the recently proposed bivariate binary response model. Simulations are carried out to compare the alternative design principles and assess their performances with respect to the statistic of primary interest, median WTP, and other welfare measures, such as mean WTP. Other designs that are constructed ad hoc are also examined.

Amacher, Gregory S.; Richard J. Brazee; Jonathan W. Buckley; Russell W. Moll. 1988. "An Interdisciplinary Approach to Valuation of Michigan Coastal Wetlands." Michigan State University, Institute of Water Research. April 27, 1988. **Keywords:** Wetlands, Wetland Functions, Economic Valuation, Great Lakes Coastal Wetlands, Michigan Coastal Wetlands

Arrow, Kenneth ; Robert Solow; Paul R. Portney; Edward E. Leamer; Roy Radner; Howard Shuman. 1993. "Report of the NOAA Panel on Contingent Valuation." Federal Register 58, 1993, pages 4601-4614.

This report begins by introducing the concepts involved in the contingent valuation method. It then discusses the drawbacks to the CV technique and then discusses issues concerning the design of CV surveys, including use of the referendum format to elicit individual values, ways of addressing the so-called "embedding" problem, and the evaluation of damages that last for some period but not forever. The report also presents guidelines to which the Panel believes any CV study should adhere to and the panel's final conclusions.

Belzer, R. B. ; R. P. Theroux. 1993. "Criteria For Evaluating Results Obtained from Contingent Valuation Methods." Office of Management and Budget, January 18. **Keywords:** Contingent Valuation (CV)

Bergland, Olvar ; Eirik Romstad; Seung-Woo Kim; Don McLeod. 1989. "The Use of Bootstrapping in Contingent Valuation Studies." Oregon State University, Department of Agriculture and Resource Economics. September 26, 1989. **Keywords:** bootstrapping, contingent valuation (CV)

Bergstrom, John C. ; John R. Stoll; Alan Randall. 1990. "The Impact of Information on Environmental Commodity Valuation Decisions." American Agriculture Economics Association, pp. 614-621. **Keywords:** consumer valuation, contingent valuation, environmental commodities, information effects, welfare measures

Binger, Brian R.; Robert F. Copple; Elizabeth Hoffman. 1995. "The Use of Contingent Valuation Methodology in Natural Resource Damage Assessments: Legal Fact and

Economic Fiction.” Northwestern University Law Review, Volume: 89, Issue: 3, Pages: 1029-1116. **Keywords:** Contingent Valuation, Legal

Bishop, Richard C.; Thomas A. Heberlein. 1979. “Measuring Values of Extramarket Goods: Are Indirect Measures Biased?” American Journal of Agricultural Economics, December, pages: 926-930. **Keywords:** travel cost method, contingent valuation, calibration.

Bishop, Richard C. ; Thomas A. Heberlein; Mary Jo Kealy. 1983. “Contingent Valuation of Environmental Assets: Comparisons with a Simulated Market.” Natural Resources Journal, Volume: 23, Pages: 619-633. **Keywords:** contingent valuation, environmental assets, simulated markets.

Bishop, Richard C. ; Kevin J. Boyle. 1988. “Welfare Measurements Using Contingent Valuation: A Comparison of Techniques.” American Agricultural Economics Association, February 1988, Pages: 20-28. **Keywords:** contingent valuation, dichotomous choice, iterative bidding, payment cards.

Bishop, Richard C. ; Thomas A. Heberlein. 1990. “The Contingent Valuation Method.” in Economic Valuation of Natural Resources: Issues Theory, and Application, ed. Johnson, R.L.; Johnson, G.V. Westview Press, Boulder, CO. Pages: 81-103. **Keywords:** Contingent valuation method.

Bishop, Richard C.; Michael P. Welsh. 1992. “Existence Values in Benefit-Cost Analysis and Damage Assessment.” Land Economics, Volume: 68, Issue: 4, Pages: 405-417.

This paper argues that existence values for obscure resources should not be ruled out a priori because consumers have limited time and resources for information gathering. Furthermore, to the extent that environmental "good things" are highly substitutable, existence values must be cautiously interpreted when evaluating public choice alternatives, but similar concerns do not arise in damage assessments. Issues associated with adding up existence values across resources, high per unit values, and property rights in the existence of resources are also addressed. The discussion is of relatively complex theoretical issues.

Bishop, Richard C. ; Thomas A. Heberlein. 1992. “The Contingent Valuation Method.” in Natural Resource Damages: Law and Economics, ed Johnson, R.L.; Johnson, G.V., Wiley, New York. Pages: 281-309. **Keywords:** contingent valuation method

This chapter provides a non-technical review of the CV method and the issues that any successful study must deal with. The chapter also provides examples of actual CV studies. The examples explore several issues related to CV methods, including how different payment vehicles affect valuations and how contingent values compare to values from simulated markets.

Blackburn, McKinley ; Glenn W. Harrison; Elisabeth E. Rutstrom. 1994. “Statistical Bias Functions and Informative Hypothetical Surveys.” American Journal of Agricultural Economics, Volume: 76, Issue: December, Pages: 1084-1088. **Keywords:** Statistical Bias

Functions, contingent valuation, calibration

This paper examines the question, do the answers to survey questions provide information that is useful in estimating the real economic commitment that a subject would make with actual provision of the good? The paper attempts to determine if the bias of the within-subject hypothetical responses in Cummings, Harrison, and Rutstrom (1995) is a systematic function of the socioeconomic characteristics of the sample.

Blake, Kevin S. (1996). "Modeling Preferences for Regulatory Options: A Case Study of the Northeast Recreational Bluefin Tuna Fisherman." Non-Thesis, Department of Environmental and Natural Resource Economics, University of Rhode Island, Kingston, R.I., August, 86 pp.

Since passage of the Magnuson Fishery Conservation and Management Act of 1977, U.S. fishery managers have concerned themselves with achieving "optimum social yield". To effect this mandate, fishery managers have focused on direct effort controls without determining how fishermen, commercial or recreational, may prefer the fishery be regulated. Using contingent valuation methods, economists may determine if preferences exist for some types of regulations. This paper uses contingent, or discrete, choice questions from a 1991 mail survey of Northeastern recreational Western Atlantic bluefin tuna fishermen to demonstrate that fishermen have preferences for catch limit regulations.

Bowker, J.M. and John R. Stoll. 1988. "Use of Dichotomous Choice Nonmarket Methods to Value the Whooping Crane Resource." **American Journal of Agricultural Economics**, 70:372-381.

Boyle, Kevin J. and Richard C. Bishop (1988). "Welfare Measurements Using Contingent Valuation: A Comparison of Techniques." American Journal of Agricultural Economics, 70(1):20-28.

Three commonly used techniques of asking contingent valuation questions are compared: iterative bidding, payment cards, and dichotomous choice. The results reveal that no single contingent valuation technique is neutral in the elicitation of hicksian surplus and each technique has its strengths and weaknesses. The iterative bidding estimates contain a starting point bias, while the payment card and dichotomous choice estimates were influenced by the interviewers soliciting the contingent values. Finally, the analysis of dichotomous choice responses involves unresolved issues that warrant further investigation. On the other hand, dichotomous choice is the easiest technique to administer in a survey setting.

Boxall, Peter C.; Wiktor L. Adamowicz; Joffre Swaitm; Michael Williams; Jordan Louviere. 1996. "A Comparison of Stated Preference Methods for Environmental Valuation." Ecological Economics, Volume: 18, pages: 243-253. **Keywords:** conjoint analysis, contingent valuation

This paper presents an empirical comparison of the contingent valuation (CV) method and

stated choice experiments. The empirical application involves the effect of environmental quality changes arising from forest management practices on recreational moose hunting values in the area of Alberta, Canada. Significant differences were found between the CV method and the conjoint (stated choice) analysis.

Braden, John B.; Charles D. Kolstad (Eds). 1991. Measuring the Demand for Environmental Quality. North-Holland, New York. 370 pp. **Keywords:** Hedonic Methods, Contingent Valuation, Travel Cost Method

This book contains revised versions of contributions that were presented in a workshop at the Bismarck Hotel in Chicago on November 18, 1988. A survey of the state of the art methods for measuring the demand for environmental quality.

Briscoe, John; Paulo Furtado de Castro; Charles Griffin; James North; Orjan Olsen. 1990. "Toward Equitable and Sustainable Rural Water Supplies: A Contingent Valuation Study in Brazil." The World Bank Economic Review, Volume: 4, Issue: 2, Pages: 115-134.

Cameron,-Trudy-Ann; James,-Michelle-D. "Efficient Estimation Methods for "Closed-ended" Contingent Valuation Surveys." Review-of-Economics-and-Statistics; 69(2), May 1987, pages 269-76.

"Closed-ended contingent valuation" surveys can be very useful in the evaluation of nonmarket resources. Respondents merely state whether they would accept or reject a hypothetical threshold amount, either as payment for giving up access to the resource or as a fee for its use. The authors develop a maximum likelihood procedure which exploits the variation in the threshold values to allow direct and separate point estimates of regression-like slope coefficients and error standard deviations (without truncation bias). Their illustration uses data from a survey of recreational fisherman to examine factors which influence individuals' willingness-to-pay.

Cameron,-Trudy-Ann; Englin,-Jeffrey. "Welfare Effects of Changes in Environmental Quality under Individual Uncertainty about Use." RAND-Journal-of-Economics; 28(0), Special Issue 1997, pages S45-70.

The authors adapt the theoretical state-preference model to value nonmarket public goods under individual uncertainty about use, illustrating with an assessment of willingness-to-pay to prevent acid rain lake damage in the northeast United States. Individual usage uncertainty is modeled via probabilities of participation in trout fishing. Changes in environmental quality are valued using a random utility model to explain yes/no responses to a contingent valuation question. The authors produce quantitative welfare measures: individual fitted and simulated passive- and active-use values, individual expected consumer surplus, option price, option value, and complete individual willingness-to-pay loci.

Cameron,-Trudy-Ann; Huppert,-Daniel-D. "OLS versus ML Estimation of Non-market Resource Values with Payment Card Interval Data."

Journal-of-Environmental-Economics-and-Management; 17(3), November 1989, pages 230-46.

Contingent valuation methods (CVM) have been shown to be potentially very useful for eliciting information about demands for non-market goods. We assess the sensitivity of "payment card" CVM results to the researcher's choice of estimation method. Empirical payment card data are used in both (1) a naive ordinary least squares (OLS) procedure employing interval midpoints as proxies for the true dependent variable, and (2) an efficient maximum likelihood (ML) procedure which explicitly accommodates the intervals. Depending upon the design of the payment card, OLS can yield biased parameter estimates, misleading inferences regarding the effects of different variables on resource values, and biased estimates of the overall resource value.

Cameron, Trudy Ann (1992). "Combining Contingent Valuation and Travel Cost Data for the Valuation of Nonmarket Goods." Land Economics, 68(3):302-317.

The travel cost method (TCM) has long been used to infer the economic value of nonmarket resources and public goods. More recently, contingent valuation (CVM) survey methods have gained popularity for eliciting these values. Here, CVM survey responses are combined with TCM data on actual market behavior to estimate jointly both the parameters of the underlying utility function and its corresponding ordinary demand function. This is a prototypical empirical example of a new modeling strategy, variants of which should provide useful in many applications, especially where reliance on a single valuation method is undesirable.

Cameron, Trudy Ann and John Quiggin (1994). "Estimation Using Contingent Valuation Data from a "Dichotomous Choice with Follow-Up" Questionnaire." Journal of Environmental Economics and Management, 27:218-234.

Dichotomous choice (referendum) contingent valuation questions are inefficient in that a very large number of observations are required to identify a distribution of resource values with any degree of accuracy. An alternative questioning strategy introduces a follow up dichotomous choice question. We generalize upon previous analyses of this type of data by relaxing the assumption that the identical unobserved resource value motivates both responses. While values implied by the first and second responses are highly correlated and may be drawn from the same distribution, they are definitely not identical. Furthermore, assuming that they are can severely distort the estimated valuation distribution.

Cameron, Trudy Ann ; Michelle D. James. 1987. "Efficient Estimation Methods For "Closed-Ended" Contingent Valuation Surveys." The Review of Economics and Statistics, Vol. 69, Issue: No. 2, Pages: 269-276. **Keywords:** recreational fishing, salmon, British Columbia

Cameron, Trudy Ann. 1992. "Combining Contingent Valuation and Travel Cost Data for the Valuation of Nonmarket Goods." Land Economics, Volume: 68, Issue: 3, Pages: 302-

In this paper, contingent valuation (CVM) survey responses are combined with travel cost method (TCM) data on actual market behavior to estimate jointly both the parameters of the underlying utility function and its corresponding ordinary demand function.

Carson, Richard T.; Hanemann, Michael; Steinberg, Dan. "A Discrete Choice Contingent Valuation Estimate of the Value of Kenai King Salmon." University of California at San Diego Department of Economics Discussion Paper: 89-21, May 1989, pages 22.

A new method for estimating the demand curve for publicly supplied goods when quantities are restricted to a few discrete levels is introduced. The method involves fitting a conditional logit model to choices from a set of survey options in which price and quantity are both varied and consumer attitudes are explicitly controlled for. The estimate parameters of the valuation function serve to trace out the marginal value of the good at each level of hypothetical consumption in survey data. We apply the method to the valuation of salmon on Alaska's Kenai river. We find that there is a distinct kink in the marginal valuation function and that sport fishermen may place a negative marginal value on fish permits exceeding their desired catch levels.

Carson, Richard T. and Robert Cameron Mitchell (1995). "Sequencing and Nesting in Contingent Valuation Surveys." Journal of Environmental Economics and Management, 28:155-173.

The term "embedding" is ill defined and has been applied to distinct phenomena, some predicted by economic theory and others not. This paper lays out a theoretical framework for looking at these phenomena and provides a set of well defined terms. Included is a discussion of survey design problems that may induce spurious evidence in favor of the hypothesis that respondents are insensitive to the scope of the good being valued. An empirical example of the component sensitivity is provided. This test rejects the hypothesis that respondents are insensitive to the scope of the good being valued.

Carson, Richard T., Norman F. Meade, and V. Kerry Smith (1993). "Introducing the Issues." Choices, 2nd Quarter: 5-8.

The contingent value passive use value debate.

Carson, Richard T. 1991. "Constructed Markets" in Measuring the Demand for Environmental Quality, ed Braden, John B.; Kolstad, Charles D. North-Holland, New York.

This is a technical overview of the CV method. Some of the topics covered in this overview include the theoretical foundations of constructed markets, the design of constructed markets, methods of eliciting CV responses, sample design, and the estimation of valuation functions.

- Carson, Richard T. ; Robert Cameron Mitchell. 1992. "Nonuse Values and Contingent Valuation." March 1992. **Keywords:** 12 issues, methodological, statistical, theoretical, philosophical.
- Carson, Richard ; Nicholas E. Flores. 1992. "A Second Look at "Does Contingent Valuation Measure Preferences?: Experimental Evidence" How Evident is the Evidence?" October 12, 1992. **Keywords:** critique of Diamond, Hausman, Leonard, and Denning (1992)
- Carson, Richard T. ; Robert C. Mitchell; W. Michael Hanemann; Raymond J. Kopp; Stanley Presser; Paul A. Ruud. 1992. "A Contingent Valuation Study of Lost Passive Use Values Resulting from the Exxon Valdez Oil Spill: Volumes 1 & 2." Attorney General of the State of Alaska, November 10.
- Carson, Richard T. ; Robert Cameron Mitchell. 1993. "The Value of Clean Water: The Public's Willingness to Pay for Boatable, Fishable, and Swimmable Quality Water." Water Resources Research, Volume: Vol. 29, Issue: No. 7, Pages: 2445-2454. **Keywords:** national benefits of freshwater pollution control, contingent valuation survey, Clean Water Act.
- Carson, Richard T.; Norman F. Meade; V. Kerry Smith. 1993. "Introducing the Issues." Choices, Second Quarter, Pages: 5-8. **Keywords:** contingent valuation
- Carson, Richard T. ; Robert C. Mitchell; W. Micheal Hanemann; Raymond J. Kopp; Stanley Presser; Paul A. Ruud. 1994. "Contingent Valuation and Lost Passive Use: Damages from the Exxon Valdez." Resources for the Future, March 1994. Discussion Paper 94-18. **Keywords:** Exxon Valdez.

This paper summarizes the design, implementation and results of a CV survey intended to measure the value of lost passive use brought about by the Exxon Valdez oil spill of March, 1989.

- Carson, Richard T. ; W. Micheal Hanemann; Raymond J. Kopp; Jon A. Krosnick; Robert C. Mitchell; Stanley Presser; Paul A. Ruud; V. Kerry Smith. 1994. "Prospective Interim Lost Use Value Due to DDT and PCB Contamination in the Southern Californian Bight: Volume 1 & 2." National Oceanic and Atmospheric Administration, September. **Keywords:** Lost Use, CV, Contingent Valuation, Montrose.

- Carson, Richard T.; Robert Cameron Mitchell. 1995. "Sequencing and Nesting in Contingent Valuation Surveys." Journal of Environmental Economics and Management, Volume: 28, Issue: 2, Pages: 155-173. **Keywords:** embedding

This paper lays out a theoretical framework for looking at the "embedding" phenomena and provides a set of well-defined terms. Included is a discussion of survey design problems which may induce spurious evidence in favor of the hypothesis that respondents are insensitive to the scope of the good being valued. A empirical example of the component sensitivity is provided using a 1991 contingent valuation study conducted by the Australian Resource Assessment

Commission to measure willingness to pay to prevent possible injuries from a large proposed open pit mine in the Kakadu Conservation Zone.

Carson, Richard T.; Nicholas E. Flores; Kerry M. Martin; Jennifer L. Wright. 1996. "Contingent Valuation and Revealed Preference Methodologies: Comparing the Estimates for Quasi-Public Goods." *Land Economics*, Volume: 72, Issue: 1, Pages: 80-99. **Keywords:** Contingent Valuation, Revealed Preference Methodologies, Quasi-Public Goods

Carson, Richard T. ; Nicholas E. Flores; Norman F. Meade. 1996. "Contingent Valuation: Controversies and Evidence." Department of Economics, University of California, San Diego

This paper discusses key areas of the debate over contingent valuation and the validity of passive use value. The authors conclude that recent criticisms of CV and passive use value have produced few new theoretical or methodological insights and that many arguments pertain generally to applied welfare economics rather than CV specifically. Claims that empirical CV findings are theoretically inconsistent are not supported by the literature taken as a whole.

Carson, Richard T.; Groves, Theodore; Machina, Mark J.. 1997. "Stated Preference Questions: Context and Optimal Response." University of California, San Diego, July 24, 1997. 22 pps, Preliminary draft **Keywords:** Conjoint Analysis, Contingent Valuation, Scaling Methods.

Businesses and governments devote substantial resources to the collection and analysis of survey data concerning the public's preferences. The possibility of strategic responses to such surveys is analyzed. Consequential and hypothetical surveys are formally defined. For the former the question is posed: what form should strategic behavior take? The particular form is shown to be context dependent. Key features of context such the question response format and the nature of the potential change in the agent's choice set are examined and several propositions concerning optimal strategic response are derived. In a number of important cases, the strategic response is shown to coincide with truth-telling and, in other instances, valuable information can be extracted from a strategic response if its nature is understood. Hopeless cases are identified.

Caudill, James D. ; John P. Hoehn. 1992. "The Economic Valuation of Groundwater Pollution Policies: The Role of Subjective Risk Perceptions." USDA-Forest Service, Portland, OR; Dept. of Agricultural Economics, Michigan State University, East Lansing, MI. August 1992. **Keywords:** Theoretical and Empirical components, contingent valuation, groundwater pollution, subjective risk perceptions

Charbonneau, J. John ; Michael J. Hay. 1978. "Estimating Marginal Values of Waterfowl for Hunting." Division of Program Plans, U. S. Fish and Wildlife Service, March 1978. **Keywords:** contingent valuation, four flyways, national value, waterfowl sport hunting, nation as a whole

Chestnut, Lauraine G.; Rowe, Robert D. 1990. "Preservation Values for Visibility Protection at

the National Parks : Draft Final Report.” Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency; National Park Service, U.S. Department of the Interior, February 1990.

Chestnut, Lauraine G.; Rowe, Robert D. 1990. “Review and Response to: "Development and Design of a Contingent Value Survey for Measuring the Public's Value for Visibility Improvements at the Grand Canyon National Park.” September, 1990 Revised Draft Report by Decision Focus Incorporated. Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, December 1990.

Cicchetti, Charles J. ; Louis L. Wilde. 1992. “Uniqueness, Irreversibility and the Theory of Nonuse Values.” Arthur Anderson Economics Consulting, August 1992. **Keywords:** contingent valuation.

Connelly, Nancy A.; Tommy L. Brown. 1998. “Estimates of Nonconsumptive Wildlife Use on Forest Service and BLM Lands.” United States Forest Service, April 1988. **Keywords:** Nonconsumptive Wildlife Use, Forest Service, BLM, contingent valuation.

Cooper, Joseph C. 1995. “The Application of Nonmarket Valuation Techniques to Agricultural Issues.” Natural Resources and Environment Division (NRED), Economic Research Service (ERS), U.S. Department of Agriculture (USDA). Report Number: AGES 9503. **Keywords:** Travel cost method, contingent valuation method, agriculture.

Cross, Frank B. 1989. “Natural Resource Damage Valuation.” Vanderbilt Law Review, Volume: 42, Issue: 2, Pages: 269-341. **Keywords:** use, existence, intrinsic, restoration cost, replacement cost, market, behavioral use, contingent valuation, gross value, net value.

Cummings, Ronald G.; Glenn W. Harrison. 1992. “Identifying and Measuring Nonuse Values for Natural and Environmental Resources: A Critical Review of the State of the Art.” American Petroleum Institute, April. **Keywords:** calibration, contingent valuation.

Cummings, Ronald C. 1994. “Relating Stated and Revealed Preferences: Challenges and Opportunities.” U.S. Department of Energy and U.S. Environmental Protection Agency Conference on "Using Contingent Valuation to Measure Non-Market Values". May 19-20, 1994. **Keywords:** conjoint, calibration.

This paper briefly presents research on directions that might be considered as a means of addressing the disparities in stated preference and revealed preference methods.

Cummings, Ronald G.; Glenn W. Harrison; E. E. Rutstrom. 1995. “Homegrown Values and Hypothetical Surveys: Is the Dichotomous Choice Approach Incentive Compatible?” American Economic Review, Volume: 85, Pages: 260-266. **Keywords:** contingent valuation.

In this paper three simple laboratory experiments are designed and implemented to test the hypothesis that the hypothetical dichotomous choice (DC) method will generate the same responses as the real DC method. This hypothesis is rejected in all of the experiments. Applications of the DC method under conditions where payment is hypothetical can give misleading estimates of the propensity of subjects to pay the stated amounts.

Desvousges, William H. ; F. Reed Johnson; Richard W. Dunford; K. Nicole Wilson; H. Spencer Banzhaf; Kristin J. Stettler. 1992. "Using CV to Measure Nonuse Damages: An Assessment of Validity and Reliability." Research Triangle Institute. July 24, 1992. Report Number: RTI Project # 5367. **Keywords:** NOAA Contingent Valuation Panel, cv, oil release, hazardous substance release.

Desvousges, William H. ; Alicia R. Gable; Richard W. Dunford; Sara P. Hudson. 1993. "Contingent valuation: the wrong tool to measure passive-use losses." Choices, Second Quarter.

Desvousges, William H. 1995. "The Role of Contingent Valuation in Natural Resource Damage Assessment." Triangle Economic Research. June 1995. **Keywords:** Contingent Valuation

Diamond, Peter A. and Jerry A. Hausman (1994). "Contingent Valuation: Is Some Number Better than No Number." Journal of Economic Perspectives, 8(4):45-64.

The evidence supports the conclusion that to date, contingent valuation surveys do not measure the preferences they attempt to measure. Moreover, reasons are present for thinking that changes in survey methods are not likely to change this conclusion. Viewed alternatively as opinion polls on possible government actions, these surveys do not have much information to contribute to informed policy making. Thus, reliance on contingent valuation surveys in either damage assessments or in government decision making is basically misguided.

Dobbins, Jeffrey C. 1994. "The Pain and Suffering of Environmental Loss: Using Contingent Valuation to Estimate Nonuse Damages." Duke Law Journal, volume: 43, Pages: 879-946. **Keywords:** legal, Contingent Valuation, Nonuse Damages.

Downing,-Mark; Ozuna,-Teofilo, Jr. "Testing the Reliability of the Benefit Function Transfer Approach." Journal-of-Environmental-Economics-and-Management; 30(3), May 1996, pages 316-22.

This article presents an experiment designed to test the reliability of the benefit function transfer approach using contingent valuation methods. The experiment uses data collected from anglers surveyed across eight contiguous Texas Gulf Coast bay regions over three distinct time periods. Results indicate that the benefit function transfer approach tends to over-estimate benefits, implying that, at least for the case of recreational saltwater fishing Texas, the benefit function transfer approach is not reliable. (c) 1996 Academic Press, Inc.

Duffield, John W.; Patterson, David A. 1991. "Field Testing Existence Values: An Instream Flow Trust Fund for Montana Rivers." University of Montana, January 4, 1991. **Keywords:** contingent valuation (CV), calibration.

Elnagheeb, Abdelmoneim H. and Jeffrey L. Jordan (1995). "Comparing Three Approaches That Generate Bids for the Referendum Contingent Valuation Method." Journal of Environmental Economics and Management, 29:92-104.

Two Monte Carlo willingness-to-pay (WTP) models were constructed to compare three approaches that generate bids for the referendum contingent valuation method (CVM). In the first model, WTP was normally distributed, and in the second, was lognormally distributed. The bid approaches were those of K.L. Boyle, M.P. Welsh, and R.C. Bishop (1988), J.C. Cooper (1993), and an ad hoc third approach. Some properties of these approaches were discussed. WTP estimates from the three approaches were compared to the true value. Results indicated that Boyle et al.'s approach was preferred, especially when variation in WTP was low. Estimates from the three approaches became more comparable as WTP Variability and sample size increased.

Eom, Young Sook ; V. Kerry Smith. 1994. "Calibrated Nonmarket Estimation." February 10, 1994. **Keywords:** revealed and stated preference models, calibration, pesticide risks, food safety, contingent valuation.

This paper develops a framework for combining revealed and stated preference (contingent valuation) data in estimating people's responses to environmental risks. The approach is applied to the risks posed by pesticide residues on fresh produce.

Epp, Donald J. ; Alan B. Griffith. 1990. "Knowledge Effects on Responses in Contingent Valuation." The Pennsylvania State University, Agricultural Economics and Rural Sociology Department, December 1990. **Keywords:** Contingent valuation (CV).

Fischhoff, Baruch ; Lita Furby. 1988. "Measuring Values: A Conceptual Framework for Interpreting Transactions with Special Reference to Contingent Valuation of Visibility." Journal of Risk and Uncertainty, Volume: 1, Pages: 147-184. **Keywords:** contingent valuation, value measurement, transactions, atmospheric visibility.

Fischhoff, Baruch; Marilyn Jacobs Quadrel; Mark Kamlet; Jonathan Leland; Stephen Klepper; George Loewenstein; Stephanie Byram; Patrick Stroh; Wendy Davis; Claire Palmgren; Robyn Dawes; Ann Bostrom; Paul Fischbeck; Adler, Dan. 1991. "Psychological Aspects of Contingent Valuation Research." Carnegie Mellon University, Department of Social and Decision Sciences, June 1991. **Keywords:** embedding effects, constructive replication, theoretical tests, development,

Fischhoff, Baruch ; Marilyn Jacobs Quadrel; Mark Kamlet; Robyn Dawes; Paul Fischbeck; Steven Klepper; Jonathan Leland; George Loewenstein. 1992. "Embedding Effects: Stimulus Representation and Response Modes." Carnegie Mellon University, Department of Social

and Decision Sciences. April 1992. **Keywords:** contingent valuation methodology, values, Environmental Goods, Elicitation, Embedding

Fisher, Anthony C. 1994. "The Conceptual Underpinnings of the Contingent Valuation Method." Department of Energy, Environmental Protection Agency, California Agricultural Experiment Station, Gianni Foundation of Agricultural Economics. March 1994. **Keywords:** contingent valuation, economics.

Freeman III, A. Myrick. 1993. The Measurement of Environmental and Resource Values, Theory and Methods. Resources for the Future, Washington, D.C. Number of Pages: 516. **Keywords:** travel cost, hedonic price, contingent valuation

Fisher, -Anthony-C.; Hanemann, -W.-Michael. "Option Value: Theory and Measurement." European-Review-of-Agricultural-Economics; 17(2), 1990, pages 167-80.

In this paper, the authors provide a theoretical review of option value and its relationship to a more familiar concept in decision analysis, the value of information. They further show how option value might be measured with the aid of a partly realistic and partly hypothetical example. The authors also consider how contingent valuation techniques might be used to estimate option value.

Gregory, Robin ; Sarah Lichtenstein; Paul Slovic. 1993. "Valuing Environmental Resources: A Constructive Approach." Journal of Risk and Uncertainty, Volume: 7, Pages: 177-197. **Keywords:** preferences, contingent valuation, decision making, environmental values.

Griffin, Charles C.; Briscoe, John; Singh, Bhanwar; Ramasubban, Radhika; Bhatia, Ramesh. 1994. "Valuation Techniques Meet the Cold Truth of Actual Water Use Behavior in India: How Contingent Valuation Works, and Extrapolation from Actual Behavior Does Not." The World Bank, November 1994. **Keywords:** Water Use, Contingent Behavior, Market Models of Demand & Supply, Contingent Valuation

Hailu, Atakelty ; Wiktor Adamowicz; Peter Boxall. 1997. "Complements, Substitutes, Budget Constraints and Valuation: Application of a Multi-Program Environmental Valuation Method." University of Alberta, October 21, 1997. **Keywords:** stated choice methods, conjoint.

This study employs a multi-program contingent valuation (CVM) design to simultaneously assess the value of three ecosystem conservation programs in Alberta, Canada. The design is different than most other CVM designs and has several attractive features including the natural incorporation of direct reminders of substitute/complementary programs and budget constraints.

Hammitt, James K. 1993. "Consumer Willingness to Pay to Avoid Pesticide Residues." Report Number: RP-227. **Keywords:** contingent valuation, willingness to pay, wtp, pesticide contamination, EPA.

Hanemann, W. Michael. 1984. "Welfare Evaluations in Contingent Valuation Experiments with Discrete Responses." American Agricultural Economics Association, pages 332-341. **Keywords:** compensating surplus, contingent valuation, equivalent surplus, logit, outdoor recreation benefits, probit

Hanemann, W.M. 1991. "Willingness to Pay and Willingness to Accept: How Much Can They Differ?" American Economic Review, Volume: 81, pages: 635-647. **Keywords:** WTP, WTA, contingent valuation.

This very technical paper shows that for quantity changes of public goods, there is no presumption that WTP and WTA must be close in value and, unlike price changes, the difference between WTP and WTA depends not only on an income effect but also on a substitution effect.

Hanemann, W. Michael. 1994. "Valuing the Environment Through Contingent Valuation." Journal of Economic Perspectives, Volume: 8, Issue: 4, Pages: 19-43. **Keywords:** Contingent Valuation, CV.

This paper supports the feasibility of using contingent valuation to measure people's value for the environment. It focuses on the use of contingent valuation to measure people's values for environmental resources. It also describes how researchers go about conducting reliable surveys. It then addresses some common objections to surveys and, lastly, considers the compatibility between contingent valuation and economic theory.

Hanemann, W. Michael (1984). "Welfare Evaluations in Contingent Valuation Experiments with Discrete Responses." American Journal of Agricultural Economics, 66(3):339-341.

Since the work of Bishop and Heberlein, a number of contingent valuation experiments have appeared involving discrete responses that are analyzed by logit or similar techniques. This paper addresses the issues of how the logit models should be formulated to be consistent with the hypothesis of utility maximization and how measures of compensating and equivalent surplus should be derived from the fitted models. Two distinct types of welfare measures are introduced and then estimated from Bishop and Heberlein's data.

Hanemann, W. Michael (1994). "Valuing the Environment Through Contingent Valuation." Journal of Economic Perspectives, 8(4):19-43.

This paper focuses generally on the use of contingent valuation to measure people's values for environmental resources, rather than specifically on natural resource damages. It will describe how researchers go about conducting reliable surveys. It then addresses some common objections to surveys and, lastly, considers the compatibility between contingent valuation and economic theory.

Hargis, Mark C.; Wilde, Louis L. 1995. "Valuation of Natural Resource Damages." Water Environment & Technology. Volume: 7, Issue: 4, pages: 71-72. **Keywords:** contingent

valuation method, CVM, NRDA, CERCLA, rule making, vicarious value, bequest value, inherent value.

Harrison, Glen W.; Bengt Kristrom. 1995. "On the Interpretation of Responses in Contingent Valuation Surveys." in Current Issues in Environmental Economics, ed Johansson, P.O.; Kristrom, B.; Moler, K.G., Manchester University Press, Manchester, England, Pages: 35-57. **Keywords:** contingent valuation

Hausman, Jerry A.; Gregory K. Leonard. 1992. "Contingent Valuation and the Value of Marketed Commodities." MIT, Cambridge Economics Inc., July 24, 1992. **Keywords:** CV, calibration.

Hausman, Jerry A. 1993. Contingent Valuation: A Critical Assessment. North-Holland, New York. Number of Pages: 503

The papers and comments are revised versions of research presented at a conference organized by Cambridge Economics, Inc., held in Washington, D.C., on April 2-3, 1992.

Hoehn, John P. ; Alan Randall. 1987. "A Satisfactory Benefit Cost Indicator From Contingent Valuation." Journal of Environmental Economics and Management, Volume: 14, Pages: 226-247. **Keywords:** CV, CVM, WC, Benefit Cost

Standard economic concepts are used to develop a technical model of individual behavior when subject to the constraints of the contingent valuation choice context. The model is used to show that different contingent valuation formats have predictably different performance characteristics.

Hoehn, John P. 1987. "Contingent Valuation in Fisheries Management: The Design of Satisfactory Contingent Valuation Formats." American Fisheries Society, volume: 116, Pages: 412-419. **Keywords:** CV

Hoehn, John P. 1991. "Valuing the Multi-Dimensional Impacts of Environmental Policy: Theory and Methods." American Agricultural Economics Association, Pages: 289-299. **Keywords:** air quality, benefit cost analysis, contingent valuation, environmental policy, national parks, nonmarket valuation

Hoehn, John P. 1992. "NOAA Rulemaking for the Oil Pollution Act of 1990, Contingent Valuation and Its Role in Natural Resources Damage Assessment." NOAA; Michigan State University - Department of Agricultural Economics. July 23, 1992.

Hoehn, John P. ; John B. Loomis. 1992. "Substitution Effects in the Contingent Valuation of Multiple Environmental Programs: A Maximum Likelihood Estimator and Empirical Tests." Michigan State University - Department of Agricultural Economics, February 1992, Report Number: 92-17. **Keywords:** CV

Imber, David ; Gay Stevenson; Leanne Wilks. 1991. "A Contingent Valuation Survey of the Kakadu Conservation Zone: Volume 1." Series Title: RAC Research Paper No. 3, Series Editor: Commission, Resource Assessment. Australian Government Publishing Service, Canberra, Australia.

Irwin, Julie R. ; Paul Slovic; Sarah Lichtenstein; Gary H. McClelland. 1993. "Preference Reversals and the Measurement of Environmental Values." Journal of Risk and Uncertainty, Volume: 6, Pages: 5-18. **Keywords:** preference reversals, environmental values, compatibility effect, prominence effect, contingent valuation, wtp.

Johnson,-Neal-S.; Adams,-Richard-M.. "On the Marginal Value of a Fish: Some Evidence from a Steelhead Fishery." Marine-Resource-Economics; 6(1), 1989, pages 43-55.

Policymakers and other interested parties frequently request information on the recreational value of a fish. Although fishing valuation studies date back at least 25 years, most studies focus on the average value of a fish. If the purpose of such estimates is to measure the value of incremental changes in fish numbers, then use of average estimates may lead to an incorrect policy decisions. The objective of this analysis is to estimate the marginal value of a steelhead trout in a recreational fishery on the John Day River of Oregon. The study uses contingent valuation procedures to elicit willingness to pay estimates for improvements in fish numbers and success rates. For the anglers in this survey, the value of an additional steelhead is \$6.65 under current catch conditions. This value is much lower than values currently used in public debates in the Pacific Northwest, but similar to some marginal values reported in the recent literature. Implications of these values relative to average values are discussed.

Johnston, Robert J.; Thomas F. Weaver; Lynn A. Smith; Stephen K. Swallow. 1995. "Contingent Valuation Focus Groups: Insights From Ethnographic Interview Techniques." Agricultural and Resource Economics Review, Volume: 24, Issue: 1, Pages: 56-69. **Keywords:** Contingent valuation, Focus groups.

Kahneman, Daniel ; Jack L. Knetsch. 1992. "Valuing Public Goods: The Purchase of Moral Satisfaction." Journal of Environmental Economics and Management, volume: 22, Pages: 57-70. **Keywords:** Contingent Valuation

Kahneman, Daniel ; Jack L. Knetsch. 1992. "Contingent Valuation and the Value of Public Goods: Reply." Journal of Environmental Economics and Management, Volume: 22, Pages: 90-94. **Keywords:** CVM, WTP.

Kealy, Mary Jo ; Mark Montgomery; John F. Dovidio. 1990. "Reliability and Predictive Validity of Contingent Values: Does the Nature of the Good Matter?" Journal of Environmental Economics and Management, Volume: 19, Pages: 244-263, **Keywords:** CVM, WTP.

Kopp, Raymond J. 1992. "Why Existence Value Should Be Used in Cost-Benefit Analysis." Journal of Policy Analysis and Management, Volume: 11, Issue: 1, Pages: 123-130. **Keywords:** existence value, nonuse value, contingent valuation.

This paper along with Rosenthal and Nelson (1992) debates why existence values should or should not be used in cost-benefit analysis. This paper argues that nonuse values are consistent with neoclassical welfare theory and this theory provides a solid foundation upon which to help evaluate the desirability of many public policies.

Kanninen, Barbara J. (1995). "Bias in Discrete Response Contingent Valuation." Journal of Environmental Economics and Management, 28:114-125.

The empirical literature on discrete response contingent valuation has found that seemingly innocuous changes in the statistical models estimated result in significantly different point estimates of willingness to pay. This paper hypothesizes and tests several potential explanations for these results. First, it investigates and compares the biases inherent in single-bounded and double-bounded maximum likelihood estimation procedures and examines how they react to various bid designs and sample sizes. Then, it examines the presence and identification of "outliers" in binary choice data and how these outliers influence estimation. Finally, it presents an alternative approach to addressing the issue of outliers which explicitly acknowledges the possibility of upwardly biased response probabilities.

Loomis, John-B. "How Large Is the Extent of the Market for Public Goods: Evidence from a Nationwide Contingent Valuation Survey." Applied-Economics; 28(7), July 1996, pages 779-82.

Loomis, John-B.; Larson, Douglas-M.. "Total Economic Values of Increasing Gray Whale Populations: Results from a Contingent Valuation Survey of Visitors and Households." Marine-Resource-Economics; 9(3), Fall 1994, pages 275-86.

The consistency of an individual's willingness to pay (WTP) responses for increases in the quantity of an environmental public good (whale populations) is tested along three lines. First, we test whether WTP for 50 percent and 100 percent increases in whale populations are statistically different from zero. Second, we ask whether the incremental WTP from a 50 percent increase to a 100 percent increase is statistically significant. Finally, we test whether there is diminishing marginal valuation of the second 50 percent increment in gray whale populations. The paired t-tests on open-ended WTP responses supported all three sets of hypotheses. Both visitors and households provided WTP responses that were statistically different from zero and increased (but in a diminishing fashion) for the second increment in WTP. In this survey both visitors and households provided estimates of total economic value (including non-use or existence values) for large changes in wildlife/fishery resources that were consistent with consumer theory.

Loomis, John-B.; Lockwood, Michael; DeLacy, Terry. "Some Empirical Evidence on Embedding Effects in Contingent Valuation of Forest Protection." Journal-of-Environmental-Economics-and-Management; 25(1), Part 1 July 1993, pages 45-55.

We test for an embedding effect on a geographically distributed public good and the extent to which improvements in the CVM design reduce the occurrence and magnitude of embedding

effects in valuation. Using both open-ended and dichotomous choice CVM for protection of forests in all of southeastern Australia and two smaller portions of that area, we find the occurrence of embedding effects in only one of the two levels. When embedding effects were present, there was a reduction in value much smaller than that found by Kahneman and Knetsch. (c) 1993 Academic Press, Inc.

Loomis, John; Armando Gonzalez-Caban; Robin Gregory. 1994. "Do Reminders of Substitutes and Budget Constraints Influence Contingent Valuation Estimates?" Land Economics, Volume: 70, Issue: 4, Pages: 499-506.

In this paper a test is performed of the recommendation by the NOAA panel on contingent valuation that respondents be reminded about other substitute resources and their budget constraint prior to answering the WTP question. The context for this experiment is a CVM study of the benefits from reducing fire hazards to old-growth forests in Oregon in 1993. The test was performed using two mail surveys.

Lazo, Jeffrey K. ; William D. Schulze; Gary H. McClelland; James K. Doyle. 1992. "Can Contingent Valuation Measure Non-Use Values?" American Journal of Agricultural Economics, volume: 74, Issue: 5, Pages: 1126-1132. **Keywords:** CVM, USEPA, CV

Loomis, John B. "Quantifying the Economic Value of Public Trust Resources Using the Contingent Valuation Method: A Case Study of the Mono Lake Decision." Pages: 213-223.

Loomis, John B.; Michael Lockwood; Terry DeLacy. 1992. "Some Empirical Evidence on Embedding Effects in Contingent Valuation of Forest Protection." University of California, Charles Strut University, July 1992.

Loomis, John B. ; Douglas M. Larson. 1992. "Total Economic Values of Increasing Gray Whale Populations: Results From A Contingent Valuation Survey of Visitors and Households." University of California, September 1992.

Loomis, John; Michael King. 1994. "Comparison of Mail and Telephone-Mail Contingent Valuation Surveys." Journal of Environmental Management, Volume: 41, pages: 309-324. **Keywords:** Mail, Telephone-Mail, Contingent Valuation.

Loomis, John; Armando Gonzalez-Caban; Robin Gregory. 1994. "Do Reminders of Substitutes and Budget Constraints Influence Contingent Valuation Estimates?" Land Economics, Volume: 70, Issue: 4, Pages: 499-506.

In this paper a test is performed of the recommendation by the NOAA panel on contingent valuation that respondents be reminded about other substitute resources and their budget constraint prior to answering the WTP question. The context for this experiment is a CVM study of the benefits from reducing fire hazards to old-growth forests in Oregon in 1993. The test was performed using two mail surveys.

Louviere, Jordan J. 1988. "Analyzing Decision Making: Metric Conjoint Analysis." in Quantitative Applications in the Social Sciences, Sage, Volume: 67, Edition: 1.

This book explains how to design conjoint analysis experiments and estimate statistical conjoint models. It also focuses on using the theory in practical research settings and discusses approaches to forecasting consumer choice behavior.

Louviere, Jordan J. 1994. "Relating Stated Preference Measures and Models to Choices in Real Markets: Calibration of CV Responses." U.S. Department of Energy and U.S. Environmental Protection Agency Workshop on Using Contingent Valuation to Measure Non-market Values, May 19-20, 1994. **Keywords:** conjoint analysis

This paper reviews the theory and methods used in the measurement and modeling of stated preferences with particular emphasis on methods used in marketing and transportation research.

Mackenzie, John. 1993. "A Comparison of Contingent Preference Models." American Journal of Agricultural Economics, Volume: 75, Issue: 3, Pages: 593-603. **Keywords:** contingent rating, contingent ranking, contingent paired-comparison methods, valuation, hunting, conjoint analysis.

This technical paper compares the informational efficiencies of contingent rating, contingent ranking and two contingent paired-comparison methods as alternatives to the referendum contingent valuation method. Data are for waterfowl hunting in Delaware.

Magat, Wesley A.; W. Kip Viscusi; Joel Huber. 1988. "Paired Comparison and Contingent Valuation Approaches to Morbidity Risk Valuation." Journal of Environmental Economics and Management, Volume: 15, Pages: 395-411. **Keywords:** conjoint, morbidity risk, hedonic wage model, contingent valuation, paired comparisons.

McConnell, K.-E. "Models for Referendum Data: The Structure of Discrete Choice Models for Contingent Valuation." Journal-of-Environmental-Economics-and-Management; 18(1), January 1990, pages 19-34.

In 1979, Bishop and Heberlein introduced an appealing variant of the contingent valuation method which required only yes or no responses (1979). Hanemann developed a utility-theoretic interpretation of the yes/no responses which has helped popularize the approach (1984). Recently Cameron has offered another interpretation, also utility-theoretic (1987), which she argues is more general than the Hanemann random utility model. This paper compares the deterministic models suggested by Hanemann and Cameron, showing them to be dual to each other. It shows that correct specification of either function must exclude endogenous variables such as quantity demanded. It also demonstrates that using utility-theoretic models allows one to compare travel cost models and contingent valuation models on the basis of their implied behavior, not on the unobservable surplus or variation measure.

McConnell, K.E.; Strand, I.E. 1994. "The Economic Value of Mid and South Atlantic Sportfishing: Volume 2." University of Maryland, U.S. Environmental Protection Agency, National Oceanic and Atmospheric Administration. September 1994.
Keywords: sportfishing, Mid Atlantic, South Atlantic, contingent valuation.

McFadden, Daniel (1994). "Contingent Valuation and Social Choice." American Journal of Agricultural Economics, 76(4):689-708.

The contingent valuation method for estimating the existence value of natural resources is examined for psychophysical robustness, statistical reliability, and economic sensibility. Extensions of standard models for willingness to pay, and suitable econometric techniques for analyzing these models, are developed. The analysis is applied to a series of experiments on the value of preserving wilderness areas in the western United States. The results call into question the reliability of the CV method for estimating existence values.

Milon, J. Walter. 1989. "Contingent Valuation Experiments for Strategic Behavior." Journal of Environmental Economics and Management, Volume: 17, Pages: 293-308.

Mitchell, Robert C.; Richard T. Carson. 1989. "Using Surveys to Value Public Goods: The Contingent Valuation Method." Resources for the Future, Washington, D.C., Number of Pages: 463. **Keywords:** Contingent Valuation

This book is a comprehensive treatment of survey design, implementation and analysis of contingent valuation studies.

Mitchell, R. and R. Carson. 1989. **Using Surveys to Value Public Goods: The Contingent Valuation Method.** Resources for the Future, Washington, D.C. 462 pp.

Morton, K. M. ; W. L. Adamowicz; P. C. Boxall. 1995. "Economic Effects of Environmental Quality Change on Recreational Hunting in Northwestern Saskatchewan: A contingent behavior analysis." Canadian Journal of Forest Research, Volume: 25, Issue: 6, Pages: 912-920. **Keywords:** Contingent Behavior, Travel Cost, Conjoint.

This study estimates changes in the value of recreational hunting experience as road access, game populations, congestion, and travel distance change in the forest environment because of harvesting operations. The model is a variant of the contingent valuation method that evaluates multiple environmental quality changes.

National Oceanic and Atmospheric Administration. 1992. "Contingent Valuation Panel: Public Meeting." August 12.

Public Comments Charles R. Plott, Jerry Hausman, Richard Bishop, Daniel McFadden, V. Kerry Smith and others

Navrud, Stale. 1992. "Willingness to Pay for Preservation of Species - An Experiment with Actual Payments." in Pricing the European Environment, Oxford University Press, Inc.,

Oxford. Pages: 231-246. **Keywords:** contingent behavior, calibration.

Neill, Helen R.; Ronald G. Cummings; Phillip T. Ganderton; Glenn W. Harrison; Thomas McGuckin. 1994. "Hypothetical Surveys and Real Economic Commitments." Land Economics, Volume: 70, Issue: 2, Pages: 145-154. **Keywords:** contingent valuation, calibration.

Nickerson, Carol A. E. 1992. "Valuing Public Goods: A Comment on Harrison's Critique of Kahneman and Knetsch." Journal of Environmental Economics and Management, Volume: 22, Pages: 57-70.

In this paper the validity of the CV method is brought into question by several experimental observations. An embedding effect is demonstrated, in which WTP for a good varies depending on whether it is evaluated on its own or as part of a more inclusive category. The authors conclude that contingent valuation responses reflect the WTP for the moral satisfaction of contributing to public goods, not the economic value of these goods. Both of the studies sample, by telephone, adults living in the greater Vancouver region in Canada in 1989.

Oates, Wallace E. 1994. "Estimating the Demand for Public Goods: The Collective Choice and Contingent Valuation Approaches." U.S. Department of Energy, U.S. Environmental Agency, Oak Ridge National Laboratory. January 1994. **Keywords:** economics, contingent valuation,

Olsen, Darryll; Jack Richards; R. Douglas Scott. 1991. "Existence and Sport Values for Doubling the Size of Columbia River Basin Salmon and Steelhead Runs." Rivers, Volume: 2, Issue: 1, Pages: 44-56. **Keywords:** Columbia River Basin, contingent valuation method, existence value, fisheries economics, recreation values, sport values.

Olsen, Darryll. 1991. "Using the Contingent Valuation Method to Estimated Nonmarket Values for Energy and Natural Resource Management Decisions." June 1991. Working Paper. **Keywords:** CVM, proxy value.

Opaluch, James. 1984. "Valuing Natural Resource and Environmental Amenities: Can Economic Valuation Techniques Be Made Defensible: Discussion." Northeast Journal of Agricultural and Resource Economics, Volume: 13, Issue: 2, Pages: 138-141. **Keywords:** Contingent Valuation, confidence interval.

Pate,-Jennifer; Loomis,-John. "The Effect of Distance on Willingness to Pay Values: A Case Study of Wetlands and Salmon in California." Ecological-Economics; 20(3), March 1997, pages 199-207.

Most contingent valuation studies in the literature utilized a predetermined geographic market area for their sample frame. In other words, they did not include variables that would measure the extent of the geographic areas over which to aggregate willingness to pay. These

studies implicitly assumed that the effects of geographic distance were moot; an assumption that could have led to an understatement of the aggregate benefit values computed in these studies. The overall goal of this study was to determine if distance affects willingness to pay for public goods with large non-use values. The data used came from a contingent valuation study regarding the San Joaquin Valley, CA. Respondents were asked about their willingness to pay (WTP) for three proposed programs designed to reduce various environmental problems in the Valley. A logit model was used to examine the effects of geographic distance on respondents' willingness to pay for each of the three programs. Results indicate that distance affected WTP for two of the three programs (wetlands habitat and wildlife, and the wildlife contamination control programs). We calculate the underestimate in benefits if the geographic extent of the public good market is arbitrarily limited to one political jurisdiction.

Phillips, Carl V.; Richard J. Zeckhauser. 1989. "Contingent Valuation of Damage to Natural Resources: How Accurate? How Appropriate?" Toxic Law Reporter, October, Pages: 520-529. **Keywords:** CVM, Exxon Valdez, PRP

Poe, Gregory L.; Richard C. Bishop. 1992. "Measuring the Benefits of Groundwater Protection from Agricultural Contamination: Results from a Two-Stage Contingent Valuation Study." May 1992, Report Number: 341. **Keywords:** ex-ante, ex-post, EPA, contingent valuation.

Portney, Paul R. 1993. "On the Reliability of the Contingent Valuation (CV) Methodology in measuring passive-use values of natural resources." *Resources for the Future*, 11 January 1993, Report Number: ANPRM 6-1-92, Comment No. 77. **Keywords:** contingent valuation, passive use, natural resource.

Portney, Paul R. 1994. "The Contingent Valuation Debate: Why Economists Should Care." Journal of Economic Perspectives, Volume: 8, Issue: 4, Pages: 3-17.

This is the first of three non-technical overview articles in this issue of the *Journal of Economic Perspectives* that discusses the contingent valuation method. This article provides an overview of the technique and debate surrounding the contingent valuation method. It serves as an introduction to the articles by Diamond and Hausman (1994) and Hanemann (1994).

Prince, Raymond; Ehsan Ahmed. 1989. "Estimating Individual Recreation Benefits Under Congestion and Uncertainty." Journal of Leisure Research, Volume: 21, Issue: 1, Pages: 61-75. **Keywords:** contingent valuation, recreation, congestion, uncertainty.

Randall, Alan; Warren Kriesel. 1990. "Evaluating National Policy Proposals by Contingent Valuation." in Economic Valuation of Natural Resources, ed Johnson, Rebecca L.; Johnson, Gary V., Westview Press, Summertown, Oxford.

Randall, Alan. 1993. "Passive-use values and contingent valuation- valid for damage assessment." *Choices*, second Quarter.

Roberts, Kenneth J.; Mark E. Thompson; Perry W. Pawlyk. 1985. "Contingent Valuation of Recreational Diving at Petroleum Rigs, Gulf of Mexico." Transactions of the American Fisheries Society, Volume: 114, Pages: 214-219.

Rosenthal, Donald H.; Robert H. Nelson. 1992. "Why Existence Value Should Not Be Used in Cost-Benefit Analysis." Journal of Policy Analysis and Management, Volume: 11, Issue: 1, Pages: 116-122. **Keywords:** existence value, cost-benefit, contingent valuation, natural resources.

This paper along with Kopp (1992) debates why existence values should or should not be used in cost-benefit analysis. This paper argues that the growing acceptance of and reliance on existence values is misguided. Calculations of existence value in essence seek to employ formal economic methods to resolve matters of cultural symbolism and social ideology.

Rowe, Robert D.; William D. Schulze; W. Douglass Shaw; David Schenk; Lauraine G. Chestnut. 1991. "Contingent Valuation of Natural Resource Damage Due to the NESTUCCA Oil Spill." Department of Wildlife, State of Washington, British Columbia Ministry of Environment, Environment Canada. June 15, 1991. Copy 2 - Oil Spill Incidents - Nestucca. **Keywords:** NESTUCCA, #6 Fuel oil, Gray's Harbor, Pacific Ocean, Washington State, December 22, 1988, oiled birds, oiled mammals.

Rowe, Robert D. 1992. "Comments on Non-Use Values and CVM in Response to NOAA-Proposed Regulations for Natural Resource Damage Assessments Under the Oil Pollution Act of 1990." RCG/Hagler, Bailly, Inc. December 8, 1992. **Keywords:** Contingent Valuation

Comments prepared for NOAA Office of General Council

Samples, Karl C.; James R. Hollyer. 1990. "Contingent Valuation of Wildlife Resources in the Presence of Substitutes and Complements." in Economic Valuation of Natural Resources: Issues, Theory, and Applications, ed Johnson, Rebecca L.; Johnson, Gary V., Westview, Boulder. **Keywords:** CVM.

Schkade, David A.; John W. Payne. 1994. "How People Respond to Contingent Valuation Questions: A Verbal Protocol Analysis of Willingness to Pay for an Environmental Regulation." Journal of Environmental Economics and Management, Volume: 26, Pages: 88-109.

Schulze, William D.; Rowe, Robert D.; Breffle, William S.; Boyce, Rebecca; McClelland, Gary. 1993. "Contingent Valuation of Natural Resource Damages Due to Injuries to the Upper Clark Fork River Basin." State of Montana Natural Resource Damage Program. December 1993. **Keywords:** Contingent valuation, upper clark fork river basin, natural resources.

Seip, Kalle; Jon Strand. 1992. "Willingness to Pay for Environmental Goods in Norway: A Contingent Valuation Study with Real Payment." Environment and Resource Economics,

Volume: 2, Pages: 91-106. **Keywords:** calibration, contingent valuation.

Smith, V. Kerry; Desvousges, William H.; A. Myrick Freeman, III. 1985. "Valuing Changes in Hazardous Waste Risks: A Contingent Valuation Analysis." Economic Analysis Division, U.S. Environmental Protection Agency. February 1985. Report Number: Research Triangle Institute Project No. 41U-2699.

Smith, V. Kerry. 1992. "Arbitrary Values, Goods Causes, and Premature Verdicts." Journal of Environmental Economics and Management, Volume: 22, Pages: 71-89. **Keywords:** Contingent Valuation.

Smith, V. Kerry. 1993. "Rethinking the Rhythmic of Damage Assessment." Journal of Policy Analysis and Management, Volume: 12, Issue: 3, Pages: 589-595. **Keywords:** WTP, CV, Exxon Valdez.

This article considers the use of 'multiplication' (multiplying the per-household estimate of WTP by the number of households in the population to obtain an aggregate WTP) to gauge the plausibility of CV estimates of people's values for environmental resources. The author argues that these calculations provide no basis for judging the plausibility of an estimate of what a representative household would be willing to pay for some change in an environmental resource.

Smith, V. Kerry. 1993. "Nonmarket Valuation of Environmental Resources: An Interpretive Appraisal." Land Economics, Volume: 69, Issue: 1, Pages: 1-26. **Keywords:** contingent valuation, travel cost, hedonic models.

This paper reviews research on nonmarket valuation, including travel cost studies, hedonic models and contingent valuation. Includes a review of work done by Diamond, Hausman and others found in 'Contingent Valuation-A Critical Assessment. Recent studies of CVM are evaluated for their performance.

Smith, V. Kerry. 1994. "Natural Resource Damage Liability: Lessons from Implementation and Impacts on Incentives. January 18, 1994. **Keywords:** Habitat Equivalency Analysis, Contingent Valuation.

This paper is a very broad discussion of the effects of assigning a significant role to economic measures of environmental resources' values in determining private parties' natural resource damage liability financial obligations. Discusses Habitat Equivalency Analysis and Contingent Valuation Methods.

Smith, V. Kerry. 1994. "Lightning Rods, Dart Boards, and Contingent Valuation." Natural Resources Journal, Volume: 34, Pages: 121-152. **Keywords:** contingent valuation, nonuse values, visibility.

Swallow, Stephen K. 1994. "Value Elicitation in Laboratory Markets: Discussion and Applicability to Contingent Valuation." American Journal of Agricultural Economics,

Volume: 76, December, Pages: 1096-1100. **Keywords:** Laboratory Markets, Contingent valuation.

Teisl, Mario F.; Boyle, Kevin J.; McCollum, Daniel W.; Reiling, Stephen D. 1995. "Test-Retest Reliability of Contingent Valuation with Independent Sample Pretest and Posttest Control Groups." American Journal of Agricultural Economics, Volume: 77, Pages: 613-619. **Keywords:** contingent valuation, moose hunting, test-retest reliability.

Using independent pretest and posttest control groups, the authors find ex post estimates of Hicksian surplus are reliable regardless of whether respondents have direct experience with an activity.

Thomson, Cynthia J. and Daniel D. Huppert (1987). "Results of the Bay Area Sportfish Economic Study (BASES)." NOAA-TM-NMFS-SWFC-78, NOAA Technical Memorandum NMFS, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southwest Fisheries Center, La Jolla, CA, August, 70 pp.

This report contains the results of a descriptive analysis of saltwater anglers residing in selected Central and Northern California counties. The report provides estimates of economic value associated with hypothetical changes in salmon/striped bass catch rates. These values were obtained by a direct elicitation technique known as the contingent valuation method (CVM).

Walsh, Richard G. ; Ward., Frank A.; Olienyk., John P. 1989. "Recreational Demand for Trees In National Forests." Journal of Environmental Management, Volume: 28, Pages: 255-268. **Keywords:** economic value, contingent valuation method, travel cost method, recreation benefits, forest insect infestation, environmental quality, cost-benefit analysis.

Walsh, Richard G. ; Donn J. Johnson; John R. McKean. 1989. "Issues in Nonmarket Valuation and Policy Application: A Retrospective Glance." Western Journal of Agricultural Economics, Volume: 14, Issue: 1, Pages: 178-188. **Keywords:** contingent valuation method, information transfer, outdoor recreation, travel cost method.

Walsh, Richard G.; R. Derek Bjonback; Richard A. Aiken; Donald H. Rossenthal. 1990. "Estimating Public Benefits of Protecting Forest Quality." Journal of Environmental Management, Volume: 30, Issue: 2, Pages: 175-189. **Keywords:** environmental quality, contingent valuation method, recreation use value, option value, existence value, bequest value, forest insect infestation, cost-benefit analysis.

Ward, Kevin M.; John W. Duffield. 1992. "Contingent Valuation: Issues and Applications." in Natural Resource Damages: Law and Economics. Wiley Law Publications, New York, Pages: 311-350.

Whitehead, John C. 1990. "Measuring Willingness-to-Pay for Wetlands Preservation with the

Contingent Valuation Method.” Wetlands, Volume: 10, Issue: 2, Pages: 187-201.
Keywords: willingness-to-pay, contingent valuation method, surface coal mining, wetlands.

Whitehead, John C. 1993. “Total Economic Values for Coastal and Marine Wildlife: Specification, Validity, and Valuation Issues.” Marine Resource Economics, Volume: 8, Pages: 119-132. **Keywords:** contingent valuation, option price, specification, validity.

Whittington, Dale ; V. Kerry Smith; Apia Okorafor; Augustine Okore; Jin Long Liu; Luz Keta Ruiz; Alexander McPhail. 1992. “Giving Respondents Time to Think in Contingent Valuation Studies: A Developing Country Application.” Journal of Environmental Economics and Management, Volume: 22, Issue: 3, Pages: 205-225.

Willis, Ken. 1995. “Contingent Valuation in a Policy Context: The National Oceanic and Atmospheric Administration Report and Its Implications for the Use of Contingent Valuation Methods in Policy Analysis in Britain.” in Environmental Valuation: New Perspectives, ed K.G.Willis; Corkindale, J.T. The University of Arizona Press, Tucson. Pages: 118-143. **Keywords:** NOAA CV Panel, Contingent Valuation.