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Valuing the Environment: NOAA's New Regulations Under the Oil Pollution Act of 1990

I. INTRODUCTION

Imagine that there has been yet another oil spill, a big one. Over eleven million gallons oozed from a ship into the ocean and the slick spread over 1000 miles of coastline. Approximately 1000 otters died from ingesting oil or from inhaling toxic fumes. Over 33,000 dead sea birds were found and at least 138 eagles died from eating oil covered prey. Luckily, the whales, seals and sea lions escaped relatively unharmed.

In many ways, it is a typical oil spill. The players are typical and behave typically: the oil company, several federal and state government agencies, the environmentalists, the media, the fishermen, and the public.¹ Everyone, of course, blames the oil company. The oil company starts its public relations campaign, blaming the government for not being adequately prepared to help contain the spill. The environmentalists publish reports claiming that the damage figures from the government are too low, the result of powerful oil company influence.² Local

1. Consider the following perspective:

Everybody's in on the act, debating—naturally—how to stop this bad stuff by more taxes, more regulations, conservation, “renewable” energy sources, spending beaucoup bucks on “studies”, nuking el Nino, flipping coins, sticking pins in dolls, shutting down the coal and oil industries, etc. This includes the President, the Congress, their parallels in the States, the “flowerpot set,” scientists out to make a buck, the so-called news media, worrywarts in general, and a bunch of concerned citizens scared by all of the preceding.

R. W. Scott, *Stay Tuned; 1989 Exxon Valdez Oil Spill; editorial*, WORLD OIL, May 1990, at 5.

2.

We suspect the Chablis and Brie set will raise unshirted hell about the reported results, while accusing the above named agencies, institutions and people of selling out to the oil industry. They will also continue to wail about 'long-term' effects and put out more copious quantities of half-truths, untruths and misinformation.

fishermen hire out their boats at \$5000 a day to "help" in the cleanup. The media flashes pictures of oil covered otters that enrage the public. People from far away who have never been to the site of the spill, and will probably never go there, demand action. Everyone debates whether cleanup efforts do more harm than good.

In a very important respect, however, this oil spill is not typical. Imagine, this is the first disaster under new regulations governing the Oil Pollution Act of 1990.³ An environmental trustee,⁴ will "determine natural resource injuries, assess natural resource damages, . . . present a claim, recover damages, and develop and implement a plan for the restoration, rehabilitation, replacement or acquisition of the equivalent of the injured natural resources under their trusteeship."⁵

Some of the issues facing the trustee are: Should people who make no active use of the area be compensated? How have they been harmed? If they have been damaged, how can the amount be measured? Is it cost efficient to find out? The new regulations governing natural resource damage assessment provide some of the answers.⁶ This Comment concludes that in order to properly advance the underlying policy of environmental protection, such damages *must* be assessed and can be accurately measured.

Responding to the Exxon Valdez oil spill disaster off Prince William Sound in Alaska,⁷ Congress passed the Oil Pollution Act of 1990 (OPA or "the Act").⁸ The Act authorizes the National Oceanic and Atmospher-

Id.

3. Oil Pollution Act of 1990 (Oil Pollution Act), Pub. L. No. 101-380, 104 Stat. 484 (1990) (codified at 33 U.S.C. §§ 2701-2719 (1994)).

4. "The President shall designate the Federal officials who shall act *on behalf of the public* as trustees for natural resources under this Act." 33 U.S.C. § 2706(b)(2) (1994) (emphasis added).

5. Natural Resource Damage Assessments, 59 Fed. Reg. 1062, 1062 (1994) (to be codified at 15 C.F.R. § 990) (proposed Jan. 7, 1994) [hereinafter *DOC Report*].

6. *Id.* at 1167-89 (to be codified at 15 C.F.R. §§ 990.10-990.82). "The proposed rule is intended to provide the trustee(s) with maximum flexibility in conducting damage assessments." *Id.* at 1062.

7. On March 24, 1989, the oil tanker Exxon Valdez ran aground off the coast of Alaska and spilled over 11 million gallons of crude oil into the ocean. It was the largest spill in United States history. See S. REP. NO. 94, 101st Cong., 2d Sess. 2 (1989), reprinted in 1990 U.S.C.C.A.N. 722, 723. Because the oil spilled into a pristine environment, a public outcry ensued. Michael Satchell & Betsy Carpenter, *A Disaster That Wasn't*, U.S. NEWS & WORLD REP., Sept. 18, 1989, at 60. A few months later, three separate smaller spills in Rhode Island, the Delaware River, and the Houston shipping channel took place within a 24 hour period. Congress finally took action. See S. REP. NO. 94, 101st Cong., 2d Sess. 3 (1989), reprinted in 1990 U.S.C.C.A.N. 722, 724.

8. 33 U.S.C. §§ 2701-2719 (West Supp. 1993). See generally Antonio J. Rodriguez & Paul A.C. Jaffe, *The Oil Pollution Act of 1990*, 15 TUL. MAR. L.J. 1, 4 (1990) (stat-

ic Administration (NOAA) to promulgate regulations governing OPA.⁹ On January 7, 1994, NOAA issued its proposed regulations.¹⁰

In part, these regulations outline the method used for measuring losses to people not directly affected by the oil spill.¹¹ The regulations refer to these individuals as "passive users" of the damaged area. In the broadest sense, everyone who does not actively use an area for business or recreation is a passive user of the lands held by the government.¹² The principle behind passive use theory is that while Mr. John Q. Public in Des Moines may never plan to visit Prince William Sound, he still places a value on its existence. There is considerable controversy whether this is true, and even more controversy over how to value these damages.

The contingent valuation method (CV or CVM) uses public surveys to determine the dollar amount that individuals who do not actively use an area are willing to pay in order to prevent damage to or restore natural resources.¹³ This data then is extrapolated to compute a damage figure for the entire passive user population that will comprise part of the total damages against an oil company. Using this technique, the State of Alaska estimated the damage from the Exxon Valdez to passive users at \$2.8 billion.¹⁴

The use of CV has polarized the environmentalists and the industrialists. Those favoring CV note that it provides the only mechanism available for measuring passive use value.¹⁵ CV proponents argue that a damage recovery computed without CV would not account for all ele-

ing that the Oil Pollution Act was intended to "streamline United States oil pollution law").

9. 33 U.S.C. § 2706(e)(1) (West Supp. 1993).

10. *DOC Report*, *supra* note 5, at 1062.

11. *DOC Report*, *supra* note 5, at 1182-83 (to be codified at 15 C.F.R. § 990.78 (5)).

12. *See infra* notes 24-36 and accompanying text for a discussion of passive value.

13. *See infra* notes 37-56 and accompanying text for a detailed explanation of the Contingent Valuation Method.

14. Peter Passell, *Economic Watch; Disputed New Role for Polls: Putting a Price Tag on Nature*, N.Y. TIMES, Sept. 6, 1993, § 1 (Financial Desk), at 1.

15. CV is "the only known methodology for measuring the passive use component of total resource value." *DOC Report*, *supra* note 5, at 1074. Some argue that this is not the only way to measure passive use. For example, the purchase of insurance or the amount of voluntary contributions to environmental organizations could be used to estimate passive use. Natural Resource Damage Assessments, 58 Fed. Reg. 59328, 59352 (1993). However, these techniques are not "for the express purpose of estimating nonuse values of specific injured resources." *Id.*

ments of a proper damage award. Failure to properly account for damage to passive users, they contend, will lead to riskier enterprises being allowed in pristine environments. Moreover, CV proponents argue that the surveys are admissible evidence and believe that a properly conducted CV study is an accurate measure of passive damages. They contend that the CV method is analogous to the assessment of other damage awards. Finally, CV proponents argue that any tendency to overstate damages is consistent with the legislature's intent to provide incentives for the development of new spill prevention technology.

The petroleum industry and their economists, on the other hand, maintain that the CV surveys are inherently inaccurate and overstate damages. CV opponents argue that the wording and form of the questions manipulate the respondents' answers by appealing to their environmental sensitivities, or "warm glow". Opponents also argue that surveys are inadmissible, increase administrative and legislative costs, overburden business and make insurance unaffordable.¹⁶

Given these positions, NOAA appointed a blue ribbon panel of experts to study CV. Reasoning that "it is fair to describe such information as reliable by the standards that seem to be implicit in . . . the assessment of other damages normally allowed in court proceedings,"¹⁷ the panel recommended that the NOAA use CV to calculate passive use damages from natural disasters. In formulating their proposed regulations, NOAA relied heavily on the panel's findings.

Common CV terms such as "generally accepted axioms of neoclassical consumer choice theory," "infra-marginal changes," and "substitutability" are left to the economists. This Comment does not explore the economic theories underlying CV, but rather focuses on what CV is, why CV is so controversial, and why courts should accept CV as an accurate and proper measure of damages.

In presenting the legal support for the CV method, this Comment provides a reference for trustees, courts and parties who favor it. Part II presents the historical background of the method.¹⁸ Part III discusses CV's official recognition, including a detailed examination of the method's criticisms and the panel's recommendations.¹⁹ Part IV explains NOAA's new regulations and details how they implement the

16. See generally Linda Himmelstein & Mary Beth Regan, *Fresh Ammo for Eco-Cops*, BUSINESS WEEK, Nov. 29, 1993 ("[S]eventeen of the largest industry groups filed comments . . . that oppose CV").

17. Natural Resource Damage Assessments Under the Oil Pollution Act of 1990, 58 Fed. Reg. 4601, 4610 (1993) [hereinafter *NOAA Report*].

18. See *infra* notes 24-56 and accompanying text.

19. See *infra* notes 57-150 and accompanying text.

panel's directives.²⁰ Part V compares CV with other damage assessments, including damages to personal property with no market value, damages for unestablished businesses and damages for loss of enjoyment of life.²¹ The arguments in favor of the CV method are set forth and the critics are refuted. Part VI addresses the impact of NOAA's regulations.²² This Comment concludes that passive value is an important component of oil spill damages and may be accurately measured under the new regulations through the use of contingent valuation.²³

II. HISTORICAL BACKGROUND

A. Recognition of Passive Value

The CV method is essentially a survey of public opinion. Although, "survey" has been defined as, "a partial quantification of some aspects of what some people say their opinions are about certain questions about which they have been asked" surveys appeal to the litigator.²⁴ They enable a party to efficiently gather information from a representative sample and extrapolate it to the population as a whole. As polling and survey methods have become more reliable, polls and surveys have received "such high probative value as to be largely determinative of key issues in litigation."²⁵

A key issue in an oil spill is: Who should be compensated? CV developed in part to satisfy the need for establishing damages for situations where no market (*e.g.*, price of fish) or behavioral traits (*e.g.*, use of area for recreation) could be relied upon to solve this key issue. Passive user value of the environment is one such situation. Understanding who passive users are and why we need to measure their damages is critical to understanding the new regulations.

The first recognition that passive use was entitled to protection was made not by courts, but by economists.²⁶ Currently, passive use damag-

20. See *infra* notes 151-213 and accompanying text.

21. See *infra* notes 214-337 and accompanying text.

22. See *infra* notes 338-40 and accompanying text.

23. See *infra* notes 350-51 and accompanying text.

24. W. ALBIG, MODERN PUBLIC OPINION 198 (1956).

25. Susan J. Becker, *Public Opinion Polls and Surveys as Evidence: Suggestions for Resolving Confusing and Conflicting Standards Governing Weight and Admissibility*, 70 OR. L. REV. 463 (1991).

26. John V. Krutilla, *Conservation Reconsidered*, 57 AM. ECON. REV. (pt. 2) 777, 780 (1967):

es enjoy strong support.²⁷ However, the debate over how to value these passive uses, which has been described as “acrimonious,”²⁸ continues to be waged in the literature²⁹ and in the courts.³⁰

Active users conduct commercial or recreational activities in the area damaged by the spill.³¹ The value to these users is termed “use value”³² and can be measured by market factors.³³ Passive users are “in-

This demand is characterized as a willingness to pay for retaining an option to use an area or facility that would be difficult or impossible to replace and for which no close substitute is available. Moreover, such a demand may exist even though there is no current intention to use the area or facility in question and the option may never be exercised.

27. See *Ohio v. United States Dep't of the Interior*, 880 F.2d 432, 464 (D.C. Cir. 1989) (holding passive damages to be proper component of award); see *infra* notes 59-66 and accompanying text for a detailed discussion of the *Ohio* decision.

28. *NOAA Report*, *supra* note 17, at 4603. For example, critics commented to NOAA that CV was “[d]eeply and irretrievably flawed” and “highly unreliable as a measurement tool for passive use values.” *DOC Report*, *supra* note 5, at 1157. A psychologist noted, “The methodology works best when people have experience buying similar goods Existence value for things people never think about is a wobbly concept.” Michael J. Mandel, *How Much Is a Sea Otter Worth?*, BUSINESS WEEK, Aug. 21, 1989, at 59. An oil executive stated, “The oil industry is not ready to write a check for someone’s sense of moral outrage to watch otters die on TV.” *Id.* An economist for Exxon stated, “I believe that no contingent-value study will ever meet the courts’ standards.” Passell, *supra* note 14, at 2. A petroleum institute executive stated that “[i]f you applied this methodology to any human activity, you could stop it dead.” *Id.*

29. Compare Frank B. Cross, *Restoring Restoration for Natural Resource Damages*, 24 U. TOL. L. REV. 319, 320-21 (1993) (footnotes omitted):

[M]any attorneys and commentators have suggested that valuation should be accomplished through a procedure known as contingent valuation. This procedure amounts to little more than asking individuals what value they place upon a given set of natural resources. While straightforward, the method has serious shortcomings that produce unreliable results. Consequently, the presumption of reliance on this method is misplaced.

with ROBERT C. MITCHELL & RICHARD T. CARSON, USING SURVEYS TO VALUE PUBLIC GOODS: THE CONTINGENT VALUATION METHOD 295 (1989) (“Contingent valuation shows promise as a powerful and versatile tool for measuring the economic benefits of the provision of nonmarketed goods”).

30. Compare *Ohio*, 880 F.2d at 432 (1989) (approving use of contingent valuation) with *Idaho v. Southern Refrigerated Transp. Inc.*, 1991 U.S. Dist. LEXIS 1869 (rejecting CV as an unreliable measure of damage to salmon from toxic river spill). See *infra* notes 59-66, 110-14 and accompanying text respectively.

31. *NOAA Report*, *supra* note 17, at 4602. Examples include, “hunting, fishing, wild-life viewing, hiking, camping, driving for pleasure, . . . energy production and mining; use of renewable natural resources to produce products such as timber, fish, or agricultural products; uses of stream flows for irrigation . . . water supplies . . . power generation; and transportation services.” Natural Resource Damage Assessments, 56 Fed. Reg. 19752, 19760 (1991).

32. *NOAA Report*, *supra* note 17, at 4602.

33. These measures have traditionally been viewed as more accurate than CV. For

dividuals who make no active use of a particular beach, river, bay, or other such natural resource, [but] nevertheless, derive satisfaction from its mere existence, even if they never intend to make active use of it."³⁴ The value to passive users includes "the value of knowing the natural resource is available for use by family, friends, or the general public; the value derived from protecting the natural resource for its own sake; and the value of knowing that future generations will be able to use the natural resources."³⁵ These values are also described as option, bequest and existence values. This Comment will use the terms passive use or nonuse value.³⁶ Since there are no market guides to measure these values, an alternative method was needed.

B. Development of Contingent Valuation

In the early 1960s, an economist used questionnaires to assess the public benefits derived from a wooded area in Maine.³⁷ Inspired by this work, others conducted studies over the next several years measuring the public's willingness to pay to reduce air pollution, congestion on hiking trails and water pollution.³⁸ As the techniques became more sophisticated, the method received notoriety and funding.³⁹ Currently,

example, the direct use of a fisherman can be measured by the revenue lost as a result of the spill. The direct loss to tourism may be measured by a decrease in hotel occupancy or admission revenue from the national park. Recently however, CV "studies of the recreational benefits of environmental resources have performed reasonably well when compared to the available empirical evidence from travel behavior, actual cash transactions, and controlled laboratory experiments. Levels of accuracy have been reasonable and consistent with levels obtained in other areas of economics and in other disciplines." Endangered and Threatened Wildlife and Plants; Determination of Critical Habitat for the Northern Spotted Owl, 57 Fed. Reg. 1796-01, 1832 (1992).

34. NOAA Report, *supra* note 17, at 4602.

35. DOC Report, *supra* note 5, at 1168 (to be codified at 15 C.F.R. § 990.13).

36. The term passive value is preferred by NOAA. DOC Report, *supra* note 5, at 1073. DOI prefers the term "nonuse value" because of the inconsistent definitions applied to existence and option values. Natural Resource Damage Assessments, 56 Fed. Reg. 19752, 19760. The terms are equivalent. *Id.*

37. MITCHELL & CARSON, *supra* note 29, at 9. Robert K. Davis envisioned the idea while taking a survey class at Harvard University. For his doctoral project, he interviewed over 100 users of the area and concluded the project "showed sufficient promise to merit a major research effort." *Id.*

38. MITCHELL & CARSON, *supra* note 29, at 9-10.

39. MITCHELL & CARSON, *supra* note 29, at 12-13. "Funding from the U.S. Environmental Protection Agency has played a particularly important role in contingent

there are "over 1400 documented papers, reports and books on CV. In recent years, it has become one of the most widely used methods of nonmarket valuation."⁴⁰

A CV approach attempts to place a value on nonmarket goods and services by directly eliciting information about the good or service.⁴¹ It is referred to as "contingent valuation" because the value is contingent on the nature of the hypothetical market and the good or service presented to the respondent.⁴² One of the dangers is the ability of the surveyor to manipulate the value by varying the amount of information provided to the respondent.⁴³ The CV instrument actually measures total value to the respondents. The following formula results because use value can be readily determined by reference to market factors: $\text{passive value} = \text{total value (as determined by CV)} - \text{use value (as determined by market factors)}$.⁴⁴

In the natural resources context, CV is used to establish an individual's willingness to pay in order to "prevent injuries to natural

valuation's development In the mid 1970s the agency began to fund a program of research with the avowed methodological purpose of determining the promise and the problems of the CV method." *Id.* at 13.

40. *DOC Report*, *supra* note 5. See MITCHELL & CARSON, *supra* note 29 at Appendix A and bibliography for an extensive list of CV study subject matters.

41. *DOC Report*, *supra* note 5, at 1142. Such nonmarket values include, for example, the aesthetic effect that a power plant would have on the Lake Powell recreation area, the overall benefits of the Clean Water Act's mandate that every freshwater body of water be suitable for fishing and recreation, transportation safety, and the benefits of a social program for the elderly. MITCHELL & CARSON, *supra* note 29, at 5-9.

42. *DOC Report*, *supra* note 5, at 1142. One commentator described the method as "contingent valuation" because a respondent's stated willingness to pay is contingent upon the survey's *hypothetical improvement to the good*." Note, "Ask a Silly Question . . .": *Contingent Valuation of Natural Resource Damages*, 105 HARV. L. REV. 1981, 1982 n.7 (1992) (emphasis added) [hereinafter *Silly Question*]. This is a mischaracterization because the value is contingent on the market description, not on improvement to the good. See MITCHELL & CARSON, *supra* note 29, at 3. This distinction is important because the reliability of CV depends, in large part, on how well the market is described. "The simple and obvious safeguard against overstatement, however, is more sophisticated questioning." *Ohio v. United States Dep't of the Interior*, 880 F.2d 432, 478 (D.C. Cir. 1989). The market description forms the basis for the WTP question. Thus, the better the description, the more reliable the results. See *infra* notes 179-83 and accompanying text on how NOAA incorporated this requirement into the rules.

43. Frank B. Cross, *Natural Resource Damage Valuation*, 42 VAND. L. REV. 269, 315 (1989). CV results are "unduly dependent upon the information provided to respondents and the phrasing of the questionnaire." *Id.* at 319.

44. See *Natural Resource Damage Assessments*, 58 Fed. Reg. 39328, 39352 (1993). DOI recognizes that this definition is somewhat circular, but because it will rarely be necessary to "categorize particular nonuse values" (i.e. option, existence, bequest), the definition is sufficient.

resources or to restore injured natural resources."⁴⁵ A typical survey will first give a description of the rules of the market in which the good is being marketed.⁴⁶ Once these ground rules are established, a detailed description of the good or service is given.⁴⁷ Next, the respondent is asked to give the value response, *i.e.*, how much the good or service would be worth to them.⁴⁸ Finally, the survey contains questions which help ensure that the respondent accurately understood both the market and the commodity, ensuring the value response is a true reflection of his willingness to pay (WTP).⁴⁹

A CV survey can take several forms. However, a typical CV study asks questions regarding a hypothetical government program that would help avoid future environmental disasters.⁵⁰ Background information and the specific type of damages to be avoided are extremely important in obtaining reliable results. The questions can be open ended such as "What is the most you are willing to pay to avoid an environmental disaster such as the Exxon Valdez?" Alternatively, the questions may give the respondent different amounts to choose from. Finally, the "referendum format" asks respondents to "vote" yes or no on a hypothetical ballot initiative that indicates the cost of the program.⁵¹

While surveys generally have enjoyed increased respectability, the CV method continues to be criticized as unscientific.⁵² A key criticism is the lack of external validation available because it measures nonmarket goods.⁵³ With the increase in CV experimentation over the past twenty

45. *DOC Report*, *supra* note 5, at 1142.

46. *Id.* For example, in a study conducted to determine WTP for water quality, the interviewer states: "Since this is not something we usually think about, it may be helpful for you to know what the average household like yours pays in taxes, and higher prices for some other types of public programs." MITCHELL & CARSON, *supra* note 29, at 326.

47. *DOC Report*, *supra* note 5, at 1143.

48. *Id.* "These questions are designed to facilitate the valuation process without themselves biasing the respondent's WTP amounts." MITCHELL & CARSON, *supra* note 29, at 3.

49. *DOC Report*, *supra* note 5, at 1143. For example, "[w]e find that some people are more sure than others about the amounts they gave Would you say you are very sure, somewhat sure, somewhat unsure or very unsure about the amount you gave for these goals?" MITCHELL & CARSON, *supra* note 29, at 339.

50. *NOAA Report*, *supra* note 17, at 4603.

51. *See infra* notes 132-39 and accompanying text.

52. *See infra* notes 80-109 and accompanying text.

53. "[A] number of commenters noted that because CVM is the only method available for the express purpose of estimating nonuse values, there is no way to cross-

years, however, the economic and scientific viability of the surveys has begun, grudgingly by some, to be accepted.⁵⁴ Increased environmental awareness and the availability of comprehensive CV texts are also credited with helping push the CV method to the forefront of the oil spill damage assessment process.⁵⁵ The value established creates a starting point for assessing damages to passive users.⁵⁶

III. OFFICIAL RECOGNITION OF CONTINGENT VALUATION

A. CERCLA and Ohio v. Department of the Interior

The CV method received its first official approval when the Department of the Interior (DOI) issued its regulations under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).⁵⁷ The regulations allowed the use of CV only if use values could not be determined.⁵⁸ In *Ohio v. United States Department of the Interior*,⁵⁹ many aspects of these regulations were challenged by a host of interested parties.⁶⁰ The D.C. Circuit upheld the use of CV as a proper measure of damages.⁶¹

check the accuracy of CVM estimates of nonuse values." Natural Resource Damage Assessments, 58 Fed. Reg. 39328, 39350 (1993).

54. See generally WILLIAM H. DESVOUSGES ET AL., MEASURING NATURAL RESOURCE DAMAGES WITH CONTINGENT VALUATION: TESTS OF VALIDITY AND RELIABILITY, Symposium, Contingent Valuation: A Critical Assessment, Washington D.C. Apr. 1992; RICHARD T. CARSON ET AL., A CONTINGENT VALUATION STUDY OF LOST PASSIVE USE VALUES RESULTING FROM THE EXXON VALDEZ OIL SPILL, Report to the Attorney General of the State of Alaska (1992).

55. NOAA Report, *supra* note 17, at 4604.

56. NOAA Report, *supra* note 17, at 4610.

57. "The contingent valuation methodology includes all techniques that set up hypothetical markets to elicit an individual's economic valuation of a natural resource." Natural Resources Damage Assessments, 43 C.F.R. § 11.83(d)(5)(i) (1992).

58. 43 C.F.R. § 11.83(d)(5)(ii) (1992).

59. 880 F.2d 432 (D.C. Cir. 1989).

60. The petitioners included "10 states, three environmental organizations . . . [,] a chemical industry trade association, a manufacturing company and a utility company ("Industry Petitioners")" *Id.* at 438. The attack on CV came from the Industry Petitioners. *Id.* at 476.

61. *Id.* at 476-81. The challenge was based on three grounds. First, it was challenged as "inharmonious with common law damage assessment procedures." *Id.* at 476. The court, and this Comment disagree. See *infra* notes 248-319 and accompanying text. Second, industry argued that CV was not a best available procedure because it "was too speculative." See *infra* notes 284-85 for rebuttal to this argument. Finally, industry challenged the granting of a rebuttable presumption to CV as arbitrary and capricious. See *infra* note 177 for counter argument.

In so doing, the court stated that "passive use is an important component of damages and will be forever."⁶² "We find DOI's promulgation of CV methodology reasonable and consistent with congressional intent, and, therefore, worthy of deference."⁶³ However, the court rejected DOI's regulation requiring nonuse values to be measured only when no use values could be found.⁶⁴ DOI was required to issue new regulations⁶⁵ and took steps to begin the process.⁶⁶

B. The Oil Pollution Act of 1990

Meanwhile, Congress passed the Oil Pollution Act of 1990.⁶⁷ A responsible party will be held liable under the act if a discharge of oil causes injury to a natural resource or service.⁶⁸ Once a discharge of oil has occurred, a trustee will be appointed to assess and recover damages and provide for the restoration and rehabilitation of the injured area.⁶⁹ This task is massive, and the National Oceanic and Atmospheric Administration (NOAA) regulations assist the trustee.⁷⁰

From December 1990⁷¹ through January 15, 1993,⁷² NOAA sought public comment on how to assess damages. In August of 1992, NOAA held a public hearing to discuss the pros and cons of the CV method.⁷³

62. *Ohio*, 880 F.2d at 476.

63. *Id.* at 477.

64. *Id.* at 464.

65. *Id.* at 462-64, 481; see also *Colorado v. United States Dep't of Interior*, 880 F.2d 481 (D.C. Cir 1989) (companion case to *Ohio*, requiring DOI to rewrite regulations).

66. 56 Fed. Reg. 19752 (1991) (to be codified at 43 C.F.R. pt. 11) (proposed Apr. 29, 1991) (DOI Notice of proposed rulemaking in response to *Ohio* decision); Natural Resource Damage Assessments, 58 Fed. Reg. 39328, 39350 (1993) (DOI response to comments regarding non-use values and CV method).

67. 33 U.S.C. §§ 2701-2761.

68. 33 U.S.C. § 2702 (a) and (b) require the following in order to establish liability: (1) A discharge, (2) of oil, (3) from a vessel or facility, (4) into or upon navigable waters, adjoining shorelines or the Exclusive Economic Zone, (5) which results in injury.

69. 33 U.S.C. § 2706(b) (West Supp. 1994). Federal, state, tribal and foreign trustees will be appointed where appropriate. *Id.*

70. 33 U.S.C. § 2706(e)(1) (West Supp. 1994). The regulations should have been issued by August 18, 1992. However, due in part to controversy over contingent valuation the regulations were not issued until January 1994.

71. Natural Resource Damage Assessments, 55 Fed. Reg. 53478 (1990).

72. NOAA Report, *supra* note 17.

73. DOC Report, *supra* note 5, at 1062.

The resulting flood of comments prompted NOAA to establish a panel of experts to examine CV methodology.⁷⁴

C. *The Panel's Report*

The issue of whether CV would be approved for use in oil spill cases was one of the most hotly contested issues in the rulemaking process.⁷⁵ NOAA attempted to "provide an atmosphere in which an unbiased academic analysis of CVM could be conducted."⁷⁶ On January 15, 1993, the panel issued its report.⁷⁷ The panel concluded that carefully designed and administered surveys can produce reliable results which are important to the task of preserving the environment.⁷⁸ Because the panel considered dozens of comments and important CV literature,⁷⁹ the report is an authoritative and comprehensive analysis of the method. Therefore, this Comment will rely on the report heavily to explain CV methodology and set forth the parties' positions to be addressed in part V.

1. Criticisms Against the CV Method

The general criticism levied against CV is that the survey responses are not an accurate measure of the amount people are actually willing to pay.⁸⁰ Critics express this general argument in several ways.⁸¹

a. *Not an accurate prediction of behavior*

First, according to critics, people's expressed attitudes in response to the survey do not accurately predict their actual behavior.⁸² For exam-

74. Natural Resource Damage Assessments, 57 Fed. Reg. 23067 (1992) (to be codified at 15 C.F.R. ch. 9).

75. *NOAA Report*, *supra* note 17, at 4603. "NOAA [is] in a very difficult spot. NOAA must decide in promulgating the regulations under the Oil Pollution Act whether the CV technique is capable of providing reliable information about lost existence or other passive-use values." *Id.*

76. *Id.* at 4602. The panel consisted of six members, the co-chairmen each being Nobel laureate economists.

77. *Id.*

78. *Id.* at 4610.

79. *Id.* at 4614. The report contains an excellent table of resources.

80. *Id.* at 4607.

81. *Id.* at 4603. According to critics, any measure of nonmarket values is "inherently less reliable" than a market approach. NOAA responded that it "does not support the conclusion that all nonmarket valuation techniques are inherently less reliable than market-based approaches. In fact, it is widely recognized that market-based valuation techniques are potentially subject to many of the same criticisms and weaknesses attributed to nonmarket techniques." *DOC Report*, *supra* note 5, at 1154-55.

82. One extreme position holds, "Astrology, after all, 'is a method of forecasting

ple, a study asked one group their WTP to maintain stream flow for a rare species of fish in a Montana river, while another group was asked to actually contribute.⁸³ The willingness to pay was significantly lower for those asked to actually contribute.⁸⁴ However, the total size of the contribution for each group was not significantly different.⁸⁵

b. Inconsistent with rational choice

Secondly, critics contend that CV breeds inconsistency with rational choice.⁸⁶ A rational consumer would rather purchase an item at a lower price, all things being equal, than at a higher price.⁸⁷ In a consumer setting, "more of something regarded as good is better so long as an individual is not satiated."⁸⁸ The responses for nonmarket goods should follow this pattern as well.⁸⁹ Specifically, this is the phenomenon of embedding.⁹⁰ Embedding occurs when the expressed value of a large population is the same or only slightly higher than for a small population.⁹¹ A study often cited by critics found the "average willingness to pay to take measures to keep 2000 migratory birds (not endangered

the future that has at least as many adherents as contingent valuation. . . ." John F. Daum, *Some Legal and Regulatory Aspects of Contingent Valuation*, in *CONTINGENT VALUATION: A CRITICAL ASSESSMENT* 389, 402 (Jerry A. Hausman ed., 1993) (paper funded by Exxon).

83. John W. Duffield & David A. Patterson, *Field Testing Existence Values: An Instream Flow Trust Fund for Montana Rivers*, Paper Presented to the Annual Meeting of the American Economic Association (January 1991) (cited in *NOAA Report*, *supra* note 17, at 4603).

84. *Id.*

85. *Id.*

86. *NOAA Report*, *supra* note 17, at 4604. "Rationality in its weakest form requires certain kinds of consistency among choices made by individuals." *Id.*

87. *Id.*

88. *Id.*

89. *Id.* Opponents suggest that nonmarket goods should not be held to a rational standard and that WTP should be taken as given. The panel gave two reasons why this argument fails. First, "[r]ationality requirements impose a constraint on the possible values, without which damage judgments would be arbitrary." *Id.* Second, because of the lack of external validation, "some form of internal consistency is the least we would need to feel some confidence that the verbal answers [of CV] corresponded to some reality." *Id.*

90. *NOAA Report*, *supra* note 17, at 4607. NOAA believes "that alleged biases in CV responses resulting from the embedding phenomenon can be avoided through careful questionnaire design and execution of the survey." *DOC Report*, *supra* note 5, at 1160.

91. *NOAA Report*, *supra* note 17, at 4607.

species) from dying in oil-filled ponds was as great as that for preventing 20,000 or 200,000 birds from dying.⁹² This is hard to reconcile with traditional rational choice, where one would expect an increase in average WTP as the population of dying birds increases.⁹³

c. Implausibility of responses

Third, critics point to the implausibility of responses.⁹⁴ Since WTP is somewhere between twenty and fifty dollars per household, the total award would frequently be over one billion dollars.⁹⁵ According to critics, this figure is simply not a plausible response to the question, "How much are you willing to pay for the government to prevent oil spills that won't directly affect you?"⁹⁶ It is hard, however, to have even "an intuition as to a reasonable total."⁹⁷

d. Lack of budgetary constraints

A closely related argument is the lack of meaningful budgetary constraints.⁹⁸ People fail to seriously consider what personal or public spending they must forego to pay the amount indicated.⁹⁹ Critics point to the plethora of environmental problems and argue that if respondents actually paid for every problem as indicated, they would decrease or even eliminate their disposable income.¹⁰⁰ If respondents were re-

92. *Id.* at 4604 (citing DESVOUGES, *supra* note 54).

93. *NOAA Report, supra* note 17, at 4607. *See also* Cross, *supra* note 29, at 330-31.

This problem also suggests that individuals are responding emotionally and without thought. The embedding problem further permits the manipulation of contingent valuation by surveyors who choose the framing of the question. And if different but valid question frames yield dramatically different results, the courts have no basis to select the correct result.

94. *NOAA Report, supra* note 17, at 4604.

95. For example, if WTP is only \$20, then 100,000,000 households in the United States multiplied by \$20 would result in a total damage award of \$2,000,000,000. *See* Passel, *supra* note 14, § 1, at 1 (finding passive use damages from Exxon Valdez to be \$2.8 billion).

96. *NOAA Report, supra* note 17, at 4604.

97. *Id.* at 4604.

98. *Id.* "Economic theory dictates that a person's purchases must fall within her budget constraints '[N]o researcher would be willing to defend the summation of CV values that have been obtained in various studies for many types of environmental effects' because the summation 'would exhaust the budget of the average individual.'" *Silly Question, supra* note 42, at 1986 (quoting William D. Scuhize et al., *Methods Development in Measuring Benefits of Environmental Improvements Vol. II*, at 6 (1983) (report to the EPA)).

99. *NOAA Report, supra* note 17, at 4604.

100. *Id.*

mindful of these choices, the total CV damages would theoretically decrease dramatically.¹⁰¹

e. Lack of acceptance by respondents

Fifth, critics argue that CV respondents fail to understand or accept the description of the market or program the survey asks them to evaluate.¹⁰² Information on a chemical leak into a river is not helpful unless the respondent understands the permanency of the injury, the damage caused and the extent to which natural forces will assist in the repair.¹⁰³ Even the best educated respondents may not have considered the harm prior to the survey.¹⁰⁴ Therefore, the survey results are mere speculation and inherently unreliable.¹⁰⁵

f. The "warm glow"

Finally, critics of CV contend that when people answer a CV value response question WTP is overstated because the respondent has a "warm glow" from doing something praiseworthy.¹⁰⁶ Critics base this argument on the fact that some respondents often express zero WTP while others express very high WTP.¹⁰⁷ This pattern parallels individual contributions to charitable organizations, giving nothing to most, yet a great deal to those they support.¹⁰⁸ Under this argument, what people

101. *Id.* at 4605.

102. *Id.* at 4604-05. Critics argue that respondents have never before considered their willingness to pay for such items. "Deciding this value requires far more thought than deciding one's WTP for everyday items such as toothpaste Most CV answers are likely not reports of preexisting preferences, but rather merely numbers that respondents somehow construct for the first time in response to the questions" *Silly Question*, *supra* note 42, at 1985-86.

103. *NOAA Report*, *supra* note 17, at 4604-05.

104. *Id.* "[N]onusers may, at the suggestion of the survey, 'discover' that they would be willing to pay for cleanup, even though they have not been affected by the contamination, have not even thought about it, and would never have cared about it had the survey not been conducted." Carl V. Phillips & Richard J. Zeckhauser, *Contingent Valuation of Damage to Natural Resources: How Accurate? How Appropriate?* 4 *Toxics L. Rep. (BNA)* 520, 524 (Oct. 4, 1989).

105. *NOAA Report*, *supra* note 17, at 4604-05.

106. *Id.* at 4605. "Studies indicate that responses to contingent valuation surveys have less to do with economic value and depend more on impulses of fairness, charity, duty, emotional distress and self-expression." Cross, *supra* note 29, at 330.

107. *NOAA Report*, *supra* note 17, at 4605.

108. *Id.* at 4606. NOAA's response to this argument is that:

express in CV is not a true willingness to pay, but moral support of the environmental program described in the survey.¹⁰⁹

g. Idaho v. Southern Refrigerated Transport Inc.

Critics find support in an unpublished decision from the Central District of Idaho that rejects CV as an accurate measure of passive value.¹¹⁰ The court found that CV was an unreliable measure of the damage to steelhead fish resulting from a toxic river spill.¹¹¹ The CV study was not prepared specifically for the litigation, but by a council for hydroelectric power companies to assist in planning the salmon run.¹¹² The court concluded that “the study is not persuasive and it would be conjecture and speculation to allow damages based on this study.”¹¹³ The court recognized that the steelhead had passive value, but Idaho had not met its burden to prove damages to a reasonable certainty.¹¹⁴

The court’s rejection of the CV method in *Southern Refrigerated Transport* of course does not indicate the unreliability of all CV studies. The opinion implies that a survey prepared specifically for litigation would be legally sufficient to establish passive value. Even though the survey used in *Southern Refrigerated Transport* did not establish legally supportable damages, a plaintiff using the guidelines outlined by the panel may establish passive damages with reasonable certainty.

NOAA finds no evidence to suggest that the warm glow motivation is prevalent in properly designed and administered CV surveys NOAA finds no evidence to support the notion that the warm glow hypothesis would imply that individuals get a similar warm glow from taxing themselves. Since a tax vehicle is one of the preferred methods of payment in CV surveys, NOAA believes that responses to such surveys are not amenable to explanation via the warm glow hypothesis.

DOC Report, supra note 5, at 1159.

109. *NOAA Report, supra* note 17, at 4606. “For example, when measuring the willingness to pay for nonuse values for injury to a specific section of coastline, these commenters thought that respondents will often state their willingness to pay for clean oceans in general.” *Natural Resource Damage Assessments*, 58 Fed. Reg. 39328, 39350 (1993).

110. *Idaho v. Southern Refrigerated Transp., Inc.*, No. 88-1279, 1991 U.S. Dist. LEXIS 1869, at *55 (D. Idaho Jan. 24, 1991).

111. *Id.* Idaho claimed that the study resulted in damages of \$16.97 per nonreturning adult salmon. *Id.* The court found that the method was “legally insufficient to establish existence value in this case.” *Id.* at *56.

112. *Id.* The survey asked people what increases to their power bill they would pay to double the runs of steelhead and salmon in the Columbia River Basin. *Id.*

113. *Id.*

114. *Compare Id.* at *55-56 with *infra* notes 267-94 and accompanying text (discussing how CV surveys meet the reasonable certainty standards found in lost profit cases).

2. The Panel's Recommendations for Reliable CV Surveys

Carefully worded and administered surveys, those recommended by the panel, will alleviate the above criticisms.¹¹⁶ By following the panel's guidelines, "CV studies can produce estimates reliable enough to be the starting point of a judicial process of damage assessment, including lost passive-use values."¹¹⁶

Underlying the recommendations is the following principle: "[P]assive-use loss—interim or permanent—is a meaningful component of the total damage resulting from environmental accidents."¹¹⁷ Since CV is the only known measurement technique, steps must be implemented to ensure its acceptance and reliability. Thus, the panel's recommendations fall into two categories: those that must be followed and those that should be followed.¹¹⁸

a. *Mandatory procedures*

First, practitioners must follow good survey practice. A professional sampling statistician must determine the sample type and size, and the surveyors must hold non responses to a minimum.¹¹⁹ Surveys should be conducted by personal interview, although telephone interviews may be appropriate because of cost constraints.¹²⁰ Survey administrators should pre-test both the interviewer and the respondent, and follow strict reporting guidelines.¹²¹

In addition to standard survey practice guidelines, surveyors *must* also follow certain procedures to ensure reliability.¹²² Due to the tendency to overstate damages, given a choice, the survey must take the most conservative approach.¹²³ Because WTP is more conservative, re-

115. *NOAA Report*, *supra* note 17, at 4610 (approving use of CV method within strict guidelines).

116. *Id.*

117. *Id.*

118. *DOC Report*, *supra* note 5, at 1143.

119. *NOAA Report*, *supra* note 17, at 4608.

120. *Id.*

121. *Id.* The report should properly define the population, give the sample size, and include non-response information. Further, the report should reproduce the order and exact wording of questions and should be available for review by interested parties.

Id.

122. *Id.*

123. *Id.* at 4608. See *infra* notes 178-94 and accompanying text for further discussion of survey design.

spondents should be asked their willingness to pay, not their willingness to accept (WTA) compensation.¹²⁴ To guard against misunderstanding the extent of the market and nonacceptance of the scenario, an accurate description of the program or policy must be provided.¹²⁵ Photographs should be thoroughly pre-tested, and those shown to be highly prejudicial should not be given to the CV group.¹²⁶

The best surveys contain a reminder of substitute commodities, such as other comparable resources, prior to asking WTP.¹²⁷ The respondents should also be given the option to not answer.¹²⁸ To avoid overstating WTP, the best surveys allow for an adequate time lapse between the accident and the survey.¹²⁹ Further, statistical checks must be performed.¹³⁰ Finally, the survey should include questions that help interpret WTP without being so complicated as to make participants uninterested.¹³¹

124. *NOAA Report*, *supra* note 17, at 4608. DOI recognized that WTA can "lead to more technical difficulties and uncertainties than willingness to pay." *Ohio v. United States Dep't of the Interior*, 880 F.2d 432, 476 n.82 (D.C. Cir. 1989). *See generally* MITCHELL & CARSON, *supra* note 29, at 30-38 (explaining why WTP is less than WTA). When first issuing its CV regulations under CERCLA, the Department of the Interior permitted the elicitation of willingness to accept (WTA). DOI's elimination of "this feature . . . that might have resulted in overly high assessments" was very persuasive to the Court in upholding CV. *Ohio*, 880 F.2d at 476.

125. *NOAA Report*, *supra* note 17, at 4607.

126. *Id.* at 4608. "While a picture of dead, oiled sea otters might accurately depict an injury, NOAA believes that more neutral photographs would be the appropriate and conservative approach." *DOC Report*, *supra* note 5, at 1142.

127. *NOAA Report*, *supra* note 17, at 4610.

128. *Id.* at 4611. This avoids the problems of implausible response and budgetary constraints previously discussed. *See supra* notes 94-101.

129. *NOAA Report*, *supra* note 17, at 4610. This is important to avoid implausible results because the respondent must believe that restoration is possible in order to accurately answer the survey. If the survey takes place too soon after the accident, the respondent is likely to see oil covered natural resources each night on the six o'clock news. Consequently, the devastation may appear so bad that clean up seems inconceivable. *Id.*

130. *Id.* at 4610-11. For example, temporal averaging, whereby surveys are given at different times and the responses compared may be used. A substantial difference would raise questions regarding the reliability of the survey.

131. *NOAA Report*, *supra* note 17, at 4609. This technique is called cross-tabulation. Important information would include the respondent's income, prior knowledge of and distance from the site, attitudes toward the environment and big business, questions assessing belief in the scenario presented, and their willingness to be a participant. *Id.*

b. *The referendum format and other procedures that should be followed*

The panel strongly recommends that the survey follow the referendum format for the value response. Under this format, the CV survey is "essentially a self-contained referendum in which respondents vote on whether to tax themselves or not for a particular purpose."¹³² The referendum format is favored over open ended questions for two reasons. First, because participants are seldom asked to value public goods, open ended questions lack realism.¹³³ Second, responses to open ended questions tend to be "erratic and biased."¹³⁴ The referendum format avoids these problems because voting on a ballot initiative is familiar to the participant.¹³⁵ If she truly believes she will be taxed, no motivation exists to lie, and answers are thus stabilized.¹³⁶

Under the referendum format, questions must be included in the CV survey which evaluate the respondent's belief that the ballot initiative was real.¹³⁷ Additionally, in order to increase the probability that participants believe their vote will count, the referendum must be rich in context and full of information.¹³⁸ Therefore, the format will likely be used only in large oil spills, where the costs can be justified.¹³⁹

Other practices *should* also be followed. First, both sides should approve the survey design in advance of legal action.¹⁴⁰ Such preagreement leads to both cost and litigation efficiencies.¹⁴¹ Second,

132. *Id.* at 4606.

133. *Id.* at 4605.

134. *Id.* at 4606.

135. *Id.* at 4605. Some commentators argue that the CV method is even better at measuring preferences than an actual referendum. *See, e.g.,* MITCHELL AND CARSON, *supra* note 29, at 296. First, a CV participant is presented with much more "detailed and focused" information than that received by the actual voter. *Id.* Therefore, the CV respondent is making a more well informed decision than the actual voter. Secondly, a CV study provides a more representative sample of the entire population. *Id.* An actual referendum may be skewed by low voter turnout or failure of some groups to vote at all. *Id.* In any event, a CV survey referendum is likely to be at least as accurate as an actual vote.

136. NOAA Report, *supra* note 17, at 4606.

137. *Id.*

138. *Id.* The study should provide "some perspective concerning the overall frequency and magnitude of oil spills, the amount of money currently being spent on preventing and remedying them, the overall scale of their consequences, the peculiar features of the spill in question and similar relevant information." *Id.*

139. *Id.* at 4607.

140. NOAA Report, *supra* note 17, at 4609.

141. *Id.* Some authors contend that potential damages from a CV survey will act as

survey designers should bear the burden of proof that the survey produced reliable results.¹⁴² Third, respondents should be reminded of alternative investment opportunities.¹⁴³ Fourth, further steps should be taken to decrease “warm glow” effects.¹⁴⁴ Lastly, a clear distinction should be made between permanent and temporary losses.¹⁴⁵

3. Future Contingent Valuation Research

Finally, future research to increase reliability, decrease costs and mellow debate over CV surveys was proposed.¹⁴⁶ The panel suggested that “standard damage assessments” be established.¹⁴⁷ Also, studies comparing the WTP for private goods with the CV WTP figure should be conducted.¹⁴⁸ Additional research on budgetary constraints,¹⁴⁹ sensitivity to substitute commodities and no vote options was also recommended.¹⁵⁰

a disincentive to settling the case. *Silly Question*, *supra* note 42, at 1992. “Because parties will not know whether the court will find CV results admissible or probative, the use of CV represents ‘a new issue for the parties to disagree about.’” *Id.* (quoting Steven Shavell, *Should Contingent Valuation Estimates of the Nonuse Value of Natural Resources Be Used in Public Decisionmaking and the Liability System?*, reprinted in *CONTINGENT VALUATION: A CRITICAL ASSESSMENT* 371, 379 (Jerry A. Hausman ed., 1993)). This problem is obviously eliminated if the responsible party agrees to the design of the CV study.

142. *NOAA Report*, *supra* note 17, at 4609-10.

143. *Id.* at 4609.

144. *Id.* “The survey should be designed to deflect the general ‘warm-glow’ of giving or the dislike of ‘big business’ away from the specific environmental program that is being evaluated.” *Id.*

145. *Id.* Respondents must understand the timing of the restoration process. Specifically, participants should be sensitive to the present value of temporary losses. *Id.*

146. *Id.* at 4608.

147. *Id.* at 4609. These figures would establish benchmarks against which later CV studies could then be compared. “Surveys could be used to elicit answers to questions like ‘Would you pay (much more, more, about the same, less, much less) to prevent this spill than you would to prevent Standard Spill A?’” *Id.* Although this would require informing the respondent about two oil spills, “the additional effort would be more than offset by the greater simplicity and reliability in estimating relative willingness to pay.” *Id.*

148. *Id.* For example, a study might ask how many suits a person would be willing to forego in order to prevent the oil spill. *Id.*

149. *Id.* This may be accomplished through comparison with studies which would analyze how budgetary restrictions affect the purchase of familiar and unfamiliar market goods. “The point is to discover the extent to which the valuation of environmental public goods is intrinsically more difficult than similar exercises with respect to market goods.” *Id.*

150. *Id.* at 4610.

IV. NOAA'S PROPOSED REGULATIONS

On January 7, 1994, NOAA issued proposed regulations under its OPA authority.¹⁵¹ The goal was to provide a "process for determining proper compensation to the public for injuries to natural resources."¹⁵² The underlying theme of this process is to give environmental trustees flexibility because of the "incident specific" nature of such damage assessment.¹⁵³ The process has three phases: (1) preassessment; (2) assessment; and, (3) post assessment.¹⁵⁴ The post assessment phase is beyond the scope of this Comment.

A. *Preassessment Phase*

In the preassessment phase, the trustee must first determine whether OPA applies to the discharge and whether a successful damage claim can be made.¹⁵⁵ Once the decision to proceed is made, the trustee chooses which assessment procedure should be used.¹⁵⁶ Under the regulations the trustee has four overall schemes available, the most important for CV being comprehensive damage assessment (CDA).¹⁵⁷

Comprehensive damage assessment is applied "where it is anticipated that the assessment will require prolonged (*i.e.*, multi-year) studies."¹⁵⁸

151. *DOC Report, supra* note 5.

152. *Id.* at 1062. "The proposed rule promotes a cooperative approach to resolution of the natural resource damage cases by providing greater certainty regarding the measure of damages and the process by which damages are to be determined." *Id.*

153. *Id.* "The proposed rule simplifies the task of the natural resource trustee(s) by providing a flexible and logical process for assessing natural resource damages resulting from a discharge of oil." *Id.*

154. *DOC Report, supra* note 5, at 1063.

155. *Id.* at 1065.

156. *Id.* at 1073. Factors to be considered by the trustee include the following: size of discharge, extent of damage expected from discharge, extent damage can be determined through existing methods, and the cost effectiveness of the method. *Id.*

157. *Id.* The other three are compensation formulas, Type A computer models, and expedited damage assessment. Compensation formulas, "allow an estimate of damages per gallon taking into account average restoration costs, plus average lost direct use values pending restoration." *DOC Report, supra* note 5, at 1067. Type A computer models are described at 43 C.F.R. Part 11, subpart D. *Id.* Expedited Damage Assessment (EDA) is a new procedure. *Id.* "The goal of EDA is to initiate necessary restoration as quickly as possible by truncating the injury determination and quantification components." *Id.* It is less time consuming and less expensive than comprehensive damage assessment. *Id.*

158. *DOC Report, supra* note 5, at 8. CDA involves "injury determination and

CDA should be used where the effects of the disaster are complex.¹⁵⁹ Only if the trustee chooses CDA, will issues regarding contingent valuation be important.¹⁶⁰

B. Assessment Phase

After selection of the overall scheme, the trustee develops a Draft Assessment/Restoration Plan (DARP).¹⁶¹ The DARP, which is subject to public comment, presents the trustee's objectives, plan, and cost efficiency analysis.¹⁶² The DARP also recommends the methods to recover the compensable values. Compensable values "means the total diminution in value of the injured natural resources and/or services as a result of the discharge"¹⁶³ Because the trustee has discretion to determine when recovery is complete, he decides whether passive values will be considered a compensable value.¹⁶⁴ If he decides they are not compensable, the CV method will not be used.

This is a critical juncture in the process. The responsible party may argue that schemes other than CDA adequately compensate the public. Further, if the plan recommends contingent valuation, critics will argue that the expense of the survey is not justified by the size of the spill. They will contend that passive use values are negligible or nonexistent with smaller spills, and therefore, do not need to be measured.¹⁶⁵

NOAA responded that "passive use values are a component of compensable values that are necessary to compensate fully the public for its losses"¹⁶⁶ Trustees are encouraged to include passive use values

quantification, restoration planning and costs, and economic valuation." *Id.* It is in the economic valuation stage where CV becomes a factor. *Id.* at 1068.

159. *Id.*

160. *Id.* at 1074.

161. *Id.* at 1174 (to be codified at 15 C.F.R §§ 990.30-990.33).

162. *Id.* at 1066-67.

163. *Id.* at 1168 (to be codified at 15 C.F.R § 990.13).

164. *Id.* at 1181 (to be codified at 15 C.F.R § 990.77(b)). "The trustee(s) shall determine the compensable values resulting from the discharge of oil based upon the information collected during the assessment/restoration process and the guidance provided in this subpart." *Id.*

165.

An injury to a common natural resource with many substitutes (*e.g.*, a typical small stream), may not generate large nonuse values, particularly for those residing outside the area where the injury occurred, even if the recovery takes a long time. However, a permanent injury to a unique resource (*e.g.*, the Grand Canyon) may generate significant nonuse values, even for those residing in areas far removed geographically from the site where the injury occurred.

Natural Resource Damage Assessments, 56 Fed. Reg. 19752, 19760 (1991).

166. *DOC Report, supra* note 5, at 1151.

to avoid misallocation of natural resources.¹⁶⁷ Nevertheless,

[t]he decision to include passive use value estimates as part of total value in a damage assessment should be predicated upon the probable magnitude of passive use losses associated with a specific discharge, as well as on the specific attributes of the injured natural resources. If the expected value of the passive use loss is small relative to the cost of estimating it, its inclusion in the damage assessment may not be justified.¹⁶⁸

Because CV is the only known method to establish passive uses, if CV is not chosen as a method of damage assessment, passive use values will not be reflected in the award. Those who believe in accounting for passive values must lobby the trustee to use the CV method.

Others will argue that there is no need to account for passive values when the area will fully recover and direct use is compensated.¹⁶⁹ However, there is "no empirical evidence to suggest that a natural resource must be unique (*i.e.*, have few substitutes), non-reproducible and/or permanently injured in order to have significant passive use values."¹⁷⁰ For example, the death of certain types of animals, such as otters and dolphins, may result in substantial passive use value loss even though the animals will return to the same population levels as before the spill. Failure to account for these values will result in under protection of the environment.¹⁷¹

Under *Ohio v. Department of the Interior* and OPA, the trustee has a responsibility to ensure that the public is fully compensated for a discharge of oil.¹⁷² "Failure to include *all* relevant categories of damages in a claim would understate the true loss to the American public . . ."¹⁷³ There is an emerging consensus among economists that the appropriate

167. Failure to account for passive losses may cause lower investment in oil spill deterrence technology and overuse of natural resources. *Id.*

168. *Id.* at 1152.

169. *Id.*

170. *Id.*

171. See *infra* notes 320-37 and accompanying text.

172. *DOC Report, supra* note 5, at 1151. Regarding OPA, Congress said, "The bill makes it clear that forests are more than board feet of lumber, and seal and sea otters are more than just commodities traded on the market. It would clarify that in the wake of spills like the Exxon Valdez, *all reasonable demonstrable natural resource damages* caused by a spill are paid by the responsible parties, rather than borne by the public." S. REP. NO. 94, 101st Cong., 2d Sess. 15 (1989), *reprinted in* 1990 U.S.C.C.A.N. 722, 737 (emphasis added).

173. *DOC Report, supra* note 5, at 1152 (emphasis added).

value for natural resource valuation is total value, which includes both direct and passive values.¹⁷⁴

Ideally then, because CV is the only known methodology to measure passive value, CV must be used for the trustee to fulfill his duty to the public.¹⁷⁵ However, because CV continues to be limited by “the high costs for surveys to meet the proposed requirements, trustee budget and staff limits, trustee desire for speedy judgment to enable expeditious restoration activities, and the procedures necessary to justify a Comprehensive Damage Assessment,” NOAA gave the trustee discretion.¹⁷⁶ If a trustee decides to use the CV method, the survey must meet the highest standards of science and economics because the result obtained by the survey will be given a rebuttable presumption of accuracy under OPA.¹⁷⁷

C. Contingent Valuation Under the Regulations

NOAA sets out very specific criteria for contingent valuation based on the panel’s recommendations.¹⁷⁸ The proposed regulations govern: (1) survey instrument design and development; (2) survey administration; and, (3) the nature of the results.¹⁷⁹

1. Survey Instrument Design and Development

The survey must elicit a WTP figure and not a willingness to accept (WTA) figure.¹⁸⁰ The instrument itself has three sections: (a) prevalue

174. *Id.*

175. *Id.* at 1074. Professor Cross favors the restoration method. This method uses human assistance along with “the power of natural forces to recreate” the damaged environment. Cross *supra*, note 29, at 320. He argues that, “restoration can itself embrace the non-use values and capture them better than contingent valuation.” *Id.* at 298. Both NOAA and DOI disagree and hold that CV is the only appropriate method for establishing passive losses. *DOC Report, supra* note 5, at 1142.

176. *Id.* at 1147.

177. 33 U.S.C § 2706(e) (West Supp. 1993). Industry challenged a similar rebuttable presumption in *Ohio v. United States Dep’t of the Interior*, 880 F.2d 432, 480 (D.C. Cir. 1989). In upholding the presumption, the court reasoned, “We see nothing arbitrary or irrational about the rebuttable presumptions conferred upon . . . CV methodology. On the contrary, the procedures . . . support the logic of the presumption, without which would loom the specter of prolonged battles of exports [sic] and other heavy burdens on the calendars of adjudicating tribunals.” *Id.*

178. *DOC Report, supra* note 5, at 1065.

179. *Id.* at 1182-83 (to be codified at 15 C.F.R § 990.78(5)).

180. *Id.* at 1182 (to be codified at 15 C.F.R § 990.78(5)(i)(A)). Theoretically, the most accurate measure of passive use damages would be a measure of how much an individual would be willing to accept (WTA) in order to be fully compensated for their loss. However, WTP is the more conservative estimate of the two since people are willing to accept more than they are willing to pay. *Id.*

response description; (b) value response question; and, (c) postvalue response evaluation.

a. Prevalue response description

With prevalue response descriptions, the survey should be heavy in context. Therefore, in developing the survey, the trustee should assure himself that the respondents know whether the injuries are permanent or temporary, and understand the timing of the program.¹⁸¹ The respondents are also to be informed if related resources exist that could serve as substitutes for the injury.¹⁸² Perhaps most importantly, the prevalue response description should remind respondents of their budgetary constraints.¹⁸³

b. Value response

The form of the value response question is at the discretion of the trustee.¹⁸⁴ The trustee must document his rationale for the decision.¹⁸⁵ While open ended questions may be used, the preamble strongly urges following the panel's recommendation of the referendum format.¹⁸⁶ NOAA was convinced that this format provides a familiar and realistic context, *i.e.*, raising money for the public good through voting.¹⁸⁷ The dollar figure is more accurate because there is a maximum price given in the ballot initiative, and the respondent is more likely to believe the program will actually take place.¹⁸⁸ The result is more accurate because if people truly believe they will have to pay, they are more likely to vote no.¹⁸⁹ After answering the value response, the respondent should again

181. *Id.* at 1183 (to be codified at 15 C.F.R. § 990.78 (b)(5)(i)(B)(2)).

182. *Id.* at 1183 (to be codified at 15 C.F.R. § 990.78 (b)(5)(i)(B)(2)).

183. *DOC Report, supra* note 5, at 1183 (to be codified at 15 C.F.R. § 990.78 (b)(5)(i)(C)). "The goal is to induce respondents to keep in mind other likely expenditures including those on other environmental goods, when evaluating the main scenario." *Id.*

184. *Id.* at 1183 (to be codified at 15 C.F.R. § 990.78 (b)(5)(i)(2)).

185. *Id.*

186. *Id.* at 1144. *See supra* notes 132-39 and accompanying text for a description of the referendum format.

187. *DOC Report, supra* note 5, at 1144.

188. *Id.*

189. *Id.*

be reminded of alternative expenditures and be afforded the opportunity to change their vote.¹⁹⁰

c. Postvalue response evaluation

In the postvalue response, questions should be asked which assess the accuracy of the responses, *i.e.*, whether the respondent found the referendum credible.¹⁹¹ The regulations provide for calibration. Calibration is the process by which a discount factor is used to eliminate the concerns regarding overstatement of WTP.¹⁹² The regulations state that actual WTP is presumed to be 50% of stated WTP unless the trustee can justify a different factor.¹⁹³ Finally, adequate field testing of the survey design is required.¹⁹⁴

2. Survey Administration

The contingent value survey should be administered using generally accepted survey techniques.¹⁹⁵ There must be proper sampling procedures, a relevant population, probability samples and a statistically significant sample size.¹⁹⁶ Most importantly, the number of non responses should be minimized and the trustee must document his rationale for the acceptable level of non responses.¹⁹⁷ In no case may the response rate be less than 70 percent.¹⁹⁸

Given two options, the trustee must always pick the more conservative approach.¹⁹⁹ For example, a lump sum is more conservative than installment payments simply because the installment payments appear to be less of a financial burden.²⁰⁰ The mode of administration can be through mail, telephone or in-person contact. That decision is again left to the discretion of the trustee.²⁰¹ Because of the lengthy and complex nature of the CV approach, NOAA favors in-person interviews.²⁰² However, tele-

190. *Id.* at 1182 (to be codified at 15 C.F.R § 990.785(i)(C)).

191. *Id.* at 1183 (to be codified at 15 C.F.R § 990.78 (5)(i)(D)(3)).

192. *Id.* at 1146.

193. *Id.* (to be codified at 15 C.F.R § 990.78 (5)(i)(D)(4)).

194. *Id.* (to be codified at 15 C.F.R § 990.78 (5)(i)(E)).

195. *Id.* (to be codified at 15 C.F.R § 990.78 (5)(ii)).

196. *Id.* (to be codified at 15 C.F.R § 990.78 (5)(ii)(A)(2)-(3)).

197. *Id.* at 1183 (to be codified at 15 C.F.R § 990.78 (5)(ii)(A)(4)).

198. *Id.*

199. *Id.* at 1146.

200. *Id.* Economic theory holds that both payment methods are appropriate. It is the mere appearance of a smaller amount that could bias results. *See also* MITCHELL & CARSON, *supra* note 29, at 300.

201. *DOC Report, supra* note 5, at 1183 (to be codified at 15 C.F.R § 990.78 (5)(ii)(B)(1)).

202. *Id.* at 1162. "[M]ail surveys at this time lack certain features that are desirable

phone interviews may also be acceptable considering the cost factors.²⁰³ The advantages of in-person interviews include the ability to show pictures and graphs, the opportunity for personal interaction with the interviewer and the ability to hold respondents' attention.²⁰⁴ Also, the ability to record verbatim responses is an excellent check on whether the trustee has followed NOAA's guidelines.²⁰⁵ Interviews are to be conducted by trained interviewers, and an "experienced survey research organization" should administer the entire process.²⁰⁶ Finally, it is important that the confidentiality of the respondents be maintained.²⁰⁷

3. The Nature of the Results

Because WTP is sensitive to the characteristics of the resources and the proposal to prevent injury,²⁰⁸ NOAA has established performance standards to evaluate survey results.²⁰⁹ The scope of an environmental disaster is subject to great debate and will clearly influence the amount respondents are willing to pay.²¹⁰ Specifically, the trustee must demonstrate that the "aggregate WTP across all respondents for the prevention or restoration program increases (decreases) as the scope of the environmental insult is expanded (contracted)."²¹¹

After identifying the proper scope of the discharge that is the subject of the litigation, the trustee must design alternative survey instruments that vary only in the scope of injury.²¹² The survey instruments must meet the requirements discussed above. To accept these scenarios, no more than 95% of the respondents may indicate that the values of the respective commodities differ.²¹³

for use in the natural resource damage assessment area." *Id.*

203. *Id.*

204. *Id.*

205. *Id.* at 1162-63.

206. *Id.* at 1183 (to be codified at 15 C.F.R. § 990.78 (5)(ii)(B)(2)&(3)).

207. *Id.* (to be codified at 15 C.F.R. § 990.78 (5)(ii)(C)).

208. *See supra*, notes 176-92 and accompanying text.

209. *DOC Report*, *supra* note 5, at 1145 (to be codified at 15 C.F.R. §990.78 (5)(iii)).

210. *Id.* For example whether the injury is permanent, widespread, and the extent of damage to the ecosystem, are all factors considered in determining the WTP amount. *Id.*

211. *Id.* at 1183 (to be codified at 15 C.F.R. § 990.78 (5)(iii)(A)). *See supra* notes 86-93 and accompanying text (discussing the embedding problem).

212. *DOC Report*, *supra* note 5, at 1183 (to be codified at 15 C.F.R. § 990.78 (5)(iii)(B)).

213. *Id.*

V. EVIDENTIARY ISSUES AND COMPARISON WITH ASSESSMENT
OF OTHER DAMAGES

During the rulemaking process both sides tried to draw comparisons to damage awards generally.²¹⁴ The critics argued CV was inconsistent with traditional damage awards, and that approval of CV would lead to its increased use, and *a fortiori*, to more speculative claims.²¹⁵ Furthermore, the critics argued that passive losses were the equivalent of punitive damages.²¹⁶ Those in favor of the method advanced arguments similar to those expanded upon below. NOAA concluded, "determination of passive use values furthers the public interest by ensuring adequate compensation NOAA believes that CV studies of passive use values can produce reliable estimates of damages."²¹⁷

For the remainder of the Comment, assume that a survey instrument can be designed to meet the regulations' standards. However, the trustee must still decide if the benefits of the study outweigh the costs.

A. *The Admissibility of Surveys*

As a preliminary matter, the defendant in an OPA action may challenge the CV survey as inadmissible.²¹⁸ This argument was prevalent early in the development of CV, but has currently lost its persuasion.

It is now generally accepted that opinion polls and surveys can be admissible evidence if shown to be reliable.²¹⁹ Early discussions regarding the admissibility of surveys focused on exceptions to the hearsay rule.²²⁰ First, a survey could be admitted as evidence of the state of

214. *Id.* at 1156.

215. *Id.* The critics suggested that it was like trying to claim damages for the death of a friend.

216. *Id.* NOAA responded that passive losses are not punitive because OPA explicitly includes passive use damages.

217. *Id.* The court in *Ohio v. Department of Interior* held CV to be admissible. *Ohio v. United States Dep't of the Interior*, 880 F.2d 432, 476 (D.C. Cir. 1989).

218. Charles J. Cicchetti & Neil Peck, *Assessing Natural Resource Damages: The Case Against Contingent Value Survey Methods*, 4 NAT. RESOURCES & ENV'T 6 (1989); *Silly Question*, *supra* note 42, at 1986.

219. *Baumholser v. Amax Coal Co.*, 630 F.2d 550, 552 (7th Cir. 1980). Residents near a mine were surveyed about the "number, length and width of cracks discovered in their homes." *Id.* The survey was admitted in connection with expert testimony. *Id.*

220. *Compare Quaker Oats Co. v. General Mills Inc.*, 134 F.2d 429 (7th Cir. 1943) (excluding on hearsay grounds a survey which asked: "Do you know who makes Oaties?") with *Zippo Mfg. Co. v. Rogers Imports Inc.*, 216 F. Supp. 670, 682 (S.D.N.Y. 1963) ("Surveys are now admitted over the hearsay objection on two technically distinct bases. Some cases hold surveys are not hearsay at all; other cases hold that surveys are hearsay but are admissible because they are within the recognized excep-

mind of the respondent.²²¹ Second, a survey could be admitted under the "catch-all" exception to the hearsay rule.²²²

However, the focus has shifted from hearsay analysis to allowing surveys to be admitted in conjunction with expert witness testimony.²²³ The advisory committee note to Federal Rule of Evidence 703 states: "The rule also offers a more satisfactory basis for ruling upon the admissibility of public opinion poll evidence. Attention is directed to the validity of the techniques employed rather than to relatively fruitless inquiries whether hearsay is involved."²²⁴

Therefore, the focus is on whether the technique employed by the expert is one that is "reasonably relied upon by experts in the particular field"²²⁵ Early in CV's development, this was a potentially damaging argument. However, as CV has been studied, and especially under the proposed rule, CV has gained the status necessary for admissibility.²²⁶

1. Reliability of CV Surveys

One basis for admissibility of survey or opinion polls is a substantial showing of reliability.²²⁷ Reliable surveys are conducted in accordance with generally accepted survey techniques and the results are used in a statistically correct manner.²²⁸ There are seven factors that determine

tion to the hearsay rule for statements of present state of mind, attitude, or belief."). See also FED. R. EVID. 802.

221. *American Luggage Works, Inc. v. United States Trunk Co.*, 158 F. Supp. 50 (D. Mass. 1957), *aff'd sub nom.*; *Hawley Products Co. V. United States Trunk Co.*, 259 F.2d 69 (1st Cir. 1958) (admitting survey over product confusion as evidence of existing state of mind); see also FED. R. EVID. 803(3).

222. FED. R. EVID. 803(24). CV studies meet the requirement of materiality because they usually result in value figures of over \$1 billion. See *supra* note 95 and accompanying text. CV studies are more probative as to passive use value than other evidence; in fact, it is the only express method to determine passive use. Finally, CV furthers the cause of justice by providing a method which will fully account for the damage from an oil spill by quantifying passive use value.

223. *Standard Oil Co. v. Moore*, 251 F.2d 188, 222 (9th Cir. 1957), *cert. denied*, 356 U.S. 975 (1958) (noting that experts who pursue pretrial studies that result in hearsay are not barred from testifying to the results).

224. FED. R. EVID. 703 advisory committee's note.

225. FED. R. EVID. 703.

226. *Ohio v. United States Dep't of the Interior*, 880 F.2d 432, 476 (D.C. Cir. 1989); see also *supra* notes 57-66 and accompanying text.

227. *Baumholser v. Amax Coal Co.*, 630 F.2d 550, 551 (7th Cir. 1980).

228. 30 AM. JUR. 2D *Evidence* § 1102 (1967 & Supp. 1993) (noting that survey opinions have been given probative value in several cases).

the reliability of survey evidence:

The validity of survey evidence depends heavily on such matters as (1) properly defining the "universe" of people whose opinion should matter, (2) selecting a representative sample, (3) properly framing the questions, (4) observing sound interview procedures, (5) accurately recording responses, (6) properly analyzing the data, and (7) preserving objectivity by separating the polling process from the litigation itself.²²⁹

In framing the rule, NOAA followed the panel's recommendations to ensure CV met these criteria. The provisions governing CV survey administration ensure the use of the proper population and a statistically significant sample.²³⁰ The referendum format ensures a properly framed question.²³¹ Requiring trained interviewers and overall administration by a professional survey organization guarantees proper procedures.²³² In-person interviews can be more accurately recorded.²³³ The calibration and scope testing procedures ensure that the data from CV is properly analyzed.²³⁴

Surveys have proven reliable in other contexts. They are often utilized in trademark infringement cases. For example, a reliable survey was admitted in *Zippo Manufacturing Co. v. Rogers Imports, Inc.*²³⁵ The court admitted the survey to determine whether a cigarette lighter's appearance had acquired a secondary meaning.²³⁶ In *Home Products Corp. v. Johnson & Johnson*,²³⁷ a judge properly weighed survey evidence to show potential confusion over pain relievers.²³⁸ Other examples include: (1) a survey used to study the impact of literacy examinations,²³⁹ (2) a

229. CHRISTOPHER B. MUELLER & LAIRD C. KIRKPATRICK, EVIDENCE UNDER THE RULES 416 (2d ed. 1993); Bill Wishard, *Admissibility of Opinion Survey*, 18 AM. JUR. POF 2d 305 (1979 & Supp. 1993) (providing a checklist for admissibility which CV surveys satisfy).

230. See *supra* notes 195-207 and accompanying text.

231. See *supra* notes 132-39 and accompanying text.

232. See *supra* notes 206-07 and accompanying text.

233. See *supra* notes 205-07 and accompanying text.

234. See *supra* notes 191-93 and 208-13 and accompanying text.

235. 216 F. Supp. 670 (S.D.N.Y. 1963). The defendant objected to the survey on several grounds including hearsay and faulty administration.

236. *Id.* at 686. The survey involved showing pictures of each party's product to the respondents to determine if unfair competition had occurred.

237. 577 F.2d 160 (2d Cir. 1978).

238. *Home Products*, 577 F.2d 160. This case involved television claims of Anacin and Tylenol. Consumers were asked to view the commercials and determine which product was superior.

239. *Debra P. v. Turlington*, 730 F.2d 1405 (11th Cir. 1984). A survey was distributed to 65,000 teachers to determine if they had taught the necessary skills for a college entrance exam. *Id.* at 1407. Defendants claimed the survey was not trustworthy. *Id.* at 1411. The court held that because "steps [were] taken to safeguard trustworthiness," the survey could be admitted. *Id.* at 1413.

survey used in settlement discussions;²⁴⁰ and (3) a survey used in wage disputes.²⁴¹

Certainly, an environmental trustee will be able to establish for the court that CV is as reliable as the above mentioned surveys. Given its support by a panel of Nobel economists, DOI and NOAA, the CV survey has guarantees of trustworthiness. The trustee must simply show that the requirements for design and administration have been adhered to. Furthermore, the trustee will have the benefit of a rebuttable presumption of accuracy if he abides by the methods outlined in the proposed rule.²⁴²

2. The Necessity for CV Surveys

In the alternative, surveys have been admitted based on sheer necessity.²⁴³ For example, one court found a survey necessary to determine what constitutes obscenity.²⁴⁴ A survey was also necessary to determine if a defendant could receive a fair trial.²⁴⁵

CV must be used because there is no established market or behavior patterns for passive use upon which damages could be evaluated.²⁴⁶ Furthermore, CV is the only known method specifically designed for determining passive use values. CV should be admissible, in part, because of the sheer necessity for its use.

240. *HCI Chemicals, Inc. v. Henkel*, 966 F.2d 1018 (5th Cir. 1992). This survey was used to determine if goods conformed to the parties contract. It was not a survey of public opinion.

241. M.C. Dransfield, Annotation, *Admissibility and Weight of Surveys or Polls of Public or Consumer's Opinion, Recognition, Preference or the Like*, 76 A.L.R. 2d 619 (1961 & Supps. 1986 & 1993) (citing several cases where opinion polls were held to be admissible); 48 AM. JUR. 2D *Labor and Labor Relations* § 1058 (1979) (discussing requirement that wage surveys be admitted for settlements and negotiations purposes).

242. 33 U.S.C. § 2706(e) (West Supp. 1993).

243. "Necessity in this context requires a comparison of the probative value of the survey with the evidence, if any, which as a practical matter could be used if the survey were excluded. If the survey is more valuable, then necessity exists for the survey . . ." *Zippo*, 216 F. Supp. at 683; see also 29 AM. JUR. 2D *Evidence* §§ 447, 502 (1967 & Supp. 1993) (citing cases where admissibility of survey based on sheer necessity).

244. *People v. Nelson*, 410 N.E.2d 476 (Ill. 1980) (noting that a survey should have been admitted to show public opinion of whether material constituted obscenity).

245. *United States v. Eagle*, 586 F.2d 1193 (8th Cir. 1978) (noting that a survey to determine if defendant could receive fair trial should have been admitted into evidence).

246. *NOAA Report*, *supra* note 17.

Finally, some commentators have concluded that the evidentiary value of opinion surveys is so great that they should be admissible.²⁴⁷ Therefore, CV should be admissible because it is the *only* evidence for the express purpose of measuring passive use value.²⁴⁸

B. *Property Having No Market Value*

Like passive use value of the environment, the value of some personal property lies primarily in its existence. For example, pictures may be hidden away in boxes without being looked at for several years, yet have tremendous personal historical value. Grandmother's wedding dress may never be actually worn again but the owner derives satisfaction from knowing that it's hanging in the closet. The family dog might be a mutt but loved as a pure bred. Taken as a whole, it is the intrinsic value that must be compensated. Similarly, passive users derive satisfaction from the existence of oceans and wildlife, and, therefore must be compensated if these resources are damaged.

1. Original, Repair, and Replacement Costs

When a market value for personal property cannot be determined, damages are the "standard of value to the owner."²⁴⁹ In calculating damages, courts consider the "nature of the property such as to inherently generate sentimental feelings[;] irreplaceable nature of property[;] frequency of use or enjoyment of property[;] *expression of personal feelings regarding loss[;] [and] opinion as to dollar equivalent of sentimental value.*"²⁵⁰ Methods of determining actual value for personal property include original cost less depreciation, replacement cost less depreciation and cost of repair.²⁵¹

Passive value is a necessary component of full compensation to the public. In a very real sense, the public owns the natural resources.²⁵² Applying the majority rule for items with no ascertainable market value the proper measure of passive use is the actual value to the public. Arguably, when the CV survey elicits WTP it establishes the original cost of

247. Becker, *supra* note 25 at 490. "Properly crafted questions, posed to a relevant group of respondents, can greatly enrich the breadth and depth of our understanding of human thought processes and our perception of the world around us." *Id.* at 521-22.

248. *DOC Report*, *supra* note 5, at 1142.

249. *Igo v. Coachmen Indus., Inc.*, 938 F.2d 650, 657 (6th Cir. 1991).

250. Dave Linn, J.D., *Damages for Loss of Personal Property with Little or No Market Value*, 171 AM. JUR. POF 3RD 171 § 9 (1989 & Supp. 1993) (emphasis added).

251. 4 MARILYN MINZER ET AL., *DAMAGES IN TORT ACTIONS* § 37.21 (1994).

252. *DOC Report*, *supra* note 5, at 1099.

the resources. The amount of investment determines the original cost for an item of personal property. Therefore, the amount people are willing to invest in natural resource preservation can be considered the original cost to the passive user public.

For example, assume B is the only manufacturer of round-tuits in the world. B invests \$1000 in a customized, one-of-a-kind, innovative machine that has no purpose other than to make round-tuits. The machine has no value on the open market. However, by paying \$1000 B establishes the value as the original cost. Now assume, prior to the invention of the machine, B received a survey asking his willingness to pay for such a device. Since later he *actually* paid \$1000 for the machine, his likely response to the survey would be \$1000. Therefore, the actual value to him is \$1000. Similarly, by acknowledging their willingness to pay, CV participants establish an actual value of the natural resource.

Consider again the panel's recommendation for creation of standard damage assessments through CV studies.²⁵³ These studies would establish that an oil spill of X magnitude is worth Y amount to the passive user. The investment, or original cost, of preventing an oil spill can be derived from the standard damage assessments. Therefore, the original cost to the owner can be established through CV. Analogously, if the survey asks the willingness to pay to restore natural resources, it is establishing the CV respondent's cost of repair or replacement. These are also proper damage measures for goods with no ascertainable market value.

2. Sentimental Considerations

Usually, when market value cannot be ascertained, "the measure of damages is the actual or intrinsic value to the owner, *excluding sentimental or fanciful value*."²⁵⁴ Critics of passive value argue that CV overstates damages because individuals have a sense of doing something praiseworthy when placing a dollar amount on the environment.²⁵⁵ According to critics, such sentimental considerations are inherent in the method and an improper element of the damage award.²⁵⁶ Accepting *ar-*

253. See *supra* note 146-47 and accompanying text.

254. 22 AM. JUR. 2D *Damages* § 439 (1988).

255. NOAA *Report*, *supra* note 17, at 4605 (discussing warm glow effects); see also James Andreoni, *Giving with Impure Altruism: Applications to Charity and Ricardian Equivalence*, 97 J. POL. ECON. 1447-58 (1989) (discussing people's support derived from warm glow of donating to worthy cause).

256. This was also recognized by the "father" of passive use stating that "option

guendo this characterization of passive use values, they would not necessarily be barred from recovery.

For example, in *Brown v. Frontier Theatres, Inc.*,²⁵⁷ the Texas Supreme Court held that where the sentimental value is greater than the market value, the sentimental value should be the sole criteria for awarding damages.²⁵⁸ In *Brown*, employees of a drive-in theater lived in an apartment below the theater's projection booth.²⁵⁹ Their apartment burned down when the projection booth caught fire.²⁶⁰ Destroyed in the fire were certain "irreplaceable goods" including clothing, jewelry, guns and hand sewn items.²⁶¹

The court reasoned that the "most fundamental rule of damages that every wrongful injury . . . should be adequately and reasonably compensable requires . . . taking into consideration the feelings of the owner for such property."²⁶² The rule against awarding damages for sentiment is not applicable when items damaged have their *primary* value in sentiment.²⁶³ Therefore, the Browns were entitled to present evidence as to the sentimental value and receive compensation.

Other cases involve the loss of papers, or photographs destroyed by the negligence of others.²⁶⁴ For example, the court in *Bond v. A.H. Belo Corp.*²⁶⁵ held that feelings were a proper element of damages for loss of family papers.²⁶⁶ When a drugstore lost motion picture film, the court noted that the prohibition against sentimental considerations applies only to "mawkish emotional reactions" and not to "normal sensibilities" and "emotional idealism."²⁶⁷ Other situations may also give rise to an award of sentimental considerations.²⁶⁸

value may have only a sentimental basis in some instances Subscriptions to World Wildlife Fund are of the same character. The funds are employed predominantly in an effort to save exotic species in remote areas of the world which few subscribers to the Fund ever hope to see." Krutilla, *supra* note 26, at 781.

257. 369 S.W.2d 299 (Tex. 1963).

258. *Id.* at 305.

259. *Id.* at 300-01.

260. *Id.* at 301.

261. *Id.* at 304.

262. *Id.* at 305.

263. *Id.* at 304-05; see also Linn, *supra* note 250.

264. R. Carol Terry, Annotation, *Elements and Measure of Damages Recoverable from Bailee for Loss, Destruction, or Conversion of Personal Papers, Photographs, or Paintings*, 9 A.L.R.4TH 1245 (1981 and Supp. 1993) (discussing loss of items with no market value in the normal sense of the word).

265. 602 S.W.2d 105 (Tex. Ct App. 1980).

266. *Id.* at 109.

267. *Mieske v. Bartell Drug Co.*, 593 P.2d 1308 (Wash. 1979).

268. See 27 AM. JUR. 2D *Eminent Domain* § 279 (1966 & Supp. 1993); 71 AM. JUR. 2D *Specific Performance* § 155 (1973 & Supp. 1993); 22A AM. JUR. 2D *Death* § 236 (1988); 42 AM. JUR. 2D *Injunctions* § 49 (1969); 29 AM. JUR. 2D *Evidence* § 387 (1967

The courts are even more willing to award sentimental value for the destruction of animals.²⁶⁹ Courts consider pets more than simple personal property, and award damages beyond the market value of the animal.²⁷⁰ If the destruction is wilful or malicious the courts are especially willing to grant sentimental value.²⁷¹

Fundamental elements of justice require that the passive user be compensated for their loss. They have suffered an injury by having something they value, although not actively using, covered with oil. If someone poured oil on the box of photographs in the closet, even accidentally, could it actually be argued the owner should not be compensated for the sentimental value of the pictures? Therefore, the passive user should be compensated for their feelings toward the environment.

Passive value is a normal sensibility, a desire to maintain the world around us for future generations. While somewhat idealistic, such sentimental feelings can and should be determined. By eliciting the public's WTP, a CV survey gives an indication of this value.

C. Recovery of Lost Profits for Unestablished Businesses and New and Innovative Products

Like passive use values, courts took time to recognize that lost profits from an unestablished business were compensable.²⁷² Traditionally, parties could not recover lost profits from an unestablished business.²⁷³ This was because "their amount is not susceptible of proof with any reasonable degree of certainty; hence . . . are too remote, speculative and uncertain to warrant a judgment for their loss."²⁷⁴ Modernly, however,

& Supp. 1994).

269. Jay M. Zitter, Annotation, *Measure, Elements, and Amount of Damages for Killing or Injuring Cat*, 8 A.L.R.4TH 1287 (1981 & Supp. 1993) (noting that the measure of damages held to be the intrinsic value of animal and award of mental injuries suffered proper).

270. *Corso v. Crawford Dog and Cat Hosp., Inc.*, 415 N.Y.S.2d 182 (N.Y. Civ. Ct. 1979) (holding that plaintiff could recover emotional damage from misappropriation of dog's body).

271. *Peloquin v. Calcasieu Parish Police Jury*, 367 So. 2d 1246 (La. Ct. App. 1979) (finding mental injuries for the killing of an animal a proper element of damages); see also 4 AM. JUR. 2D *Animals* §§ 146-50 (1962 & Supp. 1994) (discussing evidence required to establish damage values for pets).

272. 1 ROBERT L. DUNN, *RECOVERY OF DAMAGES FOR LOST PROFITS* § 4.1 (1992 & Supp. 1993).

273. *Fredonia Broadcasting Corp. v. RCA Corp.*, 569 F.2d 251, 259 (5th Cir. 1978).

274. *Central Coal & Coke Co. v. Hartman*, 111 F. 96, 98 (8th Cir. 1901) (citing

damages for lost profits from an unestablished business are recoverable if proven with reasonable certainty.²⁷⁵

The United States Supreme Court has established the following standard:

Where the tort itself is of such a nature as to preclude the ascertainment of the amount of damages with certainty . . . while the damages may not be determined by mere speculation or guess, *it will be enough if the evidence show[s] the extent of the damages as a matter of just and reasonable inference . . .* The wrongdoer is not entitled to complain that they cannot be measured with the exactness and precision that would be possible if the case, which he alone is responsible for making, were otherwise.²⁷⁶

The wide berth given plaintiffs when proving damages in such cases is based on public policy grounds, particularly punishment of wrongdoers.²⁷⁷ If exactness were required, defendants would often escape damages altogether.²⁷⁸ Innocent parties would recover nothing from the party who created the problem, a clearly inequitable result.²⁷⁹ To avoid this, courts have allowed plaintiffs to present either the best available proof²⁸⁰ or a reasonable basis²⁸¹ for their damages. In these cases, like CV cases, the fight is over the sufficiency of the proof.

In one case, a company breached its contract to advertise the plaintiff's new product.²⁸² Defendant argued that plaintiff's damages were too speculative,²⁸³ however, the court required only "a rational estimate of their amount."²⁸⁴

Howard v. Stillwell & Bierce Mfg. Co., 139 U.S. 199, 206 (1891)).

275. 1 *Dunn*, *supra* note 272, § 4.2.

276. *Story Parchment Co. v. Paterson Parchment Paper Co.*, 282 U.S. 555, 563 (1931) (emphasis added).

277. *See* 2 *Dunn*, *supra* note 272, § 5.2.

278. *Id.*

279. *Id.*

280. *See* *Knightsbridge Mktg. Servs., Inc. v. Promociones Y Proyectos, S.A.*, 728 F.2d 572, 575-76 (1st Cir. 1984) (including a breach of contract action). "All that is required is a reasonable basis of computation and the best evidence obtainable." *Id.*

281. *See* *McDermott v. Middle East Carpet Co.*, 811 F.2d 1422, 1427 (11th Cir. 1987) (involving a breach of contract action and applying Georgia law). "A claimant need not provide an exact dollar figure; it is sufficient if the facts provide a rational basis of computation." *Id.*

282. *Handi Caddy, Inc. v. American Home Prods. Corp.*, 557 F.2d 136 (8th Cir. 1977). Defendants had promised to advertise plaintiff's utensil for removing hot pizzas on their frozen pizza boxes and other media. *Id.* at 138.

283. *Id.*

284. *Id.* at 139. "[W]hile the general rule is that anticipated profits of a commercial business are too remote and speculative to warrant a judgment for their recovery, they may be recovered when 'they are made reasonably certain by proof of actual facts, with data for a rational estimate of their amount.'" *Id.* (quoting *Anderson v. Abernathy*, 339 S.W.2d 817, 824 (Mo. 1960)).

"In the final analysis, the question is primarily a problem of proof. Each case must rest upon the evidence adduced and it is for the trial judge in the first instance to determine whether the complaining party has produced the quantum and quality of evidence sufficient to submit the issue to a jury."²⁸⁵

The court held that damages were sufficiently established and found for the plaintiff.²⁸⁶

Notwithstanding, a developer of an "innovative and untried" frozen dinner product sued the product's distributors for breach of contract when problems caused the discontinuance of shipment after a short test period.²⁸⁷ The court held that "lost profits in this case [were] too speculative and uncertain to sustain a damage award."²⁸⁸ Because the plaintiff had not shown any means of measuring his future damages, he was limited to damages for those products already sold.²⁸⁹

These cases demonstrate the harm suffered by passive users. First, passive use losses do not lend themselves to easy quantification. Therefore, exactness in the amount of damages is not required. Second, the new products in the above cases had no track record upon which to base damages. Determinations of passive use cannot rely on market indicators to establish damages. The CV technique under the rule should be judged by the standards set forth in the above cases.

Does CV meet these standards? Certainly, policy grounds support the method. Without CV, the passive user receives no compensation, and the oil spiller escapes taking full responsibility for his actions. This is unsound public policy. Congress and NOAA, after considering a comprehensive study of CV, were willing to give its findings a rebuttable presumption of correctness.²⁹⁰ There is enough confidence in the method to warrant a reasonable inference of validity. Sampling procedures ensure that the survey will provide the proper quantum and quality of evidence upon which to base an award.

CV is the best evidence available to prove passive value. Industry representatives argued before the court in *Ohio v. Department of the Interi-*

285. *Handi Caddy*, 557 F.2d at 139; see also 22 AM. JUR. 2D *Damages* § 173 (1988) (discussing potential increases in plaintiff's income).

286. *Handi Caddy*, 557 F.2d at 139.

287. *Booker v. Ralston Purina Co.*, 699 F.2d 334, 335 (6th Cir. 1983). The product was a compact and easily portable freeze dried meal. *Id.* at 335.

288. *Id.* at 337.

289. *Id.*

290. 33 U.S.C. § 2706(e)(2) (West Supp. 1994); see also Rodriguez and Jaffe, *supra* note 8, at 5.

or,²⁹¹ that CV was far from the best available evidence because of the risk of overstatement.²⁹² The court responded: "Even as matters now stand, the risk of overestimation has not been shown to produce such egregious results as to justify judicial overruling DOI's careful estimate of the caliber and worth of CV methodology."²⁹³ The court supported DOI in its conclusion that CV methodology is a "best available procedure."²⁹⁴ Certainly, given the rebuttable presumption, CV will provide a rational basis for damage calculation as well.

D. Damages for Loss of Enjoyment of Life and Wrongful Death

Recall that passive value includes the knowledge that the natural resource is available for enjoyment by family and friends.²⁹⁵ When oil is spilled, the enjoyment of others is diminished, and the passive user should be compensated for that loss. Of course, loss of enjoyment of life has a much more personal and often tragic impact on an individual's family than passive losses.²⁹⁶ Loss of enjoyment of life damages are awarded when the individual is still alive but suffers from the injury. Wrongful death is awarded when an individual is killed as a result of the injury. There are enough similarities between valuation of these losses and passive loss to warrant comparison.²⁹⁷

"The most troubling issue concerning loss of enjoyment injuries is the difficulty in translating those losses into monetary equivalents."²⁹⁸ Passive value suffers from the same troubling difficulty. Because of the measurement problem the courts are liberal in allowing plaintiff's counsel to prove up damages.²⁹⁹

291. 880 F.2d 432 (D.C. Cir. 1989). Industry also argued that CV was not the "best available alternative" for various other reasons, which the court rejected. *Id.* at 477-78.

292. *Id.* "The simple and obvious safeguard against overstatement, however, is more sophisticated questioning." *Id.* at 478.

293. *Id.* (footnotes omitted).

294. *Id.*

295. *See supra* note 35 and accompanying text.

296. Loss of enjoyment of life cases involve very serious physical and mental injuries. Passive losses are not the equivalent of these terrible personal tragedies. The only comparison made is with the *method* of damage assessment.

297. 2 MINZER ET AL., *supra* note 251, § 8.20 (1991). "Although conceding the inherent uncertainty, the courts have analogized the situation to that routinely faced by triers of fact asked to assess awards for pain and suffering, mental anguish, or other intangible elements of damage." *Id.* *See* McDonald v. Federal Lab., Inc., 724 F.2d 243, 246-47 (1st Cir. 1984) ("Placing a value on human suffering is always a subjective enterprise . . .").

298. 2 MINZER ET AL., *supra* note 251, at § 8.20.

299.

And when . . . the amount of damages can not be estimated with certainty,

In *Sherrod v. Berry*,³⁰⁰ the court allowed an economist to testify as to the value of human life.³⁰¹ The expert defined the element he measured as "the larger value of life, the life at the pleasure of society"³⁰² The court reasoned that difficulty in measuring does not make damages speculative.³⁰³ Rather, "if it is uncertain whether the defendant caused the damages, or whether the damages proved flowed from his act, there may be no recovery of such uncertain damages; whereas, uncertainty which affects merely the measure or extent of the injury suffered does not bar a recovery."³⁰⁴ In affirming the district court's decision to allow the testimony, the court of appeals stated that "[t]he testimony . . . was invaluable to the jury in enabling it to perform its function of determining the most accurate and probable estimate of the damages"³⁰⁵

CV critics may cite the case of *Mercado v. Ahmed*³⁰⁶ as supporting their position that CV should not be relied on to assess damages. In the case, a kindergarten age boy was hit by a taxi cab in a parking lot.³⁰⁷ He suffered mental and emotional trauma which required life long psychotherapy, and as a result would never be able to hold down a job.³⁰⁸ The plaintiff wanted to produce the expert testimony of an economist who evaluated surveys of people's WTP to reduce health and safety risks. The

or only a part of them can be so estimated, we can see no objection to placing before the jury all the facts and circumstances of the case, having any tendency to show damages, or their probable amount; so as to enable them to make the most intelligible and probable estimate which the nature of the case will permit.

Pierce v. New York Cent. R.R., 409 F.2d 1392, 1398 (6th Cir. 1969).

300. 629 F. Supp. 159 (N.D. Ill. 1985), *aff'd*, 827 F.2d 195 (7th Cir. 1987).

301. *Id.* The case involved the tragic killing of a black young man (Serrod) by a police officer (Berry). *Id.* at 162. The victim was working in a garage when a man approached and asked him if Serrod could help start his car a couple of blocks away. *Id.* at 161. Unknown to Serrod, the man had just committed a burglary. *Id.* Police officer Berry approached the two young men and held a gun to Serrod's temple. *Id.* When he reached for his drivers license, the officer pulled the trigger, killing him instantly. *Sherrod*, 629 F. Supp. at 161 The victim's father sued for wrongful death. *Id.* at 162.

302. *Id.* at 163. The expert estimated the value of a human life to be between 3 and 30 times "economic productive income." *Id.* at 162.

303. *Id.* at 164. This should be contrasted with CV critics arguments that CV is inherently flawed and, therefore, the damages are speculative. See *supra* notes 80-109.

304. *Id.* at 164.

305. *Sherrod v. Berry*, 827 F.2d 195, 206 (7th Cir. 1987)

306. 756 F. Supp. 1097 (N.D. Ill. 1991), *aff'd*, 974 F.2d 863 (7th Cir. 1992).

307. *Id.* at 1102.

308. *Id.*

expert's conclusion was to be offered as to the theoretical value of loss of enjoyment of life.³⁰⁹

The expert used surveys indirectly to establish damages.³¹⁰ No one was ever asked directly what value they place on one's enjoyment of life. Instead, the expert analyzed seventy-five studies conducted by others.³¹¹ Analyzing these surveys, he concluded that the monetary equivalent of enjoyment of life for the average person was \$2.3 million in 1988 dollars.³¹² To this figure the expert applied the diminution of the boy's enjoyment of life, according to psychologists, and arrived at damages between \$2.2 million and \$2.7 million in 1992 dollars.³¹³

The court reasoned that:

[A] survey of attitudes and views of others as a basis for concluding something is true is not necessarily wrong What is wrong here is not that the evidence is founded on consensus or agreement, it is that the consensus is that of persons who are no more expert than are jurors on the value of life.³¹⁴

Because there was no "expert consensus supporting [his] methodology" and because the testimony relied on "nothing more than analyzing the behavior of non-experts," the court concluded that the evidence was not helpful to the jury.³¹⁵ The court excluded the testimony because the expert was "no more expert in valuing life than the average person."³¹⁶ The court favored a valuation of life established by the average person.

CV methodology is clearly distinguishable from the rejected method in the above case.³¹⁷ The most important distinction is that CV surveys are designed to directly elicit WTP. There is no intermediate step, and CV does not rely on experts. In fact, NOAA made every effort to ensure that the experts designing the survey would have little opportunity to influence the results. Instead, CV relies on the opinion of the average person. While an expert may be needed to explain the method, the respondents give the value, not the expert.

309. *Mercado*, 974 F.2d 863, 871 (7th Cir. 1992).

310. *Id.* at 869.

311. *Id.* The studies fell into three categories. First, studies measured the WTP for increased safety through the purchase of seat belts and smoke alarms. *Id.* Second, studies analyzed the premium paid to those in high risk professions. *Id.* Finally, the expert analyzed cost/benefit studies conducted by the government to determine the impact of safety regulations. *Id.*

312. *Id.*

313. *Id.*

314. *Id.* at 869.

315. *Id.*; see also FED. R. EVID 702.

316. *Mercado*, 974 F.2d at 871.

317. See Part IV, *supra* for a detailed discussion of the Contingent Valuation Method.

What lessons do these cases teach us about passive use and CV methodology? First, they teach us that noneconomic elements are important to the proper compensation of an injured party. The formula derived from the aforementioned cases is as follows: individuals total value = economic value + enjoyment of life value. To ignore noneconomic factors results in underestimation of a human life. Similarly, the environmental formula is given as: total value = use value + passive value.³¹⁸ To ignore passive value is to undercompensate the public for its environmental injury. A trustee would be neglecting his duty if he did so.³¹⁹

Second, the difficulty in measuring damages should not bar recovery. Although it is difficult to measure passive use damages by CV, these cases show us that it is well worth the effort. With an oil spill, the responsible party will most often be easily identifiable. There is usually little uncertainty that the defendant caused the harm. Any uncertainty flowing from CV, merely a measure of the injury caused, would not bar recovery. Conversely, the CV study should be presented because it has, at the very least, some tendency to prove damages. Given the complex nature of an oil spill, this information is invaluable to the trier of fact in making a well informed decision.

E. Any Flaws in the Methodology Are Outweighed by the Value CV Has in Protecting the Environment

The panel was persuaded that CV studies have a tendency to overstate WTP.³²⁰ Opponents argue that this flaw outweighs any possible benefits which the environment may receive from CV. The supporters of the CV method contend that this tendency is acceptable because of its prophylactic effect.

The critics' arguments are primarily economic. Critics argue that the cost of prevention and cleanup already acts as a deterrent.³²¹ According-

318. MITCHELL & CARSON, *supra* note 29, at 68.

319. See *Ohio v. United States Dep't of the Interior*, 880 F.2d 432, 464 (D.C. Cir. 1989). "Option and existence values may represent 'passive' use, but they nonetheless reflect utility derived by humans from a resource, and thus, *prima facie*, ought to be included in a damage assessment." *Id.*

320. NOAA Report, *supra* note 17, at 4610.

321.

Take the EXXON VALDEZ spill in Prince William Sound. Exxon spent over \$2.5 billion on cleanup of the spill, and paid another \$300 million in traditional damages claims to fishermen and others Can it be seriously argued that a businessman today, looking at this enormous expenditure of

ly, the critics argue that values established by CV will overburden the resources that industry may devote to environmental cleanup.³²² Further, critics contend that CV will create administrative and litigation burdens that far exceed any benefits.³²³ Finally, oil companies in particular are concerned that insurance costs will increase.³²⁴

Still other critics argue that CV is so biased as to be punitive.³²⁵ One commenter even said that CV and passive use

could well cost the U.S. economy hundreds of millions of dollars This could result in reduction of the number of competitors in the transportation industry, including bankruptcy of some responsible parties. Industry concentration could follow which, in turn, could lead to higher freight rates and unnecessary costs borne by U.S. oil consumers.³²⁶

In light of the legislative history behind the Oil Pollution Act of 1990, these opponents' arguments should and will fall on deaf ears. In passing the Act, Congress expressed dissatisfaction with the ability of industry and government to respond to the Exxon Valdez spill.³²⁷ Consequently, the focus of the legislation became *preventing* oil spills rather than containment and clean-up.³²⁸ Congress made it clear that the measurement of damage should include diminution of use and other values.³²⁹ NOAA was instructed by Congress to "adopt advanced techniques to assess damages"³³⁰ The Senate concluded, "At the present time, the costs of spilling and paying for its clean-up and damage is not high enough to encourage greater industry efforts to prevent spills. . . . Sound public policy requires reversal of these relative costs."³³¹

funds, would not have all the incentives he would need to avoid a similar accident in the future?

Cross, *supra*, note 29, at 342 (quoting John F. Daum, *Some Legal and Regulatory Aspects of Contingent Valuation*, in *CONTINGENT VALUATION: A CRITICAL ASSESSMENT* 389, 405 (Jerry A. Hausman ed., 1993)).

322. See *NOAA Report*, *supra* note 17, at 4604.

323. *Silly Question*, *supra* note 42, at 1992.

324. "At the least, the legal exposure [from CV] would raise insurance premiums, . . . and the risk might well render it impossible for some industries to obtain insurance." Passell, *supra* note 14 (quoting a petroleum institute executive).

325. *DOC Report*, *supra* note 5, at 1156.

326. *Id.* at 1157.

327. S. REP. NO. 94, 101st Cong., 2d Sess. 2 (1989), *reprinted in* 1990 U.S.C.C.A.N. 722, 723-24. "The disaster . . . was exacerbated greatly by an unreasonably slow, confused and inadequate response by industry and government that failed miserably in containing the spill and preventing damage." *Id.*

328. *Id.* at 3 (1989), *reprinted in* 1990 U.S.C.C.A.N. 722, 724.

329. *Id.* at 15 (1989), *reprinted in* 1990 U.S.C.C.A.N. 722, 736.

330. *Id.* at 737.

331. S. REP. NO. 94, 101st Cong., 2d Sess. 3 (1989), *reprinted in* 1990 U.S.C.C.A.N. 722, 724.

CV methodology meets this congressional mandate. CV is a powerful tool because it is the only viable means of measuring passive values.³³² Therefore, if oil companies can discredit the CV method, they can eliminate passive use from their damages. Even a completely accurate CV study would increase total damages because the award would reflect passive use. Without increased damages, the oil companies would not be motivated to change the status quo.³³³ On the other hand, as CV gains acceptance, so do passive use damages resulting in higher total damages. Faced with a larger damage award, it becomes more economical for the oil companies to devote more resources to prevention.

Furthermore, NOAA alleviated the tendency to overstate damage awards by implementing safeguards. The value determined by the survey is only a starting point,³³⁴ and is subject to calibration.³³⁵ The survey must be constructed and administered in the very specific manner set forth in the regulations.³³⁶ The environmental trustee will secure the benefit of a rebuttable presumption only if he follows these safeguards.³³⁷

Therefore, contingent valuation accomplishes the goals of the Oil Pollution Act of 1990.

VI. IMPACT OF NOAA'S REGULATION

A. *The Future of Contingent Valuation*

What is the impact of NOAA's adoption of the CV method on the method itself? In the future, CV studies will become more reliable. The panel recommends extensive research to improve the CV method.³³⁸ The idea with the most promise is one which compares CV instruments against

332. *DOC Report, supra* note 5, at 1157.

333. NOAA agrees, "OPA's incentives to avoid environmental injuries are dependent upon knowing what the potential liability from discharges is likely to be. Without the availability of CV as an assessment tool, that full potential liability cannot be estimated." *DOC Report, supra* note 5, at 1152.

334. *See generally* Denis Swords, Note, *Ohio v. United States Department of the Interior: A Contingent Step Forward for Environmentalists*, 51 *LA. L. REV.* 1347 (1991).

335. *See supra* notes 191-94 and accompanying text.

336. *See supra* notes 178-81 and accompanying text.

337. *See* 33 U.S.C. § 2706(e) (Supp. IV 1992). *See supra* note 177 and accompanying text.

338. *NOAA Report, supra* note 17, at 4609-11.

standard results for reliability.³³⁹ As this research is conducted, the approach will gain more recognition.

As CV gains acceptance in environmental litigation, its use will be expanded in other situations. For example, the CV method could be used to establish the value of "local public goods" such as museums, libraries and parks.³⁴⁰ CV studies could also explore the public's preference for the method used to pay for public goods.³⁴¹

B. Impact on the Players and the Environment

How will this increased use of CV impact the players in an oil spill? Will it have a positive impact on the environment?

Oil companies are threatened by the new regulation, because of potentially higher damage awards. To counter the perceived public bias against oil, we are likely to see more public relations campaigns which emphasize the preventative measures taken. The theory is to temper a potential CV respondent's WTP figure by showing an industry's prevention measures.³⁴² If the pressure results in implementation of such safeguards, then CV will accomplish its intended effect because the environment receives greater protection from future oil spills.

Perhaps the industry will develop an alternative and more accurate measure of passive value. Right now, however, "[t]he most elementary conceptions of justice and public policy require that the wrongdoer shall bear the risk of the uncertainty which his own wrong has created."³⁴³ Therefore, the oil companies should accept CV in its present form.

The environmentalists have won a qualified victory. Certainly the establishment of precise CV guidelines will make the awarding of passive damages more likely. These groups should find ways to lower the cost of CV, such as increasing the reliability of telephone instead of in-person interviews. Thereby, environmentalists may achieve their goals of deterrence and protection.

However, even with such improvements, the trustee will still have tremendous discretion to determine compensable values. Accordingly,

339. *Id.* at 4609.

340. MITCHELL & CARSON, *supra* note 29, at 303. These types of goods lend themselves to the referendum format CV study because that is exactly the means by which these projects are actually approved.

341. *Id.* at 304. For example, a CV study could be used to determine whether people would prefer a one time fee increase or a percentage increase in the sales tax that will be paid over time.

342. For example, television commercials showing the use of double hulled ships and pointing to the establishment of wildlife preserves could be utilized.

343. *Bigelow v. RKO Radio Pictures, Inc.*, 327 U.S. 251, 265 (1946) (citing *Package Closure Corp. v. Sealright Co.*, 141 F.2d 972, 979 (2d Cir. 1944)).

the environmentalists' energies will likely be devoted to persuading trustees that the benefits of CV surveys outweigh their cost.³⁴⁴ With the majority of damage coming from spills of a small magnitude,³⁴⁵ this is a difficult task. On the whole, however, the environmentalists should be pleased with CV's newfound official respectability.

Other federal agencies are likely to approve use of CV for their damage assessment.³⁴⁶ Given the scrutiny that CV has endured, it is likely that other agencies will adopt it. For example, the EPA Science Advisory Board Panel is evaluating use of CV in many regulatory areas of the agency.³⁴⁷ Certainly, a uniform damage assessment framework would be preferred, thereby enhancing government response to disasters. A coordinated effort, instead of a haphazard response, will lead to better environmental protection in the future.³⁴⁸

States are also likely to use CV more frequently. Congress specifically gave the states greater latitude in developing their programs by stating that The Oil Pollution Act of 1990 "is designed to provide basic protection for the environment and victims damaged by spills of oil. Any State wishing to impose a greater degree of protection for its own resources

344. "Trustees might best substantiate their claims for lost nonuse values—particularly as they relate to persons who do not directly use the injured resource—by demonstrating irreversible, or very long-lasting, adverse impacts to unique, widely-recognized natural resources." 56 Fed. Reg. 19752, 19760 (1991) (to be codified at 43 C.F.R. pt. 11) (proposed Apr. 29, 1991).

345. For example, in Prince William Sound prior to 1988, over 400 spills resulted in the leakage of only 200 barrels of oil. However, underestimation of the chances of catastrophe led to increasingly larger spills, culminating in the Exxon Valdez. The area was ill-prepared to handle such a large outpouring of oil. Accordingly, those involved should strive to prevent history from repeating itself. Satchell and Carpenter, *supra* note 7, at 5.

346. For example, the Fish and Wildlife service stated that "[c]ontingent valuation is particularly appropriate for comparing benefits and costs of a proposed wildlife preservation program. The reason is that the decision is made in the present based on expectations about the future." Endangered and Threatened Wildlife and Plants; Determination of Critical Habitat for the Northern Spotted Owl, 57 Fed. Reg. 1796-01, 1832 (1992) (to be codified at 50 C.F.R. pt. 17).

347. *Hazardous Waste, SAB Panel Discusses Final Revisions to Report on Contingent Valuation*, [1993] Daily Rep. for Executives (BNA) § A, at 184 (Sept. 24, 1993).

348. "What the Nation needs is a package of complementary international, national, and State laws that will adequately compensate victims of oil spills, provide quick, efficient cleanup, minimize damage to fisheries, wildlife and other natural resources and internalize those costs within the oil industry and its transportation sector." S. REP. NO. 94, 101st Cong., 2d Sess. 2 (1989), *reprinted in* 1990 U.S.C.C.A.N. 722, 723.

and citizens is entitled to do so.³⁴⁹ The states may be more stringent in implementing such protections because most do not have the diversity of ecosystems. For example, the states could make measurement of passive use value mandatory instead of discretionary.

The public, as the passive user, is the clear winner. The public's concerns were the controversial focus of the rulemaking process. Their needs are now at the forefront of the debate over protection of the environment. As a result, we all have a more powerful voice in protecting our world. No future environmental law will be passed without considering the impact on the passive user.

VII. CONCLUSION

"It is the clear duty of Government, which is the trustee for unborn generations as well as for its present citizens, to watch over, and if need be, by legislative enactment, to defend, the exhaustible natural resources of the country from rash and reckless spoilation."³⁵⁰ Certainly, oil spills are rash and reckless spoilation of natural resources. NOAA and Congress have acted to fulfill their duty with the Oil Pollution Act of 1990.

Passive users are an important force in environmental protection. Although they may never actually use an area, passive users are actually damaged by an oil spill in that area. Their damages must be accounted for and compensated. "Whatever God has given to everyone with life for its growth and enjoyment"³⁵¹ must be defended.

A reliable contingent valuation study is a valuable weapon for this defense. Contingent valuation under the rules is scientifically valid and legally supported by comparison with damage awards in other contexts. It is a cost effective method for environmental protection. Research and increased use will enhance contingent valuation's reliability and acceptance. Contingent valuation, as proposed by NOAA, should be accepted by courts and used by environmental trustees, to quantify passive value. Passive value should be assessed against the polluter in order to completely compensate the public and fully protect the environment.

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349. *Id.* at 6, reprinted in 1990 U.S.C.C.A.N. 722, 728.

350. Krutilla, *supra* note 26, at 777 (quoting A.C. Pigou).

351. *Munn v. Illinois*, 94 U.S. 113, 142 (1876) (Field, J., dissenting).