It May Be Silly, but It's an Answer: The Need to Accept Contingent Valuation Methodology in Natural Resource Damage Assessments

Miriam Montesinos

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http://dx.doi.org/https://doi.org/10.15779/Z386J9W

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It May Be Silly, But It's An Answer: The Need To Accept Contingent Valuation Methodology In Natural Resource Damage Assessments

Miriam Montesinos*

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INTRODUCTION

Your phone rings. The person on the other end describes the coastline of Half Moon Bay, California. You are familiar with the area since you frequent its beaches on weekends. The caller asks how much you would be willing to pay to institute a program that would reduce the risk of an oil spill harming the coastline. Or maybe she asks how much you would be willing to pay to clean up the coastline should such an oil spill occur.¹ Do you know what to say? Probably not, having never given the issue any thought. Yet you might feel compelled to answer—because you want to preserve the coastline, or to express your support for environmental protection, or simply to make the person on the other end happy. Therefore, after an inexplicable thought process during which your brain simultaneously considers multiple factors, you blurt out a dollar figure. The question is: how realistic is that figure? Would you still be comfortable with your answer if you knew it would be combined with other answers to determine how much a polluter would pay? Maybe you would like it to be lower. Maybe higher. Nevertheless the figure is noted, and an economic expert then uses it to calculate the damages that a government agency will claim against a polluter in such a case.

Seem silly? Perhaps. Nevertheless, these hypothetical surveys, known as contingent valuation methodology (CVM or CV),² are one of the procedures adopted by many federal agencies as part of the natural resource damage (NRD) assessment process required under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CVM arose from the need to translate the total injury to natural resources, such as shorelines, parks, and forests, into a quantifiable dollar value that includes the full loss humans experience from physical injury to the resources.³ The problem with placing values on natu-

¹. This scene was set months prior to the actual oil spill near Half Moon Bay that occurred on September 27, 1998. See Julie N. Lynem, Coast Guard Links Ship to Oil Spill in Bay Area, S.F. CHRON., Oct. 9, 1998, at A21.
². CVM derives its name from the fact that survey respondents' values of the improvements are contingent upon the hypothetical market described. See Christine M. Augustyniak, Economic Valuation of Services Provided by Natural Resources: Putting a Price on the "Priceless," 45 BAYLOR L. REV. 389, 399 (1993).
ral resources is that natural resources are not market commodities and therefore do not have market prices. In addition, valuation of natural resource damages is complicated because natural resources provide both use and nonuse services.

Use values are not the issue. These values, which humans derive from using resources, such as for hiking, swimming, or camping, can easily be measured through market-based methods like fees paid for use of the natural resource. The problem lies with nonuse values, which are meant to complement use values and are derived from the value humans place on resources even if they do not use them. For instance, a person may value the possibility of using a resource in the future (option value), preserving it for posterity (bequest value), or simply knowing that the resource exists (existence value).

Currently, CVM is the only method available to directly

4. See Augustyniak, supra note 2, at 391.
5. "Use value" is defined in the Department of Interior's natural resource damage assessment regulations as: "The value of the resources to the public attributable to the direct use of the services provided by the natural resources." 43 C.F.R. § 11.83(c)(1)(ii) (1996).
8. Some analyses include option value as a category of use value rather than nonuse. See, e.g., Duane Woodard & Michael R. Hope, Natural Resource Damage Litigation Under the Comprehensive Environmental Response, Compensation, and Liability Act, 14 HARv. ENVTL. L. REV. 189, 200 (1990). For purposes of this Comment, however, option values will be considered nonuse values.
9. See MITCHELL & CARSON, supra note 3, at 65. See generally Diamond & Hausman, supra note 6, at 6-7.
10. See Woodard & Hope, supra note 8, at 200.
12. NRDs may be measured through either direct or indirect methods. CVM is a direct method of assessment, meaning it "seek[s] to ascertain estimates of economic damages directly through the interview process." indirect methods obtain estimates by "utilizing[ ] assumptions of optimizing behavior to organize observations on behavior and to deduce measures of economic well-being." Kenneth E. McConnell, Indirect Methods for Assessing Natural Resource Damages Under CERCLA, in VALUING NATURAL ASSETS 153, 153-54 (Raymond J. Kopp & V. Kerry Smith eds., 1993) [hereinafter VALUING NATURAL ASSETS]. Some opponents of CVM argue that indirect methods should be used for NRD assessments instead of CVM. See, e.g., John F. Daum, Some Legal and Regulatory Aspects of Contingent Valuation, in CONTINGENT VALUATION, supra note 6, at 389, 400-403 (contending that NRD assessments should use indirect methods, such as seeing how much money people contribute to environmental or-
measure nonuse values. As depicted in the opening scenario, CVM determines people’s preferences by asking a representative cross-section of the public familiar with the resource the amount they would be willing to pay (WTP) for specified improvements to the public good. Typically, the survey consists of three parts. First, the surveyor provides a brief description of the resource being valued, creates a hypothetical market, and then describes the method of payment to be used for buying improvements—such as a tax or an increase in prices. The second part of the

ganizations, examining the decisions people make that affect environmental resources, or using techniques that rely on observed behavior, such as the travel-cost method and the hedonic pricing method).

These indirect measurement alternatives, however, are problematic. See MITCHELL & CARSON, supra note 3, at 78-81. For example, “[t]avel cost studies . . . apply only if travel is a large factor in access to the resource.” Frederick R. Anderson, Natural Resource Damages, Superfund, and the Courts, in VALUING NATURAL ASSETS, supra, at 54. Moreover, “the alternatives to contingent valuation all share a common flaw—they infer a market where no market exists.” Judith Robinson, The Role of Nonuse Values in Natural Resource Damages: Past, Present, and Future, 75 TEX. L. REV. 189, 210 (1996); see also MITCHELL & CARSON, supra note 3, at 78-81. Meanwhile, while CVM is also problematic, its criticisms “are not fatal” since many of the potential flaws may be avoided with well-designed surveys. Robinson, The Role of Nonuse Values in Natural Resource Damages, supra. Furthermore, Dol has recognized CVM’s direct method of measurement as “[t]he only method available for the express purpose of estimating lost nonuse value.” Natural Resource Damage Assessments, 59 Fed. Reg. 52,749, 52,751 (1994) (proposed Oct. 19, 1994). Consequently, this Comment will focus only on CVM’s direct method of nonuse value measurement.

Seemingly the more precise means of valuation would focus on respondents’ willingness to accept (WTA) compensation in exchange for allowing the injury to occur since most natural resources are part of the public trust and therefore “owned” by respondents. See Jeffrey C. Dobbins, The Pain and Suffering of Environmental Loss: Using Contingent Valuation to Estimate Nonuse Damages, 43 DUKE L.J. 879, 919 (1994). However, the tendency of WTA to produce unrealistically high estimates has led to the acceptance of WTP as the preferred valuation method. See R.G. CUMMINGS ET AL., VALUING ENVIRONMENTAL GOODS: AN ASSESSMENT OF THE CONTINGENT VALUATION METHOD 35-36, 44 (1986); see also MITCHELL & CARSON, supra note 3, at 17-18 (noting WTA yields much larger estimates than WTP and therefore WTP is the correct measure). But see Dobbins, supra, at 920 (stating that “[t]here is no economic reason that WTA should not be used.”).

Preferably a CVM survey is conducted in person, although cost considerations often result in less expensive telephone interviews or mail surveys. See MITCHELL & CARSON, supra note 3, at 110.

For an example of an actual survey, see William H. Desvousges et al., Measuring Natural Resource Damages With Contingent Valuation: Tests of Validity and Reliability, in CONTINGENT VALUATION, supra note 6, at 91, 117-26. This 1989 survey, “Protecting Duck and Geese: What Is Your Opinion?” measured respondents’ WTP to protect migratory waterfowl from drowning in waste-oil holding ponds. Three different versions of the survey were conducted: one depicted 20,000 migratory waterfowl drowning; another depicted 2,000 waterfowl drowning; and the third version depicted 200,000 drowning. After providing a brief
survey includes questions aimed at determining the survey respondent's WTP.\textsuperscript{16} Finally the surveyor asks questions on the respondent's demographic characteristics.\textsuperscript{17} After all the surveys have been conducted, WTP responses are extrapolated to the public at large and an amount is calculated which determines total damages—the cost to the public of destroying the resource.\textsuperscript{18} This estimate is then presented to the potentially responsible party (PRP)\textsuperscript{19} and, hopefully, the parties involved reach a settlement agreement.

CVM's unique solution for assessing the full value of natural resources has led to the acceptance of CVM by government agencies as a means of evaluating NRDs. The incorporation of this hypothetical methodology into environmental litigation, however, instantly became the focus of a hot economic\textsuperscript{20} and legal\textsuperscript{21} debate

background introduction, respondents participating in the 20,000 bird version were asked questions such as:

1. How many times in the past 6 months have you heard or read about issues involving migratory waterfowl?
2. Is protecting migratory waterfowl important to you?
3. How would you rate your knowledge of the following threats to migratory waterfowl in the Central Flyway?
4. What is the most that your household would agree to pay each year in higher prices for wire-net covers to prevent about 20,000 migratory waterfowl from dying each year in waste-oil holding ponds in the Central Flyway?

10. What is your AGE category?
11. What is the highest level of EDUCATION you have completed?
12. What is your sex?
13. Which of the following [RACE] categories best describes you?
14. Please circle the category below that describes the total amount of INCOME earned by the people in your household in 1990.
15. How many people live in your household?
16. Please indicate if anyone in your household is currently a member of any of the following [ENVIRONMENTAL] organizations.

\textit{Id.}

16. See \textsc{Mitchell} \\& \textsc{Carson}, supra note 3, at 3.
17. See \textit{id}.
18. See \textsc{Woodard} \\& \textsc{Hope}, supra note 8, at 201.
19. See 43 C.F.R. § 11.91(a) (1996) (Stating that "[a]t the conclusion of the assessment, the authorized official must present to the potentially responsible party a demand in writing for the damages determined in accordance with this part and the reasonable cost of the assessment."). \textit{See also} CERCLA § 107(a) (1980), 42 U.S.C. § 9607(a) (1980) (liability); 43 C.F.R. § 11.14 (1996) (defining "potentially responsible parties").
20. See generally \textsc{Contingent Valuation}, supra note 6 (collecting critical essays on CVM funded by Exxon Company, U.S.A., after the Exxon Valdez incident and pre-
that continues to date. Critics of CVM contend that the methodology is riddled with flaws and therefore produces uncertain results. They claim that problems created by using such uncertain assessments are greater than the threat posed by ignoring non-use values; therefore, CVM should be barred from the assessment process.\textsuperscript{22} Meanwhile, proponents argue the assessments are not as uncertain as critics claim and urge that CVM is necessary to ensure full compensation of the public since it includes nonuse values. The problem with the debate is that both sides have focused too narrowly on CVM's possible flaws. As a result, critics fail to see that, as silly as it may seem, the use of CVM surveys in NRD litigation may actually benefit PRPs.

This Note will explore how using CVM in NRD assessments under CERCLA\textsuperscript{23} actually results in more good than harm for PRPs. Part I discusses the CERCLA provisions that established CVM as part of the NRD assessment process. Part II addresses the challenges subsequently brought against the these provisions in \textit{Ohio v. United States Department of the Interior}.\textsuperscript{24} To further illustrate the controversies surrounding CVM, Part III outlines criticisms raised against the methodology, and Part IV presents the counter-arguments raised by CVM supporters. Part V argues that the use of CVM data in litigation actually benefits defendants in NRD actions by pulling the reins on what might otherwise be a runaway jury. Finally, the Note concludes that until a superior method for nonuse value assessment is developed, CVM should be accepted and this ongoing debate needs to end.


\textsuperscript{24} 880 F.2d 432, 440 (D.C. Cir. 1989).
A. The Enactment of CERCLA

In December 1980, partly in response to New York's tragedy at Love Canal, 25 Congress passed CERCLA. 26 The goals of the Act were to provide expedient and comprehensive cleanup of contaminated sites and to establish a means of compensating the public for injuries to natural resources. Congress intended for PRPs to bear the financial burden of these measures by making them liable for both the cleanup and damages. 27

The NRD provisions of CERCLA built upon the traditional approach of the common-law public trust doctrine. 28 CERCLA provided that either the President or an "authorized representative of any State" was to "act on behalf of the public as trustee . . . to recover . . . [natural resource] damages." 29 As trustee, the government agency was to hold responsible parties liable "for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss . . . ." 30 Natural resources were broadly defined to include "land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States . . ., [or] any State or local government . . . ." 31 Although payments recovered by the trustee could only be used "to restore, rehabilitate, or acquire the equivalent of" the injured natural resources, 32 the "measure of damages . . . [was] not [to]
be limited by the sums which [could] be used to restore or replace such resources.\textsuperscript{33}

In addition, the 1980 Act created a rebuttable presumption in favor of the federal trustees' assessments of NRDs made in accordance with the implementing regulations.\textsuperscript{34} The creation of this rebuttable presumption meant that a jury determining a damage award might have to accept the government's estimate, rather than arrive at its own figure or accept the defendant's estimate.\textsuperscript{35}

Unfortunately, CERCLA failed to provide a mechanism for assessing the value of natural resources. Instead, it directed the President to promulgate valuation regulations no later than two years after its enactment.\textsuperscript{36} Two types of regulations were to be promulgated: "(A) standard procedures for simplified assessments requiring minimal field observation" (Type A rule), and "(B) alternative protocols for conducting assessments in individual cases to determine the type and extent of short- and long-term injury, destruction, or loss" (Type B rule).\textsuperscript{37} Type B regulations were to "identify the best available procedures to determine such damages, including both direct and indirect injury, destruction, or loss and . . . [to] take into consideration factors including, but not limited to, replacement value, use value, and ability of the ecosystem or resource to recover."\textsuperscript{38}

In 1982, President Reagan delegated the responsibility to promulgate these regulations to the Department of the Interior
"[DOI's] response to its assigned task ... was, to put it charitably, relaxed." DOI issued an advance notice of proposed rulemaking in January 1983 requesting public comments on how to approach the regulations, a second advance notice seven months later summarizing the comments received on the first notice, and a notice in January 1985 inviting more public comments and suggesting meetings with the interested public. After several lawsuits were brought against DOI for failing to promulgate the regulations, a proposed rule setting out the anticipated regulations finally issued in December 1985. DOI then extended the comment period from forty-five to sixty days. DOI finally issued the first set of valuation rules in August 1986—three years past CERCLA's original two year deadline.

B. The DOI Regulations

When the long awaited final valuation regulations were finally issued in 1986, they only addressed Type B assessments. Type B assessments were to be used in circumstances which raised complex individual issues, concerned inland areas, or necessitated that trustees perform field work in order to identify the

39. See Exec. Order No. 12,316, 3 C.F.R. 168 (1982), reprinted as amended in 42 U.S.C. § 9615 (1994). Note that Congress expected that damage regulations would be promulgated by the EPA, the Fish and Wildlife Service, and the National Oceanic and Atmospheric Administration, in cooperation with state governments. Much to Congress’ surprise, however, President Reagan delegated the responsibility to DOI instead. See Woodard & Hope, supra note 8, at 206.


44. See New Jersey et al. v. Ruckelshaus No. 84-1668 (D.N.J. 1984), aff’d sub nom. New Jersey v. Thomas, 782 F.2d 1031 (3d Cir. 1986). A consent order was subsequently entered on February 5, 1985, in which the Secretary of the Interior agreed, inter alia, to commence action to promulgate Type A regulations by August 7, 1986, and Type B regulations by April 22, 1986. See New Jersey et al. v. Ruckelshaus No 84-1668 (D.N.J. Feb. 5, 1985) (consent order). For additional details on this unreported consent decree, see the preamble of the DOI's regulations. 51 Fed. Reg. 27,674-75 (1986). The court later extended these deadlines; Type A regulations were due by February 4, 1987, and Type B regulations by June 23, 1986. See 51 Fed. Reg. 5,376 (1986).
47. See 43 C.F.R. §§ 11.60-.84 (1986). DOI also promulgated a limited Type A rule in March 1987, 43 C.F.R. §§ 11.40-.41 (1987); however, since CVM assessment of nonuse values is addressed under the Type B regulations, this Note will not discuss Type A regulations.
injury and assess the damage. The regulations outlined a Type B assessment process consisting of six phases:

a) pre-assessment screening, during which the trustee determines if she may bring an action and if the injury is significant enough to warrant continuation of the damage assessment;

b) assessment plan preparation, in which the trustee identifies the methodologies she will be applying in the assessment and the recovery she will seek;

c) injury determination, during which the trustee establishes that a natural resource has been injured and the injury will remain after cleanup;

d) quantification, where the trustee establishes the extent of the injury in terms of the service provided by the resource to humans and other organisms;

e) damages determination, where the trustee establishes a dollar figure for the injury; and,

f) post-assessment, where the trustee prepares a report stating the steps she took in the assessment process, and presenting the final monetary figure as a demand for payment of damages to the PRP.

As part of its responsibility, DOI also had to identify the "best available procedures to determine such damages." After extensively reviewing valuation literature, DOI adopted CVM for determining both use and nonuse values. In so doing, DOI became the first governmental entity to accept CVM as a valid tool in assessing liability.

Nevertheless, DOI strictly limited the use of CVM. Since CERCLA defined damages as "the lesser of: restoration or replacement costs; or diminution of use values," CVM could only be used if the lost use values were less than the restoration cost of the natural resource. Moreover, under the established man-

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48. See 2 Topol & Snow, supra note 23, § 9.7(B).
50. CERCLA § 301(c)(2), 42 U.S.C. § 9651(c)(2) (1980).
52. See "Ask a Silly Question . . . ," supra note 21, at 1983.
54. See "Ask a Silly Question . . . ," supra note 21, at 1983. Nevertheless, it must be noted that in the majority of cases lost use values are less than restoration costs; therefore, the effective result of this provision was to allow for the measurement of damages through lost use value methodologies. See Robinson, supra note 12, at 200.
datory hierarchy of valuation methodologies, diminution in mar-
ket value would be used for assessing damages where the market 
for the resource was "reasonably competitive." If no such market 
estisted, DOI required that an appraisal methodology be used. 
Therefore, only when neither the market nor appraisal method-
ologies were available could a trustee use a nonmarket method-
ology such as CVM. Finally, nonmarket methodologies were 
55 further limited to only those instances where a trustee could not 
determine use values.  

In February 1988, DOI modified the regulations57 to ensure 
that they conformed with the Superfund Amendments and 
Reauthorization Act (SARA). Under SARA, the rebuttable pre-
sumption conferred on assessments was extended to state as 
well as federal trustee assessments. DOI updated both the 
Type A and Type B procedures to reflect this broader presump-
tion; the modifications did not abolish the strict limitations on 
the use of nonmarket methodologies such as CVM.  

II. BUT DID IT?  

A. Challenges to DOI's Regulations  

It was not long before DOI's regulations were challenged in 
court. In Ohio v. United States Department of the Interior,61 se-
veral states and environmental organizations sought review of the 
Type B regulations. They asserted that the regulations under-

59. "Any determination or assessment of damages to natural resources for the 
purposes of this chapter and section 1321 of Title 33 [the Clean Water Act] made by a 
Federal or State trustee in accordance with the regulations promulgated under sec-
tion 9651 (c) of this title shall have the force and effect of a rebuttable presumption 
on behalf of the trustee in any administrative or judicial proceeding under this chap-
ter or section 1321 of Title 33." CERCLA § 107(f)(2)(C), 42 U.S.C. § 9607(f)(2)(C) 
60. Although SARA made various other important changes to the NRD provi-
sions, those changes are not pertinent to this Comment and therefore are not dis-
cussed.
61. 880 F.2d 432 (D.C. Cir. 1989).
62. The court consolidated additional challenges brought by a state government 
and an environmental group against the revised rules issued to conform with SARA 
in February, 1988. See id. at 440. The Type A final rule was also challenged in the 
D.C. Circuit court. That challenge, however, was filed in a separate suit that will not
valued the damages recoverable from PRPs. Industry groups
joined the attack on regulations, claiming that the regulations
allowed for overvaluation of damages. The resulting District of
Columbia, Circuit Court of Appeals decision would ultimately
lead to DOI substantially revising its treatment of both CVM and
nonuse damages.

First, the D.C. Circuit tackled the validity of the regulation's
requirement that NRD assessments were to be the lesser of ei-
ther restoration or diminution of use values. States and envi-
ronmental groups challenged the rule as contrary to CERCLA's
establishment of restoration as the floor for the measure of dam-
gages. Since in most cases lost-use values are lower than resto-
ration costs, damage awards allowed under the DOI's rule would
be too small to cover the costs of restoration. Industry groups
argued CERCLA did not establish such a floor, but rather gave
DOI discretion over which measure of damages to use. After
examining the language, purpose, and legislative history of
CERCLA, the court concluded that Congress intended for resto-
ration costs to be the measure of recovery. It held that al-
though restoration damages were not always required, the regu-
lations had to provide for restoration costs unless restoration
was infeasible or grossly disproportionate to use value.

Second, the appellate court rejected the regulation's rigid hi-
erarchy of assessment methods, which limited the role of non-
use values by placing them below market values. According to
the court, satisfying Congress' intent that the regulations “cap-
ture fully all aspects of loss” required consideration of option
and existence values. Those nonuse values “reflect utility derived
by humans from a resource, and thus, prima facie, ought to be
included in a damage assessment.” Moreover, simply because
a resource has a market value does not preclude it from also
having a nonmarket value: thus, the exclusive use of a market
system would be unduly restrictive and would not fully capture

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be discussed in this note. See Colorado v. Dep't of the Interior, 880 F.2d 481 (D.C.
Cir. 1989) (remanding Type A regulations).
63. See Ohio, 880 F.2d at 438.
65. See Ohio, 880 F.2d at 441.
66. See id. at 442.
67. See id. at 459.
68. See id.
69. See id.
70. Id. at 463.
71. Ohio, 880 F.2d at 464.
the values of natural resources. This “incompleteness of market processes” necessitates the use of nonmarket resource methodologies which include nonuse values in NRD assessments. Accordingly, the court struck down the hierarchy of values regulations limiting the role of nonuse values.

Third, the court addressed the controversy surrounding CVM, which the regulations authorized to measure both use values, when there was no appropriate market measure, and nonuse values, specifically option and existence values. Industry groups argued that CVM did not meet CERCLA'S requirements because it was not the “best available procedure” for determining NRDs. Despite the industry groups' criticisms, the court sustained DOI's finding that CVM was the “best available procedure.” Noting DOI's extensive research, the court declared: “It cannot be gainsaid that DOI's decision to adopt CV was made intelligently and cautiously.” The court thus found “DOI's promulgation of CV methodology reasonable and consistent with congressional intent, and therefore worthy of deference.”

Finally, the court addressed the rebuttable presumption conferred by the regulations on trustee assessments. Industry groups argued that conferring the rebuttable presumption was arbitrary and capricious since DOI had not adequately addressed

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72. See id. at 462-63.
73. Ohio, 880 F.2d at 463.
74. See id. at 475. Although the court struck down the hierarchy of assessment methods earlier in the opinion, it nevertheless addressed the issues surrounding CVM, since its rejection of the hierarchy did not “affect the manner in which the CV methodology operates, or whether it produces sufficiently accurate results to be included in the regulations.” Id. at 476 n.76.
76. For the detailed arguments raised by the industry groups, see Ohio, 880 F.2d at 476-79.
77. Id. at 478.
78. “DOI examined 23 CV studies, in each of which the analysis included the implications of CV use in valuing damaged natural resources. DOI also consulted 323 articles and studies relating to natural resource assessments, including many treatises addressing CV methodology, and compiled them in an annotated bibliography.” Id. at 477 n.83 (citations omitted).
79. Id. at 476.
80. Id. at 476-77. In addition, the industry groups argued that CVM was used to calculate option and existence values, and since these were nonuse values, they were not allowed under CERCLA. Nevertheless, the court did not have to address this argument since it had previously found nonuse values compensable under the Act. See id. at 476, n.77. Industry groups also claimed that the methodology was invalid because it did not follow common law damage assessment principles barring recovery for speculative injuries. Yet, because the court had previously found that common law strictures did not apply to CERCLA, that argument was also moot. See id. at 476.
their comments regarding CVM. The court found, however, that DOI had thoroughly investigated CVM, analyzed and addressed comments, and made changes to refine the use of CV. The court remanded the flawed portions of the Type B rule to DOI.

The court remanded the flawed portions of the Type B rule to DOI, with the instruction that DOI “proceed as expeditiously as possible in issuing new regulations in conformance with this opinion.”

B. Revised Regulations

In response to the Ohio ruling, DOI issued a revised Type B assessment rule. This rule specifies that:

The measure of damages is the cost of restoration, rehabilitation, replacement, and/or acquisition of the equivalent of the injured natural resources and the services those resources provide. Damages may also include, at the discretion of the authorized official, the compensable value of all or a portion of the services lost to the public for the time period from the discharge or release until the attainment of the restoration, rehabilitation, replacement, and/or acquisition of equivalent of the resources and their services to baseline.

The rule also grants trustees determining the compensable value of the lost natural resource the authority to select from among various valuation techniques. Compensable value includes “the value of lost public use of the services provided by the injured resources, plus lost nonuse value such as existence and bequest values.”

81. For the detailed arguments raised by the industry groups surrounding the application of the rebuttable presumption when using CVM, see id. at 478-81.

82. See Ohio, 880 F.2d at 479. The industry groups also contended that inclusion of the presumption violated both the substantive and procedural due process rights of PRPs. See id. at 478. The court found no merit to the substantive due process challenge since the groups “ha[d] not surmounted the presumption of constitutionality afforded statutes affecting economic regulation.” Id. at 480. If anything, “the procedures preconditioning damage assessments support the logic of the presumption, without which would loom the specter of prolonged battles of experts and other heavy burdens on the calendars of adjudicating tribunals.” Id. (citation omitted). The court also rejected the procedural due process claim, finding that, although the assessing official was an “interested party,” the PRP’s procedural due process rights were not denied since PRPs would not “be totally excluded from participation in the proceedings forerunning a damage determination.” Id.

83. See id. at 481.


85. 43 C.F.R. § 11.80(b) (1995).

86. See 43 C.F.R. § 11.83(c) (1995).

Despite the apparent inclusion of nonuse values in the revised rule and the Ohio court's approval of CVM for measuring such values, the new regulations continue to limit CVM estimates to those circumstances where "the authorized official determines that no use values can be determined." Furthermore, the revised regulations fail to address the assessment of lost nonuse values.

On July 16, 1996, DOI issued an advance notice of proposed rulemaking, which aimed to develop a rule that would finally address the assessment of lost nonuse values. DOI also solicited feedback on damage assessment regulations recently promulgated by the National Oceanic and Atmospheric Administration (NOAA), which had independently been researching the use of CVM as an assessment methodology. The NOAA regulations established "procedures for natural resource trustees in the assessment of damages for injury to, destruction of, loss of, or loss of use of natural resources covered by [the Oil Pollution Act of 1990]." DOI hoped to promulgate a rule which would be consistent with these new oil regulations. Despite such efforts, no final rule has been issued to date regarding the assessment of nonuse values and CVM's role in the assessment.

III. WHAT IS THE PROBLEM?

One cannot help but ask: if the Ohio court legitimized the use of CVM in NRD assessments over eight years ago and thereby purportedly "opened the door to unlimited use of CV," why are PRPs so opposed to CVM estimates? PRPs' opposition to the employment of CVM focuses on four main areas: (1) hypothetical and informational biases to the surveys; (2) criticisms regarding the legal appropriateness of the surveys; (3) the inclu-

88. 43 C.F.R. § 11.83(c)(1)(iii) (1995). See Robinson, supra note 12, at 204-05 (contending that the restriction's effect is essentially what the Ohio court rejected when it struck down the hierarchy of assessment methods).
91. See id.
93. Id. at 4602.
sion of the uncertain assessments resulting in overestimates; and, (4) the additional costs of incorporating CVM in the assessment process.

A. Problematic Surveys

Problems with the accuracy of CVM surveys may be grouped into three general categories: (1) weakness due to the hypothetical nature of the CVM surveys; (2) weakness caused by respondents' general lack of detailed information and understanding of the natural resource and the injury it has suffered; and, (3) bias in surveys resulting from the combination of these two weaknesses.

1. Hypothetical Weaknesses

Much skepticism of CVM stems from empirical studies suggesting that "people's expressed attitudes do not accurately predict their actual behavior." Survey respondents are aware that their answers are purely hypothetical and that they will suffer no penalty for answering incorrectly. Because respondents do not have to "put their money where their mouth is," there is no incentive for them to "undertake the mental effort [necessary] to be accurate."

The lack of any penalty for overestimates also may encourage respondents to use the opportunity to express their support for a cause. As a result, responses may be "little more than casual votes for a cause that the respondent believes to be generally 'good' in a political or social sense, and for which a positive 'vote' provides the respondent with a 'warm feeling.'" In addition, respondents may provide an answer they think the surveyor wants to hear, a phenomenon known as response bias. Respon-

96. See Binger et al., supra note 11, at 1032.
97. See id.
100. See Steven Shavell, Contingent Valuation of the Nonuse Value of Natural Resources: Implications for Public Policy and the Liability System, in CONTINGENT VALUATION, supra note 6, at 371, 375.
102. See Binger, supra note 11, at 1033.
103. See John M. Heyde, Is Contingent Valuation Worth the Trouble?, 62 U. CHI. L.
dents may also exercise strategic bias, meaning they "purposefully report incorrect values in an attempt to increase the amount of money devoted to a resource or to free-ride on others' expenditures."  

Perhaps the most important problem connected with the lack of actual payment is that respondents make irrationally high WTP bids because they fail to consider income constraints in making their decisions. Consequently, their separate values of particular preferences, when added, do not equal the total amount that they would be willing to contribute. For instance, a respondent may be willing to pledge $10 per year to preserve a single endangered species—a figure below most mean WTPs. Yet, considering that there are approximately 50,000 endangered species, this would mean the household is willing to spend $500,000 a year to preserve all the species—an unlikely amount for the average household to be willing, or able, to donate to an environmental cause.

Failure to consider budgetary constraints also results in a respondent's "expressed value for a subset of a resource [being] substantially the same as for the entire source itself." For example, a recent study asked three different groups of respondents to provide their WTP to save 2,000, 20,000 or 200,000 birds, respectively. The mean WTP to preserve 20,000 birds was exactly the same as that for saving 2,000, and only a slightly higher value was reported on the WTP to save 200,000 birds. The problems associated with this effect, known as embedding, has led some critics to conclude "that CVM is too inherently flawed to use as a valuation technique in natural resource damages actions."

2. Informational Weaknesses

Concerns regarding the validity and trustworthiness of CVM

104. See Daum, supra note 12, at 395.
105. "Ask a Silly Question . . .", supra note 21, at 1985. See also MITCHELL & CARSON supra note 3, at 128.
106. See "Ask a Silly Question . . .", supra note 21, at 1987. See also Dobbins, supra note 13, at 924.
108. See id. at 330-31 (citing Desvousges et al., supra note 15, at 91).
109. See supra note 21, at 330.
are heightened by respondents' unfamiliarity with the injured resource, the extent of the injury, and even the concept of nonuse values. Since natural resources cannot be purchased at the local store, respondents often have difficulty placing a price tag on those goods. As a result, respondents often make calculations from the "seat-of-their-pants." For instance, one respondent explaining how he arrived at a figure stated: "Um, I have no idea. I guess $500 sounds like a nice round number." Because of the uncertainties raised by lack of familiarity with both the resource and the hypothetical market, critics argue that CVM estimates are unlikely to provide a good basis for accurate assessments.

3. Survey Bias

Surveys try to combat the problems raised by these hypothetical and informational weaknesses by providing as much information about the resource as possible prior to soliciting respondents' WTP. This tactic, however, can have the negative effect of influencing the responses. In educating respondents about the resource, the surveys may change respondents' values and preferences. A respondent who may never have thought about a natural resource, much less whether or not it was valuable to her, may suddenly discover that she would be willing to pay for restoring it.

111. See "Ask a Silly Question . . .", supra note 21, at 1986.
112. See Binger et al., supra note 11, at 1033.
113. See Dobbins, supra note 13, at 923. See also MITCHELL AND CARSON, supra note 3, at 120-23.
114. Cross, supra note 21, at 229 (quoting Schkade & Payne, supra note 98, at 286).

Part of the appeal of contingent valuation surveys has been that they promise some kind of answer when methods based on observing actual choices cannot be applied even in principle, because no similar actual choices have ever been made. The problem is that these are precisely the kinds of circumstances in which survey estimates are most in danger of being highly biased and unreliable, because this is precisely when people are most unfamiliar and inexperienced with the kinds of choices being made. Id. at 431.
CVM surveys may further be biased because they are usually conducted after the environmental mishap has occurred. Since respondents' values probably change upon learning of the cause of the accident, criticisms argue that CVM fails to measure the true loss.120 In addition, the wording of a survey and the sequence of questions may unduly influence the responses.121 For instance, studies have shown that respondents' preferences for one commodity over another can be reversed simply by varying the format of the survey.122 Furthermore, the survey may encompass bias due to the failure of certain groups of people (such as the elderly or the less educated) to respond.123

B. Legal Impropriety

CVM has also been challenged in litigation as inadmissible evidence and as failing the certainty requirement for damages. Opponents argue that CVM surveys are so fundamentally flawed that they must be excluded as evidence.124 Federal Rule of Evidence 703 requires that data admitted as evidence must be "reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject."125 Legal critics also attack CVM as inappropriate because it allegedly provides extremely uncertain results.126 "[CVM's] attempt

119. See, e.g., Milgrom, supra note 115, at 421 ("Some survey respondents may value the very process by which an outcome occurs. For example, some may consider a fire in a national park to be more acceptable if it is started by lightning than by a careless camper.").
120. See Daum, supra note 12, at 393-94.
121. See, e.g., Milgrom, supra note 115, at 425-26 ("The uncertainty of [CV] respondents is likely to make their reports quite sensitive to how questions are framed and to what background information is supplied.").
122. See CUMMINGS ET AL., supra note 13, at 190-93.
123. See MITCHELL & CARSON, supra note 3, at 293.
124. See Charles J. Ciccheti & Neil Peck, Assessing Natural Resource Damages: The Case Against Contingent Valuation Survey Methods, 4-SPG NAT. RESOURCES & ENV'T 6, 6. "In our opinion, we find that admitting these surveys is typically the equivalent of saying, 'This testimony is perjury, but I'll let it in for what it's worth.'" Id. at 8. See also United States of America v. Exxon Corp., No. A90-015 Criminal [D. Alaska, Oct. 8, 1991], Transcript at 45:8-20 (explaining that Attorney General of Alaska publicly stated his lack of confidence in a court admitting the CVM estimate assembled by the state and federal trustees) (cited in Daum, supra note 12, at 413 n.44).
125. Fed. R. Evid. 703.
126. See, e.g., "Ask a Silly Question . . .", supra note 21 (arguing that CVM measurements of nonuse values are so speculative that the costs of using CVM to assess natural resource damages usually outweigh the benefits).
to translate nonuse values into prices will carry with it uncertainty," and under common law tort damages must be calculated within a reasonable certainty. Critics argue that CVM is "too tenuous a basis for legal proof" and fails to satisfy the certainty requirement. As support, some critics of CVM cite Idaho v. Southern Refrigerated Transport Inc., in which a tractor and trailer transporting hazardous material overturned, contaminating a river and riverbank. The State of Idaho claimed that the existence value of non-returning steelhead trout should be established by a CVM study previously conducted for other purposes. The court, however, concluded that the CVM study was "not persuasive and it would be conjecture and speculation to allow damages based on this study." It found that "the study fails to determine to any degree of certainty what value should be placed on these fish based on their existence value." Consequently, CVM was held "legally insufficient to establish existence value in [that] case."

C. Unnecessary Inclusion

Another source of skepticism is the potential for nonuse values to raise CVM damages calculations to astronomical levels. Specifically, irrationally high WTP bids by respondents can result

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127. Dobbins, supra note 13, at 923.
128. See, e.g., Idaho v. Southern Refrigerated Transp. Inc., No. 88-1279, 1991 WL 22479, *19 (D. Idaho Jan. 24, 1991). But note Dobbins' observation: "Curiously, however,... this requirement is not imposed on those attempting to establish nonpecuniary damages. Because setting the level of such damages is essentially a judgment call, establishing proof with 'reasonable certainty' is essentially impossible. The system recognizes this and grants nonpecuniary tort losses an exemption from this standard. The same should be true for estimates of nonuse losses." Dobbins, supra note 13, at 930 n. 247.
130. See Idaho, 1991 WL 22479 at *2 (D. Idaho Jan. 24, 1991). Idaho is one of only two cases to date known to the author in which NRD claims have been fully tried. The second case regarded a claim under CERCLA by DOI in bankruptcy court. See In re National Gypsum Co., 139 B.R. 397 (Bankr. N.D. Tex. 1992).
131. See Idaho, 1991 WL 22479 at *18 ("The study was not conducted for purposes of this litigation, but rather to assist the Northwest Power Planning Council in determining how to accomplish its goal of doubling the steelhead and salmon runs by operational changes in the Northwest hydropower system.").
132. Id. at *19.
133. Id.
134. Id.
in grossly disproportionate NRD valuations.\textsuperscript{136} As one concerned opponent stated: "[E]very $1 error in estimating the average actual WTP will lead to a $100-million mistake in assessing damages to be paid by the responsible party."\textsuperscript{137} Another commentator voiced a much harsher criticism of CVM: "Astrology . . . is a method of forecasting the future that has at least as many adherents as contingent valuation."\textsuperscript{138} The instability of CVM results, critics contend, justifies excluding nonuse values measured through CVM from NRD assessments.\textsuperscript{139}

\section*{D. Increased Costs}

Finally, critics argue that the use of such invalid and unreasonable CVM figures leads to significantly increased administrative costs.\textsuperscript{140} Obtaining damages information through CVM is itself costly and time-consuming.\textsuperscript{141} Moreover, because CVM assessments provide parties with yet another issue upon which to disagree, parties are more likely to go to trial than settle,\textsuperscript{142} thereby increasing litigation costs.\textsuperscript{143} Litigation costs will also increase as a result of the additional money spent on research used to attack and defend CVM estimates in trial.\textsuperscript{144}

Critics further contend that inaccurate CVM estimates cause more harm than good to society because potential injurers may take excessive precautions to avoid any possible harm.\textsuperscript{145} The true price of the excess precautions is passed on through higher prices— to the public— which in turn decreases consumption.\textsuperscript{146} This combination of increased costs and decreased consumption

\textsuperscript{136} See Binger et al., supra note 11, at 1032-33.
\textsuperscript{137} Walter J. Mead, Review and Analysis of State-of-the-Art Contingent Valuation Studies, in CONTINGENT VALUATION, supra note 6, at 305, 326.
\textsuperscript{138} Daum, supra note 12, at 402.
\textsuperscript{139} See Dobbins, supra note 13, at 884.
\textsuperscript{140} Note that the costs of CVM are also considered by some to be social costs because the money expended to perform the survey could have been used for goods and services to benefit the public. See Heyde, supra note 103, at 347.
\textsuperscript{141} For example, in the Exxon Valdez incident, more than $100 million was spent by federal and state trustees in trying to assess NRDs. See id. at 347 n.93.
\textsuperscript{142} "[T]he uncertainty in outcomes caused by CV makes it more likely that the plaintiff's estimate of expected damages will exceed the defendant's, and that difference is more likely to be large enough to leave no room for settlement." "Ask a Silly Question . . . .", supra note 21, at 1992.
\textsuperscript{143} See id.
\textsuperscript{144} See id. See also Shavell, supra note 100, at 381; Richard B. Stewart et al., Evaluating The Present Natural Resource Damages Regime: The Lawyer's Perspective, in NATURAL RESOURCE DAMAGES, supra note 115, at 153, 172.
\textsuperscript{145} See "Ask a Silly Question . . . ." supra note 21, at 1990-91.
\textsuperscript{146} See id. at 1991.
could force the injurers to shut down certain lines of business, resulting in a misallocation of resources to parties which produce less social wealth. Furthermore, since CVM could produce extremely large nonuse values for even the most trivial environmental accident, "the risk of a single accident becomes a 'bet the company' proposition for even the largest companies." Because the large awards granted to trustees could only be used to restore the injured resources, resources might also be restored "beyond the economically appropriate level."

IV.
ANSWERS ARE STILL ANSWERS.

Supporters of CVM have their own side of the story. They contend that CVM's flaws have been overcome through improved surveys and that CVM produces legally appropriate evidence. Furthermore, nonuse values must be included in assessments in order to ensure full compensation.

A. Survey Solutions

Proponents of CVM contend that the structural and informational bias problems are greatly reduced when the surveys adhere to strict guidelines, such as those presented in the NOAA panel report. Better surveys mean that respondents will not have a strong motivation to over- or under-pledge; consequently, the bias of strategic behavior disappears. More sophisticated questions also eliminate income constraint problems by bringing the constraints to the attention of the respondent. If individuals are forced to consider their income restraints, and

148. See id.
149. Id.
150. Id.
151. See CUMMINGS ET AL., supra note 13, at 146 ("While asking a hypothetical question does elicit a somewhat hypothetical answer, it is also true that if a well-constructed question is asked, people try to give honest answers. This, in our judgment, makes CVM promising."). But see generally S. Desvousges et al., supra note 15, (contending that many of the problems of CVM cannot be solved through better designed questions).
152. See NOAA Panel Report, supra note 20.
153. See Robinson, supra note 12, at 211. See also MITCHELL & CARSON, supra note 3, at 168; K.E. McConnell, Reflections on the Ohio Decision, 34 NAT. RESOURCES J. 93, 99-100 (1994) (discussing studies on strategic behavior which have concluded that such behavior is not a significant factor). But see generally Ronald G. Cummings & Glenn W. Harrison, Was the Ohio Court Well Informed in Its Assessment of the Accuracy of the Contingent Valuation Method?, 34 NAT. RESOURCES J. 1 (1994).
154. See Dobbins, supra note 13, at 926-27.
therefore their full range of donative options and the underlying rationality of their decisions, the embedding problem may also be solved. 155

**B. Legal Appropriateness**

Supporters of CVM also urge that relatively lenient admissibility standards should govern CVM, 156 making the surveys admissible as evidence in NRD claims. One rationale for this stance is that remedial environmental statutes, such as CERCLA, should be interpreted liberally so as to favor the public. 157 Second, CERCLA's adoption of the rebuttable presumption counters any common law strictures requiring precision for proof of damages. 158 Finally, well-executed CVM studies meet evidentiary rules of evidence regarding scientific accuracy and overall probativeness. 159 "The probativity is indicated by the absence of other means of including nonuse values and by the body of literature supporting the usefulness of well-conducted CV studies." 160 Moreover, there is a great deal of scholarly support for the argument that CVM meets the expert testimony standard established under *Daubert v. Merrell Dow Pharmaceuticals*, 161 which holds that a methodology must be reliable and relevant. 162

In addition, supporters contend that well-executed CVM studies are legally appropriate since they are likely to produce more accurate estimations of nonuse values. 163 Although some uncertainty remains in NRD assessments using CVM, 164 the surveys are more likely to ensure a conservative bias since they measure nonuse values through WTP rather than willingness-to-accept. 165 Moreover, the possible uncertainty should not preclude use of CVM because some uncertainty in valuation is an accepted part of our American legal system. 166

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155. *See id.* at 927. *See also* Robinson, *supra* note 12, at 211.

156. *See Dobbins, supra* note 13, at 932.

157. *See id.*

158. *See id.*

159. *See id.* at 932-33.

160. *See id.* at 932-33.


162. *See Dobbins, supra* note 13, at 933 & n.270.

163. *See Robinson, supra* note 12, at 212.

164. *See Dobbins, supra* note 13, at 923 ("[E]ven well-designed studies cannot completely eliminate uncertainties and bias.").

165. *See id.* at 919-20.

166. For instance, tort law has recognized the near impossibility of establishing nonpecuniary damages with "reasonable certainty," and therefore does not require such proof for those parties attempting to establish nonpecuniary damages. *See id.* at 930 n.247.
C. The Need for Measurement

Supporters further argue that excluding CVM assessments would pose a greater threat than including nonuse values. Yet, as even some critics agree, nonuse values clearly have some positive worth and therefore should be included.

Moreover, although NRDs are meant to restore injured resources, there are instances in which restoration does not occur—because the cost is grossly disproportionate or the cleanup is technically infeasible—or only occurs after an inevitable time lag during which the public has foregone the enjoyment of the resource. Inclusion of nonuse values in all cases ensures that the public is truly made whole, thereby fulfilling the intent of the NRD regulations.

From an economic efficiency standpoint, excluding nonuse values from the assessment would be detrimental because it would provide inadequate incentives for injurers to take precautions against future accidents. Exclusion could also allow PRPs to escape without paying adequate damages, thereby defeating Congress' purpose of assigning liability and collecting damages under CERCLA. In addition, it could lead to resources being overused beyond the economically optimal level. Additional philosophical and psychological repercussions could arise from nonuse values diminishing in the mind of society, "thereby reducing the overall value we derive from the environment."

Accordingly, supporters argue: "In their calls for the complete exclusion of CV, and therefore of nonuse values... the critics have gone too far. Cautious design and administration... can solve many of CV’s problems, making consideration

167. See id. at 907.
168. See Augustyniak, supra note 2, at 389. See also Raymond J. Kopp & V. Kerry Smith, Understanding Damages to Natural Assets, in VALUING NATURAL ASSETS, supra note 12, at 19.
169. See Dobbins, supra note 13, at 908.
170. See id. at 940.
171. See Robinson, supra note 12, at 209, 213.
173. See, e.g., Dobbins, supra note 13, at 910.
175. See Augustyniak, supra note 2, at 389.
176. Dobbins, supra note 13, at 941-42.
better than elimination."\textsuperscript{177}

\section*{D. Practical Benefits}

Finally, supporters of CVM contend that, while CVM may result in higher administrative costs, such costs will only occur in limited cases. CVM applies only in cases of major spills, where the stakes are high.\textsuperscript{178} Because the stakes are high, the possibility of resource misallocation and bet-the-company situations is diminished because parties will make sure the study is done in the most effective way possible.\textsuperscript{179} DOI's requirement that cost assessments be reasonable given the expected damage awards "further discourag[es] a blunderbuss approach to the use of CV in estimating nonuse values."\textsuperscript{180} Consequently, in the few instances where additional costs of CVM studies will be incurred, these costs will be off-set by the practical benefit of better assessments in major damage situations.

\section*{V. THE BIG PICTURE}

To skeptics, the argument that hypothetical answers are better than no answers is hard to swallow. CMV's hypothetical answers, despite the proponents' claims, still have the potential of resulting in incredible overestimates of nonuse values and thereby leading to outrageously high NRD awards. Although such doubts may appear logical, the bigger picture indicates that the use of CVM is not as dangerous as it may seem.

\subsection*{A. The Better Jury}

Tort law's inclusion of pain and suffering awards illustrates why there should be no difficulties in also accepting CVM nonuse value estimates for NRD assessments. Like nonuse values, there is no market for pain and suffering in our society and therefore no precise methodology by which to establish a value for a person's pain.\textsuperscript{181} "The surprising result is that this multimillion dollar heart of the liability system is relitigated from scratch, without any sort of algorithm or procedure for calculating dam-
IT MAY BE SILLY, BUT IT'S AN ANSWER

ages, every time nonpecuniary losses must be estimated."\textsuperscript{182} Tort law has dealt with this precarious situation by essentially demanding "an ad hoc calculation" by juries for pain and suffering awards.\textsuperscript{183} A panel of twelve inexperienced lay persons drawn randomly from society determines an appropriate award with no guidance from the law, either in the form of a benchmark, standard figure, or any other method of analysis.\textsuperscript{184} In many instances, counsel may not even recommend a means of evaluating the losses to assist the jury in its task.\textsuperscript{185} Jurors must base their determinations upon personal experiences and outside influences.\textsuperscript{186}

This aspect of our legal system begs the question: if we can accept unguided juries coming up with awards for pain and suffering, why can we not accept the figures of respondents guided by a well-executed survey? As Jeffrey Dobbins points out: "[i]n some ways, the deliberations of the jury might be thought of as a sort of poorly executed CV study to determine the value of the victim's losses."\textsuperscript{187} The process is essentially the same whether the decisionmaker is a juror or a survey respondent: the person is asked to determine a nonmarket loss by reflecting on her own value system.\textsuperscript{188} Many of the criticisms of CVM can therefore also be made of juries— they, too, are answering a hypothetical question; they, too, are inexperienced in the field; they, too, may be giving an answer simply to gain that warm glow feeling.

Nonetheless, there is one crucial difference between these seemingly "identically flawed" processes: CVM has been subjected to great scrutiny and improved upon by top economic experts in the country.\textsuperscript{189} Jury-determined damage awards have not. They are likely to be "less fact-based and more prone to subjective appeals and biases than any well-conducted CV study."\textsuperscript{190} Jury deliberations may therefore be likened to "an extremely unsophisticated, extremely uncontrolled CV process," which would likely fare much worse if subjected to the same academic and economic rigors as CVM.\textsuperscript{191}

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\textsuperscript{182} Dobbins, supra note 13, at 890 (citation omitted).
\textsuperscript{183} See id.
\textsuperscript{184} See id. at 890 n.52.
\textsuperscript{185} See id. at 890.
\textsuperscript{186} See id.
\textsuperscript{187} Id.
\textsuperscript{188} See id. at 938.
\textsuperscript{189} See, e.g., NOAA Panel Report, supra note 20.
\textsuperscript{190} Dobbins, supra note 13, at 939.
\textsuperscript{191} Id.: CV is little more than a sophisticated form of jury deliberation, with the jury
\end{flushleft}
B. Guiding the Jury

To push the question further: if the CVM process is actually better than that of jury deliberations, why keep the figures it produces away from the jury?192

Because PRPs' major concern is generally lowering the risk of an irrationally high verdict, a PRP should prefer having the more "sophisticated" CVM figure enlighten the unguided jury.193 By keeping the CVM estimate from a jury, the PRP is essentially crossing its fingers that the survey the jurors will undertake during their deliberations will provide a lower figure than a survey expressing the views of a far larger pool of carefully selected citizens, which has been tinkered with by expert economists to account for such factors as inexperience and bias. The likelihood of an unguided jury arriving at a lower figure is at best quite uncertain. At least CVM figures provide jurors with a starting point for their deliberations.194 Without this starting point, juries would be forced to derive seat-of-their-pants esti-

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192. This Comment assumes that defendants in natural resource damage claims have a right to a jury trial. The few cases which have addressed the issue have reached mixed results. A majority of the courts have found that the type of recovery sought in natural resource damage actions is legal in nature; therefore defendants do have a right to a trial by jury. See 2 Topol & Snow § 9.6 supra note 23. In United States v. Wade, 653 F. Supp. 11, 13 (E.D. Pa. 1984), however, the court struck a jury trial demand in a CERCLA action despite the presence of a natural resource damage claim, finding that the recovery sought was more properly characterized as equitable. See also Anderson, supra note 12, at 49-50 (finding jury trials in natural resource damage claims unlikely despite court holdings to the contrary); Stewart et al., supra note 144, at 173-76 (discussing the uncertainty behind the right to jury trial in natural resource damage actions).

193. But see Heyde, supra note 103, § II (arguing that even if CVM estimates are completely accurate, courts and natural resource trustees should abandon the method due to the costs of developing and litigating the studies).

194. See NOAA Panel Report, supra note 20, at 4611.

The judicial process must in each case come to a conclusion about the degree to which respondents have been induced to consider alternative uses of funds and take the proposed payment vehicle seriously. Defendants will argue that closer attention to substitute commodities would have yielded lower valuations. Trustees will argue that they have already leaned over backwards to ensure conservative responses. Judges and juries must decide as they do in other damage cases. The Panel's conclusion is that a well-conducted CV study provides an adequately reliable benchmark to begin such arguments. It contains information that judges and juries will wish to use, in combination with other evidence, including the testimony of expert witnesses.
mates—guesses that may be higher than those based on CVM figures since juries' guesses are more likely to be the product of emotion than reason. Moreover, having the ability to discredit the government's CVM assessment gives a PRP an opportunity to educate the jury as to why the government's figure is outrageous and unacceptable.

Thus it appears that, if anything, a PRP places itself in a better position if it allows CVM studies to be presented to the jury. Guiding a jury diminishes the risk of runaway decisions in either direction.

C. Battle of Presumed Numbers

Similarly, anxiety and confusion over the rebuttable presumption conferred on trustee NRD assessments under CERCLA and the DOI regulations fall by the wayside. While such a presumption seemingly favors a trustee seeking to enforce findings in its favor in federal court, the actual effect of the presumption is favorable to defendants for two reasons. First, the statute fails to identify the type of presumption afforded to trustee assessments. Second, in providing for presumptions under the Federal Rules of Evidence, Congress failed to follow classic presumption theory and instead created a presumption that is more favorable to defendants.

Classic presumption theory identifies two types of rebuttable presumptions. The older type, known as a Thayer presumption, provides that if the jurors find the basic facts by the appropriate standard (by a preponderance of the evidence, for example) and the opponent offers some evidence rebutting the presumed fact, the judge

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195. See, for instance, the highly publicized "McDonald's Coffee" case, where a jury awarded an elderly New Mexico woman, who had suffered third degree burns from McDonald's scalding hot coffee, $2,700,000 in punitive damages. See Liebeck v. McDonald's Restaurants, No. CV-93-02419. 1995 WL 360309 (D. N.M. Aug. 18, 1994). The trial judge reduced the total award to $640,000. See Samuel R. Gross & Kent D. Syverud, Don't Try: Civil Jury Verdicts In a System Geared To Settlement, 44 UCLA L. REV. 1, 4-5 (1996). The case was eventually settled for $400,000. Andrew Blum, Oprah Winfrey Show: Talkin' Torts On TV, NAT'L L. J., Mar. 11, 1996, at A4.

196. This argument assumes that the jury is not forced to abide by the trustee's estimate if the opposing party offers a rebuttal to the presumption. Yet this depends on the type of rebuttable presumption conferred upon trustee assessments, which unfortunately has not been addressed by any court to date.


198. See id.
says nothing to the jurors about the presumption. 199

A newer type of presumption, known as a Morgan presumption, confers even greater benefits upon the party in whose favor it operates (here, the trustees). Named after Professor Edmund Morgan, 200 this presumption can also shift to the opposing party the burden of persuading the jurors of the nonexistence of the presumed fact. 201 To Professor Morgan, producing some evidence to rebut the other party's showing was not enough to dispel the presumption; he favors telling jurors that once they first find the basic facts by the appropriate standard, they must presume that fact unless the opponent persuades them of the nonexistence of the presumed fact by the appropriate standard. 202

In enacting the Federal Rules of Evidence, Congress opted for Thayer presumptions, but with a twist. Under Federal Rule of Evidence 301, if the party opposing the presumption offers some evidence of the nonexistence of the presumed fact, the judge may instruct the jurors that they "may infer the existence of the presumed facts from the proof of the basic facts." 203 In effect, a federal judge is allowed to treat a rebutted presumption as an inference. 204 As with the Thayer presumption, then, the trustee's figure has no mandatory effect on the jury once some evidence is offered in rebuttal.

What does this mean to NRD litigants when the trustee sues

199. See id. In an NRD action, for instance, the jurors would be told that, if they found by a preponderance of the evidence that the trustee had performed the survey as provided by the statute, they should find the damages for nonuse to be those stated in the report. In other words, the trustee's figure sticks. But they would be given this instruction only if the PRP failed to offer any evidence contradicting the nonuse damages. If the PRP did offer contradicting evidence, then the judge would say nothing to the jurors about the presumption. The judge would merely instruct the jurors to return a verdict in favor of the trustee on nonuse damages if the jurors found such damages by a preponderance of all of the evidence, thereby allowing the jurors to calculate their own figure for nonuse damages.

200. See id.
201. See id.
202. See id. Thus, in an action by the trustee for damages, the jurors would be told the following with regard to nonuse damages: (1) if they find by a preponderance of the evidence that the trustee performed the survey as provided by the statute, and the defendant then fails to produce any evidence disproving the nonuse damages, the jurors would be told, as in the case of the Thayer presumption, to find the damages to be those stated by the trustee in his report; (2) if they find by a preponderance of the evidence that the trustee performed the survey as provided by the statute but the defendant then does produce some evidence contradicting the nonuse damages in the report, the jurors would be told to find the damages to be those stated by the trustee in his report, only if the defendant fails to persuade them by a preponderance of the evidence that the damages, if any, are lower.

203. See FED. R. EVID. 301 (Conference Report).
204. See MENDEZ, supra note 197, at § 18.10.
for damages? Obviously, defendants in NRD actions brought in federal courts would prefer either the Thayer or Rule 301 presumption, while trustees would favor a Morgan presumption. Since neither CERCLA nor the case law interpreting the statute identifies the type of presumption created, the courts have held that Congress must have "intended for Rule 301 to apply in [NRD] court proceedings."

It is therefore almost a certainty that a PRP will attack the trustee's survey. A PRP will point out flaws in the trustee's survey methodology or interpretative results or offer its own lower nonuse estimates based on its own survey. Evidence of either will tend to rebut the presumption favoring the trustee's nonuse damage estimate. If a federal judge finds that the PRP has offered sufficient evidence to rebut the presumption,206 "the jury is no longer instructed that it may presume the existence of the presumed fact, but only that it may infer it."207 In such an eventuality, the jury must decide the case on the basis of the evidence presented,208 including the evidence the PRP offered attacking the trustee's methodology as well as his results.

Even under a PRP's worst case scenario, where the judge decides that the PRP did not present sufficiently strong evidence to rebut the presumption, the PRP has not lost the battle. Unlike as in a pure Thayer presumption, where the judge must tell the jurors to find the presumed fact if they find basic facts by the appropriate standard, a federal judge in an NRD action would merely inform the jurors that they are free to find the presumed fact, if they wish. Since the CVM figure may be lower than one arrived at by jurors on their own, PRPs as a rule would probably benefit from the admission of the CVM evidence. In such an instance, the judge would instruct the jury that it may presume the fact—the assessment presented by the trustee. However, as previously argued, that figure is likely to be more certain, and

205. See Menefee, supra note 34, at 15,061-64. Menefee provides a good analysis of the two traditional views of presumptions and the Rule 301 approach and the role those approaches have played in the quest to understand the NRD assessment rebuttable presumption.

206. See id. ("The judge's exercise of discretion probably would turn on such factors as the relative strengths of the evidence, the complexity of the fact issues, and the nature and extent of the damage.").

207. Id. (citing 21 C. WRIGHT & K. GRAHAM, FEDERAL PRACTICE AND PROCEDURE §583 (1977)).

208. See Daum, supra note 12, at 406-07 (citing FED R. EVID. 301; United States v. Bailey, 707 F.2d 19, 22 (1st Cir. 1983). CVM assessments are likely to be admissible as evidence. See e.g., Bailey, 707 F.2d at 27. Consequently, the jury will still be able to use it as guidance in assessment deliberations. Once again, though, this is preferable for PRPs since it limits the possibility of runaway juries.
lower, than a figure conceived by an unguided jury. Therefore, PRPs may actually benefit even from the accepted presumption.

D. The Additional Safeguard of Review

The availability of judicial review of CVM evidence should further assuage the damage concerns of PRPs facing an NRD claim.\(^{209}\) A reviewing court has the option of deciding that non-use values should not be priced according to the CVM study if it finds that the survey is flawed or that the estimate is irrationally large.\(^{210}\) Judicial review thereby serves as a check on runaway CVM studies.\(^{211}\) Consequently, the potential liability facing PRPs in NRD claims appears even less threatening than that in noneconomic suits, where "only the judge's limited ability to reduce the award stand[s] between defendants and multi-million dollar liability."\(^{212}\)

Appellate judges will have greater discretion in setting aside jury awards for nonuse damages when based on CVM evidence because the appellate record provides the judges with a thicker record to review. Therefore there will be an accessible way to determine whether the CVM evidence presented to the jurors was flawed under standards used to assess the validity of such information.

CONCLUSION: THE NEED FOR AN END

Whether or not nonuse values should be included in NRD assessments is no longer at issue. Federal courts, DOI and experts have agreed that nonuse values must be included and have provided for nonuse values to be part of NRD assessments. The main controversy remaining is how to calculate these values reliably. The Ohio decision seemed to open the gates to the use of CVM in NRD assessments. Yet questions remain in some minds as to whether CVM is reliable enough to use as a means of calculating NRDs.

This Comment has presented the arguments against CVM's reliability and has shown the more forceful counter-arguments. PRPs should accept the use of CVM because giving the jury a

\(^{209}\) For a discussion of the arguments regarding the extent of judicial review of natural resource damage assessments, see Thomas H. Milch & Michael D. Daneker, Key Issues In Natural Resource Damages, C948 ALI-ABA, Oct. 27, 1994, at 715, 737. See also Brighton et al., supra note 32, at 1623-24. But see 2 Topol & Snow, supra note 23, at 246 (contending that the grant of a rebuttable presumption is incompatible with judicial review confined to the administrative record).

\(^{210}\) See Dobbins, supra note 13, at 933.

\(^{211}\) See id. at 934.

\(^{212}\) Robinson, supra note 12, at 213.
disciplined concrete basis for calculating nonuse damages reduces the risk of verdicts based on emotion. Thus CVM allows environmental damage awards to reflect actual damages as closely as possible. Given the potentially advantageous role CVM studies would play in the NRD assessment process for PRPs, critics of the methodology should not be so harsh in their judgment.

Arguments about the use of CVM will continue for some time to come. There will always be those who doubt a methodology which attempts to translate inherently inconvertible values into monetary terms. Yet the fact is that our legal system demands it, and unless this translation is undertaken, the full extent of the injuries humans experience as a result of the degradation of our environment will go unrecognized. Moreover, courts, DOI, legislators, and even some experts currently agree that properly executed CVMs should be the method for assessing nonuse values. Such support has essentially turned CVM into the conventional wisdom. In order to dislodge CVM from this status, the burden is on opponents to present a viable alternative for calculating non-use values. Unless they do, CVM should continue to be the means for measuring nonuse values when assessing NRDs.

The bottom line then is that, although CVM may only provide hypothetical answers to hypothetical questions, it nonetheless provides answers— and those answers are the best we have for now. We need to bring this debate to an end; to allow juries to do a better job, which they can do with CVM's guidance. Only then will natural resource damages finally be fully assessed.

213. See McConnell, supra note 153, at 105. But see NOAA Panel Report, supra note 20, at 4609 ("Until such time as there is a set of reliable reference surveys, the burden of proof of reliability must rest on the survey designers. They must show through pretesting or other experiments that their survey does not suffer from the problems that these guidelines are intended to avoid." See also supra note 12.)