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The Verdict on Environmental Harm: Leave it to the Jury

Mary Loum*

The appropriate way to value damage to a natural resource is constantly a contentious point in litigation, in particular with regards to nontangible environmental harms. A commonly used method of assessing the value of intangible environmental damages is contingent valuation. Contingent valuation uses a survey to poll the general public and place value on the natural resource in question. However, other areas of the law which value intangible harms (most notably pain and suffering damages) do not require a valuation of any type; instead pure jury discretion is used. Given the similar rationale for awarding damages for both pain and suffering and intangible environmental harm, a pure jury determination of the damages seems appropriate.

This Note examines the recent Ninth Circuit Decision United States v. CB & I Constructors, Inc., which upheld a jury determination of the value of damage caused by a wildfire in a national forest. While jury determinations of intangible environmental harms should be allowed, the opinion lacked discussion of why jury determinations are appropriate. In response to the case, the California legislature passed a bill limiting damages from wildfires. Because this bill forces litigators to use problematic valuation methods such as contingent valuation and more or less forbids pure jury determinations, it is a step in the wrong direction.

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INTRODUCTION

The relationship between society and the environment is constantly changing, and different people have widely divergent views on what exactly that relationship should be. Society’s growing awareness of the environment was reflected by the “environmental fervor” in the 1970s that produced a “slew of federal and state statutes and regulations protecting many parts of the environment, including the air, the water, marine mammals, endangered species, wetlands, and wild rivers.”¹ Many federal statutes, such as the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Oil Pollution Act (OPA), explicitly allow damage awards for environmental harm.² Today the focus has shifted: the issue is no longer whether aspects of nature that lack demonstrable economic value should receive consideration in the courts; instead, courts are now asking, “What aspects of nature should count, and how much?”³ Exactly how much is a beach or a forest worth? If that beach or forest is damaged, how much should society be paid to compensate the harm to the environment?

Much of the emphasis in valuing environmental harm has been on how to price the harm with a market-based system.⁴ There are multiple methods to do this.⁵ Each method focuses on a specific use of the environment, e.g., a

1. Holly Doremus, *Environmental Ethics and Environmental Law: Harmony, Dissonance, Cacophony, or Irrelevance?*, 27 ENVIRONS: ENVTL. L. & POL’Y J. 1, 4 (2003).

2. 42 U.S.C. § 9607(a)(4)(C) (2012); 33 U.S.C. § 2702(a) (2012).

3. Doremus, *supra* note 1, at 5.

4. Catherine M. H. Keske, *How to Value Environmental and Non-Market Goods: A Guide for Legal Professionals*, 39 DENV. J. INT’L L. & POL’Y 423, 423 (2011); Miriam Montesinos, *It May be Silly, But It’s An Answer: The Need to Accept Contingent Valuation Methodology in Natural Resource Damage Assessments*, 26 ECOLOGY L.Q. 48, 78 (1999).

5. See generally Yung En Chee, *An ecological perspective on the valuation of ecosystem services*, 120 BIOLOGICAL CONSERVATION 549 (2004).

recreational use of the environment as opposed to an aesthetic use of the environment, that the legal system is attempting to value. Though the validity of each of these potential methods is debated, contingent valuation (CV) is the preferred method to assess the non-economic value of environmental resources. Using a method similar to a poll, CV allows a price to be put on the non-market or intangible value of a forest or a beach. Given the difficulty of valuing environmental harm, this at first glance seems like a very useful tool.

In other areas of law where our legal system permits recovery for non-economic damages, we allow the trier of fact to make the decision—in many instances, the jury. Pain and suffering damages in tort law are the most obvious example. Pain and suffering does not have a market-based value, but no mechanism for pricing pain and suffering is used to determine damages and no valuations are presented to the jury to guide its decision. Instead, we let the jury use its collective experience to decide what the value of the harm should be.

A recent case in the Ninth Circuit, *United States v. CB & I Constructors, Inc.*, attempts to merge these two ideas.⁶ The jury determined the value of non-market based damage done to a national forest by a negligently caused wildfire, termed in the case “intangible environmental harm,” without the aid of any testimony on the price or value of the harm. Similar to a pain and suffering case, testimony was given solely on the nature of the harm and its effect on the forest environment. On the basis of this alone, the jury came up with an amount. The Ninth Circuit upheld the jury award.⁷

In this Note, I argue that the Ninth Circuit made the right decision. Given the similarities between pain and suffering and environmental harm, using the same valuation method in both cases makes sense. However, the opinion lacked a discussion of why allowing this type of damage to be determined by the jury without expert valuation was appropriate. Much of the rationale behind awarding damages for pain and suffering also applies to awarding damages for environmental harm. To understand why the analogy is appropriate, it is first necessary to understand the different types of environmental harm and the rationale for recognizing intangible environmental harm in damage calculations. While CV is a method that can be used to value non-market based environmental harm, it has multiple flaws and is unnecessary given the availability of a straight jury determination. Just as jury determinations of pain and suffering damages are well-recognized in tort law, a jury determination should also be appropriate for intangible environmental harms.

However, the impact of *CB & I* was short lived, at least in California. In response to the decision, a bill was passed limiting damages from forest fires to only what can be quantified. This statute will force valuation of non-market based environmental harm, which will likely force litigants back to problematic valuation schemes like CV. Forcing valuation through a methodology like CV

6. 685 F.3d 827, 830–31 (9th Cir. 2012).

7. *Id.*

is unnecessary given the ability of a jury to determine the value of the harm, and the legislation is a step in the wrong direction for valuing environmental harms.

I. ENVIRONMENTAL HARM

A. *Defining Environmental Harm*

Environmental harm is typically split into two groups: harm to use values and harm to nonuse values. Use values are based on a direct interaction between a person or society and a natural resource.⁸ Use values can be further divided into consumptive use values (such as hunting or logging) and non-consumptive use values (which usually reflect aesthetic qualities or recreation value).⁹

Unlike use values, nonuse values do not require any direct connection or interaction between an individual and a natural resource. Instead, they are based on a conviction that parts “of the natural world should remain unaltered.”¹⁰ Nonuse values are typically divided into three categories: option values, bequest values, and existence values.¹¹

Option values represent the willingness to pay today in order to use a resource in the future (in other words the value of keeping the option open).¹² For example, an individual may wish to someday visit the Alaskan wilderness, and therefore be willing to pay to protect the wilderness to keep the option open to visit later in their lifetime.

Bequest values are the willingness to pay so a resource can be enjoyed by future generations.¹³ The same individual who might wish to someday visit the Alaskan wilderness may also wish for his grandchildren to be able to visit. The National Park system is an example of what might be considered a bequest.

Existence value is the value attached to simply knowing the resource exists, even if an individual does not intend to actively use the resource.¹⁴ This is also called the intrinsic value of an environmental good.¹⁵ Even if an individual does not intend to visit the Alaskan wilderness, they might still be willing to pay because they value the fact that such places exist. Existence

8. See Keske, *supra* note 4, at 423. “As long as the individual uses her five senses to derive value from the environment, it has a use value.” Jeffrey C. Dobbins, Note, *The Pain and Suffering of Environmental Loss: Using Contingent Valuation to Estimate Nonuse Damages*, 43 DUKE L.J. 879, 898 (1994).

9. See Keske, *supra* note 8, at 425–26.

10. Dobbins, *supra* note 8, at 901–02.

11. See Keske, *supra* note 4, at 427–28.

12. See Chee, *supra* note 5, at 553 tbl.2. Some classifications list option values as in-between use and nonuse values; however, as with other nonuse values, option values are largely non-monetary. See Dobbins, *supra* note 8, at 900–01.

13. See Keske, *supra* note 8, at 428.

14. See Chee, *supra* note 5, at 553 tbl.2.

15. See Keske, *supra* note 8, at 428.

values are recognized as a major component of nonuse values.¹⁶ Some commentators refer to this as passive use of a resource, but still a part of use value as opposed to nonuse value.¹⁷ However, others argue that nature is valuable when simply left alone, completely separate from the question of “use.” According to these commentators, referring to existence value as a passive use value undermines the ideals behind intrinsic value: there is significance in the mere existence and unique identity of a particular resource.¹⁸

B. *Why Compensate for Non-Market Environmental Harms*

There has been a growing recognition across society, in both the legal and non-legal fields, that non-economic uses of the environment have value.¹⁹ Many of the principles that endorse recognition of nonuse values were developed outside the legal realm, including the land ethic that was pioneered by Aldo Leopold in *The Sand County Almanac*.²⁰ Leopold noted that “a land ethic changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such.”²¹ Another viewpoint in modern environmental philosophy draws a parallel between an individual’s relationship with nature to their relationship with family.²² Others believe in a pure moral imperative to respect and protect the environment.²³ The writings of Henry David Thoreau, Walt Whitman, and Mark Twain show that natural resources are a part of our society’s cultural fabric.²⁴ The overarching principle suggests that humans have a need to connect to nature, and that this connection is valuable.²⁵ This connection to nature is why society approves of compensation for environmental harms.²⁶

In modern times, most courts and commentators recognize that compensation for environmental harm should include nonuse values. Federal environmental statutes give broad definitions to the term “natural resources”; for example under CERCLA, “natural resources” include “land, fish, wildlife,

16. See Dobbins, *supra* note 8, at 902.

17. *Id.* at 903.

18. *Id.* at 902–04.

19. *Id.* at 879–81, 885; Katharine K. Baker, *Consorting With Forests: Rethinking Our Relationship to Natural Resources and How We Should Value Their Loss*, 22 *ECOLOGY L.Q.* 677, 693–97 (1995).

20. ALDO LEOPOLD, *A SAND COUNTY ALMANAC AND SKETCHES HERE AND THERE* (1968). See also James Peck, *Measuring Justice for Nature: Issues in Evaluating and Litigating Natural Resource Damages*, 14 *J. LAND USE & ENVTL. L.* 275, 278, 279–81 (1999).

21. LEOPOLD, *supra* note 20, at 204.

22. See Baker, *supra* note 19, at 694.

23. *Id.* at 695.

24. See Peck, *supra* note 20, at 278.

25. See Baker, *supra* note 19, at 696. Baker compares this connection and benefit to the emotional benefit that can be claimed from religious and artistic expression. *Id.*

26. See *id.* at 696–97.

biota, air, water, ground water, drinking water supplies, and other such resources.”²⁷ Government agencies charged with implementing and enforcing statutes dealing with environmental harm have concluded that both use and nonuse values must be recoverable.²⁸ In reviewing agency regulations, courts have held that aesthetic and existence values are recoverable losses.²⁹ In the landmark case *Ohio v. United States Department of Interior*, the court upheld agency regulations allowing for valuation of nonuse values, noting that “from the bald eagle to the blue whale and snail darter, natural resources have values that are not fully captured by the market system.”³⁰ The court further noted that “[o]ption 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.”³¹ Nonuse value awards affirm the importance of the totality of the environment, as opposed to only environmental features or products with market potential.³²

Assessing liability for nonuse values incentivizes those who would harm the environment to take appropriate precautions.³³ According to deterrence theory, in order for potential defendants to fully internalize the costs of environmental damage, the law must force them to compensate for the full price of the environmental harm caused by their actions—nonuse values as well as use values.³⁴ Damage awards which value environmental harm through use values alone are likely to produce artificially low results; many prices of use values (for example, park entry fees or fishing licenses) are set low with a goal of maximizing public use as opposed to a higher price which would maximize profit or revenue.³⁵ The lower price may not recognize the full extent to which that resource is valued by society, which means that defendants will not be

27. 42 U.S.C. § 9601(16) (2012). The OPA has an identical definition. 33 U.S.C. § 2701(20). Regulations of the National Park Service define natural resources as “the components of a park, both biotic and abiotic, including but not limited to, vegetation, wildlife, fish, water, including surface and ground water, air, soils, geological features, including subsurface strata, the natural processes and interrelationships that perpetuate such resources, and attributes that contribute to visitor enjoyment.” 36 C.F.R. § 6.3 (2006).

28. See Dobbins, *supra* note 8, at 910. CERCLA specifies that the “measure of damages . . . shall not be limited by the sums which can be used to restore or replace such resources.” 42 U.S.C. § 9607(f)(1).

29. Allan Kanner & Tibor Nagy, *Measuring Loss of Use Damages in Natural Resource Damage Actions*, 30 COLUM. J. ENVTL. L. 417, 434 (2005).

30. *Ohio v. U.S. Dep’t of Interior*, 880 F.2d 432, 462 (D.C. Cir. 1989).

31. *Id.* at 464. The agency regulations upheld by this decision, which allow for recovery of nonuse values, are still in use today, though there is some debate in whether courts prefer non-market based nonuse valuations over market-based valuations. See generally Dale B. Thompson, *Valuing the Environment: Courts’ Struggles with Natural Resource Damages*, 32 ENVTL. L. 57 (2002). Similar regulations also exist under OPA and also allow valuation of nonuse values.

32. See Dobbins, *supra* note 8, at 902, 942.

33. Note, “Ask a Silly Question . . .”: *Contingent Valuation of Natural Resource Damages*, 105 HARV. L. REV. 1981, 1981 (1992).

34. See Baker, *supra* note 19, at 701.

35. *Id.* at 702. These types of use values could be considered the equivalent of direct pecuniary damages, but they will always be low because they do not take nonuse values into consideration. *Id.*

paying the full cost of their actions. Nonuse values must be included in damage awards to realize the full cost of environmental harms, to make defendants fully internalize the cost of environmental harm, and properly deter actions that would harm the environment.

As Katharine Baker notes, society can overcome historical disrespect for nature by including harm to nonuse values in damage awards.³⁶ Legal recognition of peoples' connection to nature is necessary to prevent society from destroying what many of its members value.³⁷ If society has decided that a connection to nature is something to encourage and foster, compensating for the loss associated with an injury to that connection—or injury to related nonuse values—is sound policy.³⁸

However, because nonuse values are not dependent on a direct relationship between an individual and a resource, they are more difficult to value through traditional pricing methodologies; in other words their value is not revealed through the market.³⁹ There is a trade-off to be considered: Should valuation of natural resources include only market-based use values but risk ignoring what is often a substantial part of the value society places on a natural resource? Or should valuation include nonuse values despite the lack of a market-based valuation?⁴⁰ Automatic exclusion of nonuse values from a damage award gives them an economic value of zero, indicates a failure of the legal system to fully recognize them, and diminishes their worth in the mind of society.⁴¹ However, society's growing concern for the environment indicates the importance of nonuse values. Recognizing the importance of pristine areas and the value in the mere existence of a species underlies the pure conviction of some that segments of the natural world should remain unaltered.⁴²

C. Determining the Value of Environmental Harms

Once it is decided that damages should be awarded for nonuse values, the question becomes how to calculate the proper amount. This means "putting a dollar figure on that which, by definition for many people, is priceless."⁴³

36. *Id.*

37. *Id.*

38. *Id.* at 703. Arguably a given subset of society may not agree with that view, e.g., those who might wish to cut down a forest for job creation or other economic benefits. However, I would like to work off an assumption that most lawsuits where environmental harm is an issue involve some type of national or state protected resources, for example a national forest. In these cases, the mere creation of the national forest would suggest that a majority of society would like to foster a connection and respect for nature, and prevent complete destruction of natural resources. Furthermore, the passage of laws like CERCLA, OPA, the National Environmental Policy Act, the Marine Mammal Protection Act, and the Endangered Species Act indicate that there are some injuries to nature we as a country wish to prevent.

39. See Dobbins, *supra* note 8, at 909.

40. *Id.* at 907.

41. *Id.* at 941–42.

42. See Note, *supra* note 33, at 2000; Dobbins, *supra* note 8, at 880, 942.

43. See Baker, *supra* note 19, at 684.

Quantifying use values is relatively straightforward because there are usually market prices associated with the use of the resource.⁴⁴ The measurement of nonuse values is difficult for traditional economic methods to capture, and presents problems for legal notions of reliability and objectivity.⁴⁵ Though methodologies exist to value environmental harms, courts generally prefer market-based valuations of environmental harms.⁴⁶ Some more traditional market-based examples of commonly used valuation techniques are travel cost methodology⁴⁷ and hedonic pricing.⁴⁸

Remedies that replace or fix damage to a natural resource (also known as restoration and replacement remedies) are preferred by courts but may not achieve the desired goal of compensation for the harm.⁴⁹ Restoration and replacement remedies are appealing because they directly address the harm.⁵⁰ However, restoration costs may be higher than the actual value of the resource when measured by other valuation methods.⁵¹ The opposite problem may also be true: restoration or replacement does not address non-consumptive and nonuse values, which are a large component of the value society places on the destroyed resource, and therefore may not fully compensate for the harm in every single case.⁵² Furthermore, in some cases restoration may simply not be possible.⁵³

In addition, none of these methods fully captures the entire range of non-market based nonuse values, unlike CV. CV is the most commonly used methodology for determining nonuse values, and many say it is in fact the only

44. Individuals who use natural resources in this manner have already made an observable choice—for example, through the purchase of a hunting license, the price they pay for fish, or the amount of money they spend to travel to a recreation area. *See* Dobbins, *supra* note 8, at 899.

45. *See* Baker, *supra* note 19, at 684.

46. *See generally* Thompson, *supra* note 31.

47. This technique tabulates the amount that people are willing to spend to get to a natural resource. *See* Baker, *supra* note 19, at 682 n.19. This method is predominately applied to recreational uses of natural resources. For example, to determine the value of recreational fishing, a travel cost analysis might gather information on travel costs, license fees, on-site expenses, and cost of fishing equipment. *See* Chee, *supra* note 5, at 554–56. However, this method can fail to take into account unique characteristics of a natural resource (for example ecosystem services which are not visible or commonly appreciated) and may lead to aggregation costs (for example when more people visit a resource because it is close to a large city, but fewer people visit a national park because it is remote and hard to get to) that do not reflect the true value of a resource. *Id.* at 555.

48. This method bases the value of an environmental characteristic on the change in land value associated with damage to that resource. *See* Baker, *supra* note 19, at 682 n.19. For example, the value of a property may change depending on how much air pollution decreases a view, proximity to clean water, recreational activities, and the peace and quiet available. While this method is frequently applied in estimating the value of environmental amenities in the real estate market, it does not work with variables that are not as reliably tied to market values (for example nonuse values). *See* Chee, *supra* note 5, at 555.

49. *See* Kanner & Nagy, *supra* note 29, at 422; Baker, *supra* note 19, at 687–88.

50. *See* Peck, *supra* note 20, at 283.

51. *See* Kanner & Nagy, *supra* note 29, at 422; Peck, *supra* note 24, at 284.

52. *See* Kanner & Nagy, *supra* note 29, at 422.

53. *See* Peck, *supra* note 20, at 284.

methodology available to fully quantify nonuse values.⁵⁴ A CV study asks individuals to imagine a hypothetical situation in which they are required to make a financial decision involving a natural resource or an environmental good.⁵⁵ Randomly selected individuals are first given a set of statements to introduce the resource in question.⁵⁶ Next, individuals are asked a series of questions designed to elucidate how much they would be willing to pay to guarantee protection of that natural resource.⁵⁷ These questions ask how much an individual is willing to pay either to acquire the resource or to secure a policy of protecting the resource.⁵⁸ Once the surveys are complete, researchers analyze the data to produce an average value per person, and then multiply that by the number of individuals in the hypothetical market to determine the total value of a natural resource.⁵⁹ As one commentator wrote, CV “is, quite simply, damage assessment by public opinion poll.”⁶⁰

CV has been used in many different situations that require the valuation of environmental resources, including the litigation following the Exxon Valdez oil spill in Alaska. In the following example, a CV study was used in a regulatory policy decision to determine whether the value of preserving critical habitat for an endangered fish species was worth the cost in habitat restoration and hydropower restrictions.⁶¹ Survey respondents were given maps highlighting different areas that would be affected by changes in water flow from hydropower restrictions. They were then told that funding to preserve these areas would come through contributions from all U.S. taxpayers. If preservation occurred, within the next fifteen years the fish species would increase in population to the point that they would no longer need to be listed as threatened species. If preservation did not occur, some of the fish species would likely become extinct. Respondents were asked if they would be willing to vote for a preservation fund if it cost their household \$X per year.⁶² The

54. Richard T. Carson, *Contingent Valuation: A User's Guide*, 34 ENVTL. SCI. TECH. 1413, 1413 (2000); see also Dobbins, *supra* note 8, at 910; Jason J. Czarnetzki & Adrienne K. Zahner, *The Utility of Non-Use Values in Natural Resource Damage Assessments*, 32 B.C. ENVTL. AFF. L. REV. 509, 521 (2005) (“[T]he most common method of calculating such values involves . . . study that is termed contingent valuation.”).

55. Sameer H. Doshi, *Making the Sale on Contingent Valuation*, 21 TUL. ENVTL. L.J. 195, 297 (2008).

56. See Dobbins, *supra* note 8, at 922. These randomly selected individuals are contacted by phone, traditional mail, in person, and or through the internet. See Doshi, *supra* note 55, at 297 n.2.

57. See Dobbins, *supra* note 8, at 923.

58. See Doshi, *supra* note 55, at 297.

59. See Dobbins, *supra* note 8, at 923.

60. See Baker, *supra* note 19, at 680.

61. This example is taken from R. Barrens et al., *Valuing the Protection of the Minimum Instream Flows in New Mexico*, 21 J. AGRIC. & RES. ECON. 294, 298–99 (1996).

62. The exact wording on the questionnaire was:

Suppose a proposal to establish a Four Corners Region Threatened and Endangered Fish Trust Fund was on the ballot in the next nationwide election. How would you vote on this proposal? Remember, by law, the funds could only be used to improve habitat for fish. If the Four Corners Region Threatened and Endangered Fish Trust Fund was the only issue on the

dollar amount for “X” ranged from \$1 to \$350. This questionnaire was sent to a random selection of 800 households living nearby to the resource in questions and an additional 800 throughout the United States. An average willingness to pay was estimated to be \$195 per household, and was then extrapolated to the general population. This survey was used to determine that the value of preserving these areas (determined by the amount people were willing to pay to protect it) outweighed the cost (i.e., the expenses of running the hydropower project in a way that would protect the critical habitat).

In sum, a CV survey like this seems to be an effective means of placing a quantitative, market value on a natural resource on its face. CV provides a way to quantify the values associated with environmental goods for which no market-based pricing is available, such as nonuse values. Given the preference of courts for damages based on market values, the ability to convert an intangible environmental harm into an amount should help plaintiffs recover damages for environmental harm. Using CV, damages can include the full value of the harm instead of just the use values or market-based values.

1. Critiques of CV Studies

While some praise CV’s ability to translate environmental goods into market values, the methodology has its critics. Critiques fall into four main areas: (1) the hypothetical and informational biases to the surveys; (2) the evidentiary appropriateness of the surveys; (3) the uncertainty of estimates which result in misestimation of the value; and (4) the costs of incorporating CV into the legal process.⁶³

First, critics argue that surveys do not accurately reflect what individuals will actually pay for an environmental good because CV studies are purely hypothetical to the individuals participating in the survey. Specifically, critics contend that survey participants will overestimate the value of the natural resource in question because they do not face real-life consequences, and there is no incentive to consider actual income restraints.⁶⁴ For example, while an individual may truly wish to pay \$100,000 to preserve Yosemite National Park and may say so in a hypothetical survey situation, that person may not be able or willing to give that amount if asked in real life. Furthermore, some individuals (knowing that someone else will foot the bill) may report incorrect values in an attempt to artificially inflate the amount of money that will be given to preservation of the resource.⁶⁵

next ballot and it would cost your household \$_____ every year, would you vote in favor of it? (Please circle one.) YES / NO.

Dennis M. King & Marissa J. Mazzotta, *Contingent Valuation Method*, ECOSYSTEM VALUATION, http://www.ecosystemvaluation.org/contingent_valuation.htm (last visited Apr. 16, 2013).

63. See Montesinos, *supra* note 4, at 62–63.

64. See Note, *supra* note 33, at 1985; see also Keske, *supra* note 8, at 429 (noting that an individual states what they are willing to pay rather than what they actually pay).

65. This is referred to as a strategic bias. See Note, *supra* note 33, at 1985.

Similarly, critics maintain that CV is unreliable because individuals are unaccustomed to assigning prices to goods that are not valued by the market.⁶⁶ Furthermore, an individual's ability to value a resource will depend on their knowledge about the resource, and individuals are not likely to be familiar with the resource in question.⁶⁷ Inexperience can lead to poorly considered answers, especially when individuals may be biased by the survey questions themselves.⁶⁸ Another consequence of inexperience is "embedding," where nearly identical values are placed on different levels of loss.⁶⁹ For example, an individual may be willing to pay the same amount to save 200,000 birds as they are willing to pay to save 200 birds. As one critic put it, the "fundamental assumption underlying the use of CV, that people have well-articulated values for non-market goods, is simply wrong."⁷⁰

Second, critics question the evidentiary appropriateness of CV studies. Citing to the Federal Rules of Evidence, critics argue that CV is too speculative to qualify as admissible evidence.⁷¹ In particular, critics argue that CV surveys should be inadmissible because they fail to comply with the specific rules of evidence dealing with surveys and the admissibility of expert testimony.⁷² Under *Daubert v. Merrel Dow Pharmaceutical, Inc.*, and Federal Rules of Evidence 702, expert witnesses, as CV designers could be categorized, are allowed only if the technique used is testable, subject to publication or peer review, characterized by known standards or potential error rates and standards controlling the operation of the technique, and accepted widely within the relevant scientific community.⁷³ As one author noted, it is unknown whether CV is testable, and whether CV has a known or measurable error rate.⁷⁴ A CV study is fundamentally hearsay.⁷⁵ CV studies have not fared particularly well in

66. See Dobbins, *supra* note 8, at 923.

67. See Note, *supra* note 33, at 1985; Dobbins, *supra* note 8, at 926.

68. See Note, *supra* note 33, at 1986.

69. See Dobbins, *supra* note 8, at 925.

70. See Note, *supra* note 33, at 1986 (quoting David A. Schkade & John W. Payne, *Where Do the Numbers Come From?: How People Respond to Contingent Valuation Questions*, in *CONTINGENT VALUATION: A CRITICAL ASSESSMENT* 23 (1992)).

71. See Dobbins, *supra* note 8, at 929–30; see also Doshi, *supra* note 55, at 307–13.

72. See Dobbins, *supra* note 8, at 930.

73. See Doshi, *supra* note 55, at 308. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), is a seminal case for evidence in the law. Prior to *Daubert*, the rule for expert opinion based on scientific technique had been established by *Frye v. United States*, and only allowed evidence based on techniques that were generally accepted in the field. 293 F. 1013, 1014 (1923). *Daubert* held that the *Frye* test was superseded by Federal Rule of Evidence 702, and that the admissibility of scientific evidence should be determined under that rule. *Daubert*, 509 U.S. at 587–88. For more information about *Daubert*, see Michael H. Graham, *The Daubert Dilemma: At Last a Viable Solution?*, 179 *FED. RULES DECISIONS* 1 (1998); Paul M. Honigberg & Melissa Peirre, *Daubert: Development and Trends After 10 Years*, 35 *NO. 2 A.B.A. TRENDS* 4 (2003); and G. Michael Fenner, *The Daubert Handbook: The Case, Its Essential Dilemma, and Its Progeny*, 29 *CREIGHTON L. REV.* 939 (1996).

74. See Doshi, *supra* note 55, at 310.

75. *Id.* at 305.

federal courts in this regard.⁷⁶ One judge rejected the use of a CV survey as evidence, calling it “conjecture and speculation,” lacking “reasonable certainty” sufficient to establish the existence value it was aiming to prove.⁷⁷

Third, critics assert that CV valuations are inconsistent and therefore unreliable: comparisons of CV studies valuing the same type of resources have shown this lack of consistency in many cases.⁷⁸ In addition, studies show wide discrepancies when comparing the actual price of a marketable good (or a good that already has a set price) and the result of a CV study valuing the same good.⁷⁹ Furthermore, there may be high levels of uncertainty within a single CV study, where individual answers can vary widely and contribute to the instability of the results.⁸⁰ Critics worry that this uncertainty could cause CV damage calculations to either extremely overvalue or extremely undervalue a natural resource.⁸¹

Finally, critics note the ways in which CV can lead to increased cost to society through its incorporation in the legal system. The uncertainty with the awards will generate excessive amounts of litigation as opponents contest the validity of a CV study.⁸² This allows defendants to prolong resolution of a case and shift the focus from making the defendant pay to the various complaints over the valuation technique.⁸³ Potential defendants may take excessive precautions to avoid harm—costs which will then be passed on to consumers through higher prices.⁸⁴ Plaintiffs will take excesses as well, spending extra funds awarded to restore resources beyond the economically appropriate level.⁸⁵ Additionally, the cost of actually performing a CV study can be large; in 2002 the minimum price for a properly implemented CV study was \$25,000.⁸⁶ If the cost of performing a survey is prohibitive to plaintiffs, the benefit CV gives by valuing an environmental harm is lost.

The criticisms of CV, both from a practical and philosophical side, are numerous and well-founded. Most arguments focus on procedural problems with performing a CV study. Critics argue that it is “economic folly to assume some number is better than no number,” and that the potential error in CV studies is so large that the costs of using CV as evidence outweigh the benefits.⁸⁷ Despite arguments to the contrary,⁸⁸ many of the problems outlined

76. *Id.* at 310; *see generally* Thompson, *supra* note 31.

77. *Idaho v. S. Refrigerated Transp.*, No. 88-1279, 1991 WL 22479 (D. Idaho Jan. 24, 1991).

78. *See Note, supra* note 33, at 1987-89.

79. *Id.* at 1989.

80. *Id.* at 1988.

81. *See Montesinos, supra* note 4, at 66-67.

82. *See Note, supra* note 33, at 1992.

83. *See Kanner & Nagy, supra* note 29, at 419.

84. *Note, supra* note 33, at 1991.

85. *Id.*

86. *See Keske, supra* note 4, at 434.

87. *See Note, supra* note 33, at 1990, 1995.

above cannot be solved by designing better questionnaires; even a well-designed CV study cannot completely eliminate all the uncertainties and potential bias.⁸⁹ On a philosophical note, any type of economic valuation cheapens the value of a natural resource by trying to fit it into an anthropocentric structure.⁹⁰ On a practical note, CV studies are inordinately expensive and time-consuming, making litigation even longer and more complicated.⁹¹ After a more detailed look at CV, it does not seem as effective a method for valuing environmental harm as it appeared at first glance. However, there are also strong arguments in support of the methodology, as the following Section demonstrates.

2. Responses to the Critiques

The main argument in response to CV critics is that, despite its imperfections, it is the only methodology available for nonuse values and, therefore, should be used to avoid undervaluing environmental harm.⁹² Despite its theoretical problems, an increasing number of economists conclude that CV can provide useful information about lost nonuse values resulting from damage to a natural resource.⁹³ The courts and the federal government recognize that nonuse values must be included in damage assessments to ensure full compensation,⁹⁴ and some method must be used to put a price on that damage.⁹⁵ Furthermore, nonuse damages provide incentives for potential defendants to take precautions.⁹⁶ Adhering to strict guidelines while conducting CV studies can help to reduce the uncertainty and inherent bias noted by critics.⁹⁷

Supporters of CV also point out that critiques made of CV could also apply to juries.⁹⁸ Thus, they argue, the heightened scrutiny courts afforded CV

88. See generally Montesinos, *supra* note 4; see also *Ohio v. U.S. Dep't of Interior*, 880 F.2d 432, 478 (D.C. Cir. 1989) (noting problems with CV can be solved through "more sophisticated questioning").

89. See Note, *supra* note 33, at 1990; Dobbins, *supra* note 8, at 923. In two papers written almost twenty years apart, Jerry Hausman first argued that CV was deeply flawed and should not be used for damage assessment, and then found that despite the passage of almost two decades little improvement had been made to fix some of the major problems with CV. See generally Peter A. Diamond & Jerry A. Hausman, *Contingent Valuation: Is Some Number Better than No Number?*, J. ECON. PERSP., Fall 1994, at 45; Jerry Hausman, *Contingent Valuation: From Dubious to Hopeless*, J. ECON. PERSP., Fall 2012, at 43.

90. See Dobbins, *supra* note 8, at 936.

91. See Kanner & Nagy, *supra* note 29, at 419.

92. See Montesinos, *supra* note 4, at 69–72.

93. See Dobbins, *supra* note 8, at 929.

94. See generally CERCLA, 42 U.S.C. §§ 9601–75 (2012); OPA, 33 U.S.C. §§ 2701–62 (2012); *Ohio v. U.S. Dep't of Interior*, 880 F.2d 432, 462 (D.C. Cir. 1989).

95. See Montesinos, *supra* note 4, at 69.

96. See *id.* at 71.

97. *Id.* at 69.

98. *Id.* at 73.

valuations relative to jury determinations is unjustified.⁹⁹ Furthermore, supporters note that a jury guided by a CV study is better than an unaided jury—providing guidance to the jury diminishes the risk of runaway decisions in either direction.¹⁰⁰ In a trial, both sides will have the opportunity to argue to the jury why their CV figure is more appropriate than that presented by opposing counsel.¹⁰¹ Since uncertainty in valuations is commonly accepted as part of the American legal system, CV studies should not be automatically precluded.¹⁰² The availability of judicial review can also serve as a check on runaway CV studies; appellate judges will have greater discretion in setting aside jury awards that are based on a CV study because the record will contain more information to show a lack of support for the jury's decision.¹⁰³ Additionally, CV studies provide an opportunity for the participation and education of citizens, and provide much needed data on how much people value their connection to the environment.¹⁰⁴

II. OTHER TYPES OF NON-ECONOMIC DAMAGES

The significant controversy over the acceptance of non-market values conflicts with the legal system's frequent permission of damages based on non-economic harms in non-environmental contexts. The most obvious example is pain and suffering damages. However, other types of non-economic harm are recognized: special damages in nuisance law, damages for unique goods, and damages for privately owned natural resources all involve valuation of non-market goods.¹⁰⁵ In contrast to the clear preference in environmental law for valuation to be presented as evidence, these examples all involve a pure jury determination of non-market based damages.

The history of pain and suffering damages supports similar treatment for environmental damages. Beginning in the early nineteenth century, courts decided to compensate pain and suffering damages in tort cases, even though they were not market based.¹⁰⁶ Even though many saw these damage awards as inherently subjective and unpredictable, pain and suffering awards were universally recognized as a part of the plaintiff's damage award by the end of the century.¹⁰⁷ The practice of awarding pain and suffering damages continued

99. *Id.*

100. *Id.* at 75.

101. *Id.* at 70.

102. *Id.*

103. *Id.* at 78.

104. See Baker, *supra* note 19, at 720, 724. Data on how much value society places on the environment is essential to shaping environmental policy. *Id.* at 720.

105. See Kanner & Nagy, *supra* note 29, at 424. While all of these categories provide examples of pure jury determinations of non-market based damages, this Note will focus on pain and suffering damages.

106. Philip L. Merkel, *Pain and Suffering Damages at Mid-Twentieth Century: A Retrospective View of the Problem and the Legal Academy's First Responses*, 34 CAP. U. L. REV. 545, 548 (2006).

107. *Id.* at 549.

to develop over the next fifty years, and by the mid-twentieth century the framework governing these damages was set.¹⁰⁸ Courts acknowledged the inherent difficulty on placing a value on pain and suffering and the case-to-case variation of damage awards for the same injury; however, the jury was trusted to reach a fair result.¹⁰⁹

The motivation behind awards for non-economic pain and suffering damages are similar to the rationales awarding damages for nonuse values in environmental law. First, early common law used pain and suffering damages as an expression of social disapproval of undesirable conduct.¹¹⁰ Second, pain and suffering damages force society to acknowledge the injuries they compensate; because money is often the basis of determining value in our society, awarding money is a way to demonstrate society's recognition of the loss and of its importance.¹¹¹

Critics of pain and suffering damages allege a variety of flaws in the system. Because the jury has no rational way to assess pain and suffering damages, they are inherently subjective.¹¹² Damage awards incorporating pain and suffering can be large and inconsistent.¹¹³ This can over-deter beneficial activities by forcing excessive caution, threaten the perceived fairness of the legal system, and encourage litigation.¹¹⁴ Furthermore, some argue that pain and suffering damages do not further the goals of compensation in tort law: they cannot "make the plaintiff whole" or return the plaintiff to his pre-injury state.¹¹⁵ On a philosophical level, some argue that placing a dollar amount on pain and suffering diminishes the value of these feelings in a broader sense by commodifying and trivializing the importance of the emotions involved.¹¹⁶ However, despite these critiques, society recognizes that pain and suffering is important and that some sacrifice in terms of precision or predictability is acceptable to ensure that these losses are compensated.¹¹⁷

Like nonuse values in environmental harm, the value of pain and suffering is not reflected through the market. However, there is no method comparable to CV used to put a price on pain and suffering damages; the jury is given almost complete discretion.¹¹⁸ Jurors are expected to arrive at the appropriate measure

108. *Id.* at 559. Merkel's article also offers a review of the development and critiques of pain and suffering damages over this time period.

109. *Id.* at 559–60. See also Robert L. Rabin, *Pain and Suffering and Beyond: Some Thoughts on Recovery for Intangible Loss*, 55 DEPAUL L. REV. 359, 373 (2006) (noting that juries have exercised a relatively unlimited discretion in setting awards for pain and suffering.).

110. See Rabin, *supra* note 109, at 366.

111. See Dobbins, *supra* note 8, at 894–95.

112. See Merkel, *supra* note 106, at 546.

113. See Dobbins, *supra* note 8, at 892.

114. *Id.* at 892–93.

115. See generally Joseph H. King, Jr., *Pain and Suffering, Noneconomic Damages, and the Goals of Tort Law*, 57 S.M.U. L. REV. 163 (2004).

116. See Dobbins, *supra* note 8, at 893.

117. See Kanner & Nagy, *supra* note 29, at 425.

118. *Id.*

of damages “by using background and experience and their enlightened conscience.”¹¹⁹ Standard jury instructions encourage jurors to act reasonably.¹²⁰ In general, litigators present evidence to the jury concerning the plaintiff’s condition prior to the injury, the nature and extent of the injury, the effect of the injury on the plaintiff, the effect of the injury on the plaintiff’s spouse or other family members, and if able to the plaintiff may testify concerning the extent of the injury.¹²¹ Jury determinations of pain and suffering damages value non-market harms without the aid of surveys or expert testimony on the value of the harm, and our legal system accepts this.

III. INTANGIBLE ENVIRONMENTAL DAMAGES IN *UNITED STATES V. CB & I CONSTRUCTORS, INC.*

A recent case in the Ninth Circuit combined recognition of recovery for nonuse values with an acceptance of a straight jury determination of damages.¹²² The court rejected arguments from the defendant that expert testimony on the value of the environmental harm was needed in order for the jury to determine damages.¹²³ Instead, the court found that evidence on the “nature and character” of the harm was sufficient.¹²⁴ While this is a step in the right direction for those who would argue that environmental harm is similar to pain and suffering and can be determined in the same method, the opinion is lacking an affirmative support for this conclusion. A discussion of the policy rationales behind allowing jury determinations of environmental harm would bolster the court’s conclusion.

A. *The Copper Fire*

On a hot summer day in June 2002, sparks from an electric grinder ignited dry brush and started a fire that eventually burned 18,000 acres in the Angeles National Forest in Southern California.¹²⁵ Known as the Copper Fire, the fire

119. *Id.*

120. *See* Rabin, *supra* note 109, at 374. For example, the Judicial Council of California recommends the following jury instructions: “No fixed standard exists for deciding the amount of these noneconomic damages. You must use your judgment to decide a reasonable amount based on the evidence and your common sense.” JUD. COUNCIL CAL. CIV. JURY INSTRUCTIONS § 3905A (2011).

121. *See* Kanner & Nagy, *supra* note 29, at 441. Similarly, with harm to unique goods, courts have generally allowed jurors to hear all the relevant evidence regarding the item’s value, and then left it to the jury to determine the appropriate damages. With regards to privately owned natural resources (in particular ornamental trees), the jury can consider the non-market value of the resource to “permit flexibility and achieve a just and reasonable result.” *Id.* at 429–30, 432.

122. *United States v. CB & I Constructors*, 685 F.3d 827 (9th Cir. 2012).

123. *Id.* at 838.

124. *Id.*

125. *Id.* at 830–31. The temperature that day exceeded 100 degrees, but the employees of CB & I still chose to perform tasks that were known fire hazards without taking recommended fire prevention precautions such as clearing nearby brush, watering the dry vegetation, or keeping a fire watch on the ground. The fire also burned 2000 acres of privately owned property. *Id.*

caused extensive damage in the Forest, in particular in the San Francisquito Canyon.¹²⁶ The Canyon is a chaparral and sage scrub ecosystem that contains populations of several species which are protected under the Endangered Species Act.¹²⁷ After nearly a week fighting the fire, firefighters succeeded in containing the blaze on June 11, 2002.¹²⁸ In the Canyon area, almost all of the native vegetation had been burned. More than ninety percent of the threatened California Red Legged Frog habitat was destroyed by the fire and subsequent floods.¹²⁹ The damage caused by the fire opened the door to invasive species, created a serious flood hazard, and increased watershed sedimentation rates.¹³⁰ Experts estimated that it could take up to twenty-five years for the Forest to recover.¹³¹ The fire had also caused significant damage a historically significant mining camp.¹³²

In June of 2008, the United States filed a civil action against CB & I Constructors, Inc., (the sub-contractor whose employee started the fire) and Merco Construction Engineers, Inc. (the general contractor).¹³³ During the trial, the government called multiple expert witnesses to testify to the environmental harm caused by the fire, in particular harm to scenic views, recreational use, soil stability, water quality, plant life, wildlife habitat, and the Red Legged Frog population.¹³⁴ However, there was not any testimony that valued this environmental harm; the government argued that “environmental damages are ‘not susceptible to empirical calculation’ because they are ‘measured by their value to the public and for posterity.’”¹³⁵ The government described this “intangible environmental harm” as a category of damages that the jury would have to decide on for themselves, based on their individual assessment of the evidence.¹³⁶

After deliberating, the jury found that CB & I and Merco were liable for negligence and trespass by fire.¹³⁷ CB & I was found to be sixty-five percent at fault.¹³⁸ More surprising, and perhaps even shocking, was the damage award: in addition to \$7.6 million for fire suppression and resource protection costs, the jury awarded an additional \$28.8 million for intangible environmental

126. *Id.* at 831.

127. These species include the Bald Eagle, California Condor, Southwest Willow Fly-catcher, and the California Red Legged Frog. *Id.* at 830.

128. *Id.*

129. *Id.*

130. *Id.* at 831.

131. *Id.*

132. *Id.* at 832.

133. *Id.*

134. *Id.*

135. *Id.*

136. *Id.*

137. *Id.*

138. Merco settled with the government before the jury returned its verdict. *Id.*

damages (“IEDs”).¹³⁹ CB & I made a renewed motion for judgment as a matter of law, challenging only the award of IEDs.¹⁴⁰ Additionally, CB & I moved for a new trial or a remittitur, arguing that the \$28.8 million award for IEDs was excessive.¹⁴¹ The District Court denied both motions,¹⁴² and CB & I appealed the decision.

In its appeal to the Ninth Circuit, CB & I presented three principle arguments: (1) that IEDs are not compensable in tort suits dealing with harm to property; (2) that the government did not produce sufficient evidence for the jury to rationally determine the amount of IEDs; and (3) that the jury award was grossly excessive.¹⁴³ The court upheld the jury award, holding that: (1) California law allowed for intangible environmental damages; (2) the government had presented sufficient evidence for the jury to determine the appropriate damage award; and (3) the reward was not excessive.¹⁴⁴

Because state law governs recovery of damages for harm caused in a national forest, the court addressed CB & I’s first contention through a review of California law. California tort law provides that the correct measure of damages is the amount which will fully compensate the plaintiff.¹⁴⁵ Furthermore, the specific statutory provision governing liability for negligently set fires broadly allowed for recovery of damages, with “no restrictions on the type of property damage that is compensable.”¹⁴⁶ The court noted that both California and federal courts have allowed both public and private landowners to recover for environmental harm caused by negligently-set fires.¹⁴⁷

Regarding CB & I’s second contention, the Ninth Circuit held that the evidence presented by the government was sufficient to support the jury’s damage award.¹⁴⁸ CB & I argued that none of the evidence presented could have provided the jury with a rational basis to determine the damage award.¹⁴⁹ Since the government did not present evidence about the monetary cost of restoring the burned acreage or the value of lost recreational use, CB & I

139. *Id.* Under Federal Rules of Civil Procedure 50(b), a party is entitled to renew a Rule 50(a) motion for judgment as a matter of law after the jury has returned a verdict. FED. R. CIV. P. 50(b).

140. *CB & I*, 685 F.3d at 833. CB & I did not challenge its liability for the damage caused by the fire. *Id.*

141. *Id.*

142. *United States v. Merco Constr. Eng’rs, Inc.*, No. CV 08-3609 PA (AGRx), 2010 WL 1068413 (C.D. Cal. Jan. 25, 2010).

143. *CB & I*, 685 F.3d at 833.

144. *Id.* at 829.

145. CAL. CIV. CODE § 3333 (West 2012).

146. *CB & I*, 685 F.3d at 834 (quoting *McKay v. California*, 10 Cal. Rptr. 2d 771 (1992)); CAL. HEALTH & SAFETY CODE § 13007 (West 2012). This statute has since been amended. *See* discussion *infra* Part V.

147. *See* *People v. S. Pac. Co.*, 188 Cal. Rptr. 913 (1983); *United States v. Union Pac. R.R. Co.*, 565 F. Supp. 2d 136 (E.D. Cal. 2008); *Kelly v. CB & I Constructors, Inc.*, 102 Cal. Rptr. 3d 32 (2009); *Feather River Lumber Co. v. United States*, 30 F.2d 642 (9th Cir. 1929).

148. *CB & I*, 685 F.3d at 839.

149. *Id.* at 837.

argued there was no basis for the jury's damage award.¹⁵⁰ The court noted that while property with no market equivalent must be quantified in a rational way, that quantification did not require mathematical precision.¹⁵¹ Focusing on a case from the early 1900s, the court noted that evidence in support of a damage award may include "the nature and character" of the harm.¹⁵² Given the government's extensive testimony detailing the fire's damage, the court held that there was sufficient evidence to support the jury's damage award.¹⁵³

Finally, regarding CB & I's third contention, the Ninth Circuit held that the jury's damage award was not grossly excessive.¹⁵⁴ CB & I based their argument on the government's suggestion that the jury calculate intangible environmental damage by applying a multiplier of two or three to the "tangible" economic damages.¹⁵⁵ This method is traditionally reserved for punitive damages, not compensatory.¹⁵⁶ However, the court hypothesized that a multiplier-based method was unlikely, because dividing \$28.8 million by the "tangible" economic damage yielded an "unlikely" multiplier of 3.77.¹⁵⁷ Rather, the court suggested that the jury probably employed a price-per-acre method because it was more straightforward.¹⁵⁸ Additionally, the court noted that a jury award of \$1,600 per acre was not grossly excessive given the scope of the environmental harm.¹⁵⁹

B. Focus on the "Nature and Character" of the Harm

In rejecting CB & I's second contention regarding the sufficiency of the evidence, the court focused on the sufficiency of the government's evidence showing that environmental harm had in fact occurred, rather than on the lack of any type of valuation of the harm. The government presented five days' worth of reports and expert testimony on the magnitude of the environmental harm.¹⁶⁰ The court held that this type of "nature and character" evidence alone, without any type of valuation of the environmental harm, was sufficient for the jury to rationally quantify the IED.¹⁶¹ The court noted that sentimental or subjective value is not a rational basis for a damage award.¹⁶² In comparison to a case where plaintiffs sought damages for a wedding dress destroyed in a fire,

150. *Id.* at 838.

151. *Id.* at 837.

152. *Id.* at 837 (quoting *Zvolanek v. Bodger Seeds, Ltd.*, 42 P.2d 92 (Cal. Ct. App. 1935)).

153. *Id.* at 839.

154. *Id.* at 839.

155. *Id.*

156. *Id.*

157. *Id.*

158. Dividing the total award for nontangible environmental damage by the 18,000 acres that were damaged gives a price of \$1,600 per acre. *Id.*

159. *Id.*

160. *Id.* at 837–38.

161. *Id.* at 838.

162. *Id.*

which was valued based on sentiment, the court noted that the government in *CB & I* did not rely on sentiment.¹⁶³

The phrase “nature and character” of the harm was taken from *Zvolanek v. Bodger Seeds*, a case from 1935 involving damage to an experimental variety of sweet-peas which had not yet reached a stage where market value was available.¹⁶⁴ The *Zvolanek* court required that the damages be ascertained in a “rational way . . . such as the difficulty and expense to which the plaintiff was put in acquiring the property, the nature and character of the use . . . and the like.”¹⁶⁵ While this may appear similar to the evidence presented to the jury in *CB & I*, the comparison falters when considering the evidence that was actually presented to the jury in *Zvolanek*. In that case, the jury heard testimony regarding the actual value of the time expended on developing the seeds and the rental value of the land that was used.¹⁶⁶ The court also noted that “the evidence showing the amount and value of the time devoted . . . reveals by computation that the loss suffered by plaintiff . . .”¹⁶⁷ Despite the fact that evidence of valuation and an actual amount was presented to the jury in *Zvolanek*, the *CB & I* court used the case in support of its proposition that no valuation was necessary regarding the harm caused by the Copper Fire.¹⁶⁸

The court rejected *CB & I*'s comparison to a case where damages were based on valuations presented to the jury as evidence.¹⁶⁹ In *United States v. Union Pacific Railroad Company*, the government presented evidence of restoration costs as well as expert testimony calculating the damage a fire caused to wildlife and public enjoyment.¹⁷⁰ Even though in *Union Pacific* there was an actual amount presented to the jury, the court in *CB & I* focused on the *Union Pacific* court's statement that “the case law is clear that there is not one particular method for ascertaining plaintiff's damages.”¹⁷¹ The *CB & I* court implied that even though multiple valuation methods were used in *Union Pacific* to ascertain damages, the possibility of valuation based solely on evidence of the nature and character of the harm (without an actual amount being presented) was still a possibility because the *Union Pacific* court did not explicitly rule it out.¹⁷²

C. The Missing Element in the Analysis

The court in *CB & I* drew support from cases that did not explicitly

163. *Id.* at 838–39.

164. 42 P.2d 92, 93 (Cal. Ct. App. 1935).

165. *Id.*

166. *Id.* at 93.

167. *Id.* at 94 (emphasis added).

168. *See id.* at 93; *CB & I*, 685 F.3d at 837–38.

169. *CB & I*, 685 F.3d at 838.

170. *United States v. Union Pac. R.R. Co.*, 565 F. Supp. 2d 1136, 1150–52 (E.D. Cal. 2008).

171. *CB & I*, 685 F.3d at 838 (quoting *Union Pac.*, 565 F. Supp. 2d at 1145).

172. *Id.*; *Union Pac.*, 565 F. Supp. 2d at 1150–52.

exclude valuation based solely on evidence of the nature and character of the harm, reasoning that since this type of valuation was not excluded it was therefore permitted.¹⁷³ However, the court failed to present an affirmative argument in support of why pure jury discretion should be valid. The court should have done more to explain why allowing a jury to pick an amount was appropriate in this case and for this type of damage award. As one author noted, “[judges] . . . at least at the appellate levels, are expected to justify themselves in principle-referenced opinions.”¹⁷⁴ Besides recognizing the policy considerations in support of allowing recovery of IEDs, a discussion of the parallel to tort damages for pain and suffering would have enhanced the court’s analysis and further supported its argument.

Arguing in support of jury determinations of damages for environmental harm, Allan Kanner and Tibor Nagy suggest that the only evidence jurors need to reach a dollar amount for the damage award is a description of the physical facts.¹⁷⁵ Similar to the types of evidence presented to jurors in pain and suffering cases, the article argues that to determine the amount of damages in environmental harm jurors should be presented with evidence concerning the condition of the environment prior to the harm, evidence concerning the nature and extent of the harm, evidence concerning the effect on use of the natural resource, and testimony regarding the significance of the natural resource to the community.¹⁷⁶ This is exactly the type of evidence presented to the jury in *CB & I*.¹⁷⁷

Considering the environmental harm involved in *CB & I*, and the nature of nonuse values in general, it is appropriate to draw a parallel to tort law.¹⁷⁸ “Natural resource damages are, indeed, the pain and suffering damages of the environment.”¹⁷⁹ As discussed above, the rationale in support of awarding damages for pain and suffering are similar to those used in support for awarding damages for nonuse values.¹⁸⁰ Despite the similarities in the rationale, damage awards for these two types of harm are treated very differently. While jury determinations of pain and suffering damages are accepted in our legal system, courts look much more favorably on market-based valuations in the environmental context.¹⁸¹ The process for determining pain and suffering damages does not require an expert analysis or survey of

173. *CB & I*, 685 F.3d at 837–39.

174. Christopher D. Stone, *Do Morals Matter? The Influence of Ethics on Courts and Congress in Shaping U.S. Environmental Policies*, 37 U.C. DAVIS L. REV. 13, 22 (2003).

175. See Kanner & Nagy, *supra* note 29, at 440–41.

176. *Id.* at 440.

177. *CB & I*, 685 F.3d at 837–38.

178. See Baker, *supra* note 19, at 697.

179. See Kanner & Nagy, *supra* note 29, at 439.

180. See *supra* Parts II.B, III.

181. See Thompson, *supra* note 31, at 59 (2002). As Baker noted, an environmentally friendly outcome to a case “depends on an environmentally sensitive judiciary” See Baker, *supra* note 19, at 692.

what society values that harm to be; a jury is simply given evidence on the type of harm and allowed to reach their own conclusions. In fact, jurors cannot even be told the value of damage awards in comparable cases.¹⁸² Given the similar rationale supporting both intangible tort damages and intangible environmental damages, it makes sense that pure jury determinations should also be accepted in the environmental context.

In a study of the impact of environmental ethics on courts and policy makers, Christopher Stone found that judges are not likely to reference any sort of environmental philosophy in their opinions.¹⁸³ References to Aldo Leopold, for example, are cursory at best and not very likely to come up at all. Existence values, when referenced by the courts at all, were used in a more empirical context rather than in philosophical reflection.¹⁸⁴ In contrast, courts were more willing to reference and go into an in-depth discussion of philosophers in other fields (John Rawls or economic philosophers for example).¹⁸⁵ In summary, Stone noted that “[w]hile moral philosophy of any sort is slighted in . . . the judici[ary] . . . the traces of [environmental philosophy] appear to be particularly skimpy.”¹⁸⁶ The lack of discussion by the *CB & I* court around a rationale in support of jury determinations of environmental harm is another example of the lack of discussion of environmental ethics or environmental philosophy in general.

IV. FORCING VALUATION – CALIFORNIA’S STATUTORY RESPONSE TO *CB & I*

The impact of *CB & I* was short-lived. Proposed legislation regarding timber industry regulations was amended to include a section on liability for wildfires.¹⁸⁷ By limiting the type of valuation that would be allowed as evidence of environmental harm, the bill effectively prevents the *CB & I* methodology of a jury determination from being used in future cases. Instead, litigants will be forced to use problematic valuation techniques like CV. However, as juries are capable of making this decision without them, valuation techniques should not be required at all.

A. *Assembly Bill 1492 and Limitations on Environmental Damages*

In response to the *CB & I* decision as well as litigation around other large wildfires, Governor Brown of California signed Assembly Bill 1492 on

182. Ronen Avraham, *Putting a Price on Pain-and-Suffering Damages: A Critique of the Current Approaches and a Preliminary Proposal for Change*, 100 NW. U. L. REV. 87, 90 (2006).

183. See Stone, *supra* note 174, at 50.

184. *Id.* at 35.

185. *Id.* at 29–30, 40.

186. *Id.* at 40.

187. 2012 CAL. LEGIS. SERV. CH. 289 (AB 1492) (West).

September 1, 2012, just over a month after the *CB & I* decision.¹⁸⁸ While much of the bill dealt with regulatory fees and compliance documents, a small section addressed civil liability. The bill passed with the support of two-thirds of the California legislature.¹⁸⁹

AB 1492 amended Section 13009.2 of the California Health and Safety Code to limit recovery from negligently caused wildfires to pecuniary and environmental damages that are “quantifiable and not unreasonable.”¹⁹⁰ The new statute notes that in determining the reasonableness of damages, the pre-fire fair market value of the property should be considered.¹⁹¹ This limitation is placed on any public agency, which is defined as “the United States of America or any political subdivision thereof, the State of California, any city, county, district, public agency, or any other public subdivision of the state.”¹⁹² The bill was opposed by the federal government on the grounds that it would make it harder to recoup the money necessary to recover from wildfires.¹⁹³

The categories of environmental harm that are specified in the statute indicate that IED, or nonuse values, can still be recovered.¹⁹⁴ These categories include what would be considered nonuse values, such as lost interim use, lost aesthetic value, damage to wildlife and wildlife habitat, and damage to rare features of the property.¹⁹⁵ However, these nonuse values are only recoverable to the extent they are quantifiable. Requiring a quantifiable damage award is forcing a calculation of environmental harm; pure jury discretion in determining damages is exactly what this statute is aimed to prevent. Until actually litigated, it is impossible to tell exactly what type of evidence quantifying the environmental harm will be allowed; however, CV or a similar methodology would likely be acceptable and the type of evidence presented in *CB & I* would be insufficient.

188. Press Release, Office of the Governor, Governor Brown Signs Bipartisan Legislation to Protect Jobs and Boost California’s Timber Industry (Sept. 11, 2012), *available at* <http://gov.ca.gov/news.php?id=17716>; *United States v. CB & I Constructors, Inc.*, 685 F.3d 827 (9th Cir. 2012).

189. Chris Megerian, *Jerry Brown signs bill boosting California timber industry*, POLITICAL (Sept. 11, 2012), <http://latimesblogs.latimes.com/california-politics/2012/09/california-timber-industry.html>

190. 2012 CAL. LEGIS. SERV. CH. 289 (AB 1492); CAL. HEALTH & SAFETY CODE § 13009.2(a) (West 2012). Recovery for damages to firefighting and restoration costs is specifically allowed. § 13009.2(a).

191. 2012 CAL. LEGIS. SERV. CH. 289 (AB 1492). One news article notes that it has long been a goal of timber companies to prevent recoveries larger than the market value of the land. Chris Megerian & Anthony York, *Gov. Jerry Brown Seeks to Cap Wildfire Liabilities in California*, L.A. TIMES (May 25, 2012), <http://articles.latimes.com/2012/may/25/local/la-me-wildfires-20120525>.

192. 2012 CAL. LEGIS. SERV. CH. 289 (AB 1492).

193. *See* Megerian, *supra* note 189.

194. CAL. HEALTH & SAFETY CODE § 13009.2(b) (West, Westlaw through 2012 Reg. Sess.).

195. *Id.*

B. Does AB 1492 Help or Hinder the Recovery of Damages for Environmental Harm?

AB 1492 raises the question: do we want to force valuation of environmental harms or do we want to let the jury decide?

While a system like CV has benefits and is an accepted method of valuing nonuse values, it is not necessarily preferable over a jury determination. Using a jury instead of a CV study can address some of the specific concerns about CV studies. As evidence, a CV study can be uncertain and unpredictable, and may not satisfy requirements for admissibility of evidence.¹⁹⁶ However, the evidence presented directly to the jury in *CB & I* regarding the nature and character of the environmental harm met all evidentiary standards. Criticisms of the actual survey process, which include the unfamiliarity and inexperience of participants with the subject matter, can also be addressed through a jury. After extensive expert testimony, the jurors in *CB & I* were much more familiar with the environmental harm than a survey participant would be after a quick introduction to the resource at the beginning of a CV survey. Critics additionally argue that inconsistency of CV surveys undermine their credibility. However, inconsistency in jury decisions regarding non-market based valuations are accepted as a consequence of the type of harm that is being valued. One of the main critiques of pain and suffering awards is that they are unpredictable.¹⁹⁷ Jury determinations of non-market based damages in other situations in tort law demonstrate that a jury is well able to make these exact types of valuations.

Expert advice (e.g., a CV study) is not necessary for a jury to determine an appropriate damage award for non-market values.¹⁹⁸ While it is true that a CV study allows litigators to present a single amount to the jury rather than a complex fact pattern involving environmental harm, lay people should be able to analyze complex situations like those in environmental litigation.¹⁹⁹ A jury given evidence describing the nature of the harm is capable of determining an amount on its own. Given that much of the support for awarding nonuse values is based on a connection society feels to the environment, jurors, as representatives of the public, are most able to appropriately value that connection.²⁰⁰ Expert opinion on valuation is irrelevant because lay people know better than anyone “how much they value their connection to the

196. See *supra* Part II.C.1.

197. See Avraham, *supra* note 182, at 93. In fact, the author notes that there are reasons why unpredictability and variance in pain and suffering awards might be considered a good thing. *Id.* at 94–95.

198. See Baker, *supra* note 22, at 716 (referencing Stephen A. Saltzburg, *Improving the Quality of Jury Decisionmaking*, in *VERDICT: ASSESSING THE CIVIL JURY SYSTEM* 341, 348 (Robert Litan ed., 1993)).

199. See Baker, *supra* note 19, at 716–17.

200. *Id.* at 720.

environment.”²⁰¹ As with pain and suffering, the important factors are flexibility in approach and full compensation within limits of reasonableness.²⁰²

Forcing the presentation of a dollar amount to the jury is an unnecessary and costly step to valuation. The cost of performing a CV study may limit the ability of some plaintiffs to present the quantified evidence needed under AB 1492. Additionally, the inherent problems and critiques of CV make it a perfect target for opponents to fight over in litigation, taking up more of society’s time and resources.

Given the comparison between environmental harms and pain and suffering, it seems that a jury is capable of making an appropriate valuation. Both environmental harm and pain and suffering damages are based on an idea that society recognizes these injuries are valuable, and that awarding damages is one of the best ways to recognize it. AB 1492 ignores these similarities and forces plaintiffs to present evidence of harm in a quantifiable manner. Forcing valuation of environmental harm in order to recover damages forces plaintiffs to use problematic methods like CV or to risk not recovering for damages to nonuse values. Allowing a jury determination, widely-accepted in other areas of our legal system, allows for recognition and recovery of environmental harm and injuries to nonuse values.

CONCLUSION

The Ninth Circuit decision in *CB & I* may be the first step in what is to become a system of jury determinations for non-economic environmental harms. Maybe this will lead to more recognition in our jurisprudence on the value of the environment in terms of an environmental ethic and discussion similar to that used in support of pain and suffering awards.²⁰³ Or, perhaps this will be the first step in a system of statutory caps on recovery for nonuse values. This is a method that has been used in the pain and suffering context.²⁰⁴ Whether or not a similar system will work for environmental harm has yet to be determined. The debate over the best method to value environmental harm is far from over.

However, until a better system comes along, the valuation of environmental damages should not be forced through highly debated methods

201. *Id.* at 717.

202. See Kanner & Nagy, *supra* note 29, at 439–40.

203. See discussion *supra* Part IV.C.

204. A discussion of the critiques and support for statutory caps in pain and suffering damages is outside the scope of this note. For some thoughts on this topic, see Mark Geistfeld, *Placing a Price on Pain and Suffering: A Method for Helping Juries Determine Tort Damages for Nonmonetary Injuries*, 83 CALIF. L. REV. 773 (1995); Elizabeth Stewart Poisson, *Addressing the Impropriety of Statutory Caps on Pain and Suffering Awards in the Medical Liability System*, 82 N.C. L. REV. 759 (2004); and Avraham, *supra* note 182, at 97–106.

such as CV. Instead, courts should use an alternative that is well-accepted in other areas of the law: let the jury decide.