

ASSESSING ENVIRONMENTAL DAMAGES: HOW MUCH IS BEAUTY WORTH IN DOLLARS?

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A Symposium on
Environment in the Courtroom: Key Environmental Concepts and
the Unique Nature of Environmental Damage

March 23-24, 2012
University of Calgary



This project was undertaken with the financial support of:



Ce projet a été réalisé avec l'appui financier de :



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Canadian Institute of Resources Law
Institut canadien du droit des ressources
Faculty of Law
University of Calgary

Printed in Canada

INTRODUCTION

The current focus on assessing environmental damages reflects a new level of public concern for environmental degradation. Irrespective of any current legislation, accidents such as oil spills, fires, and waste discharge may still happen due to negligence or circumstances beyond one's control, often causing irreparable harm.¹

Therefore, to effectively protect the environment or, using Mr. Justice Binnie's words, "[i]f justice is to be done to the environment", Courts must ensure that losses are compensated.² Elgie and Lintner describe the necessity for damage compensation as follow:

"If those who cause environmental harm are not required to pay for it, then they will have little incentive to remedy the problem or prevent it in the first place. Simply put, if the environment is a 'free good' it will be undervalued and overexploited, and society as a whole will bear the cost."³

According to the *polluter-pays* principle, now widely endorsed by Canadian environmental law, polluters are responsible for paying the damages caused to the natural resources.⁴ Imposing liability on the responsible parties and forcing wrongdoers to clean up and restore the natural resource to its original condition is generally accepted and has been defined as "logical, quantifiable and fair".⁵ This approach awards damages based on

¹ A recent example is the "BP oil spill" which occurred in April 2010. BP's drilling rig spewed 4.9 million barrels or 185 million gallons of crude oil into the Gulf of Mexico over 87 days, making it the biggest unintentional offshore oil spill in the history of the petroleum industry. The spill has caused extensive damage to marine and wildlife habitats as well as the Gulf's fishing. See e.g. "BP leak the world's worst accidental oil spill" *The Daily Telegraph* (3 August 2010), online: The Telegraph Group <<http://www.telegraph.co.uk>>.

² *British Columbia v Canadian Forest Products Ltd*, 2004 SCC 38 at 8, [2004] 2 SCR 74 [*Canfor*].

³ Stewart AG Elgie & Anastasia M Lintner, "The Supreme Court's *Canfor* Decision: Losing the Battle but Winning the War for Environmental Damages" (2005) 37:1 UBC L Rev 223 at 253.

⁴ According to the Supreme Court of Canada, this principle "has become firmly entrenched in environmental law in Canada". See *Imperial Oil Ltd v Quebec (Minister of the Environment)*, [2003] 2 SCR 624, 2003, SCC 58 at 23. See also at 24 (the Court further explained that "to encourage sustainable development, [the polluter pays] principle assigns polluters the responsibility for remedying contamination for which they are responsible and imposes on them the direct and immediate costs of pollution).

⁵ See Charles J Dibona, "Assessing Environmental Damage" (1992) *Issue in Science and Technology* 50 at 51; Frank B Cross, "Natural Resource Damage Valuation" (1989) 42 *Vand L Rev* 269 at 327; Ontario Law Reform Commission, *Report on Damages for Environmental Harm*, 2d ed (Toronto: Queen's Printer for Ontario, 1990) [OLRC Report] at 29-30.

But see the OLRC Report also at 42 (stating that "in the case of a serious environmental disaster, damage may be irreversible, and restoration a futile remedy that might exacerbate the environmental damages that is intended to correct").

the cost of restoring the environment to its pre-contaminated state and is referred to as the *restoration cost approach*.⁶

Recovering damages above and beyond the restoration costs raises controversial questions rarely addressed by the Canadian courts. Key issues that need to be analyzed include determining whether compensation is owed for non-commercial damages to public natural resources and, if so, how the losses should be quantified.

As this paper will discuss, in the leading case *British Columbia v. Canadian Forest Products Ltd.* the Supreme Court of Canada implicitly recognized that non-commercial losses might be compensable. However, the Court did not take a clear position concerning the specific methods that could be employed to quantify these losses. Contingent valuation is the main method proposed by economists for estimating losses that do not have a market price, but there are many concerns with its legal application.

SHOULD COURTS AWARD COMPENSATION FOR NON-COMMERCIAL VALUES?

The current debate on the appropriate scope of recoverable damages concerns the so-called *non-use* or *passive values* of the resource. These values reflect the intangible human feelings of people who never use the resource at all.⁷ Passive values may include the benefit of knowing that a park, a river, or a watershed exists and is protected even if the public does not directly use the natural resource.⁸ Passive values may also include the desire of an individual to preserve the option to use the natural resource in the future.⁹ Finally, these values may reflect the satisfaction of leaving something behind for the next generation.¹⁰

The strongest argument for including passive values in damage assessment is that they indubitably exist.¹¹ Natural resources may have value beyond their use by humans and “a fish is worth something even if a fisherman never catches it”.¹² Cross notes that it is not uncommon for a person to desire to see the Grand Canyon at least once in his lifetime and to postpone this visit until later in life.¹³ Other individuals may want to protect endangered plants in the unknown event that the plants may possess undiscovered

⁶ Frederick Anderson, “Natural Resource Damages, Superfund and the Courts” (1989) 16 BC Env'tl Aff L Rev 405 at 445.

⁷ Cross, *supra* note 5 at 285; Dibona, *supra* note 5 at 51.

⁸ *Ibid.* See also OLRC Report, *supra* note 5 at 30-31.

⁹ *Ibid.*

¹⁰ These values are specifically referred to as existence value, option value and bequest value. See Dibona, *supra* note 5 at 51. See also Anderson, *supra* note 6 at 508.

¹¹ Cross, *supra* note 5 at 286.

¹² *Ibid.* at 284.

¹³ *Ibid.* at 286.

medical properties capable of curing human disease.¹⁴ Finally, somebody else might want to protect whales, wolves or grizzly bears from extinction because of their aesthetic or moral values even though they may never see these species.¹⁵

Proponents of passive values argue that including these estimates in the potential cost of damage is the only way “to ensure that compensation fully reflects the loss that was experienced”.¹⁶ Indeed, the question remains whether all these values can be measured at all. The assessment of damages for non-commercial losses in general has been described as “an intrinsically impossible task”.¹⁷ Many of the difficulties faced in environmental law are substantially similar to those encountered by the courts when quantifying damages for personal injuries, where the concern is giving a price to factors such as pain, suffering, loss of amenities, and loss of expectation of life.¹⁸

Similarly, how is it possible to put an accurate price on the loss of nature, complex ecosystems, wild animals, national parks, rivers, lakes or scenic panoramas in the event they are irremediable damaged? Is there enough money to pay for every fish, every animal, and plant that we value? In reality, people simply do not have enough information to devise a “mental market” and give proper prices to each component of the environment.¹⁹

CONTINGENT VALUATION METHOD: ACCURACY AND RELIABILITY IN QUESTION

The primary method proposed by economists for estimating values that do not have a market price is the *contingent valuation method*. This method employs personal interviews, telephone interviews, and mail surveys to ask individuals their willingness to pay for a given resource contingent on the existence of a hypothetical situation.²⁰ For example, a sample of people may be asked what they would be *willing to pay* to preserve the remaining grizzlies in Alberta or how much they would be *willing to accept* in order to be compensated for their loss. The contingent valuation method has been employed to value clean water, endangered species, and ecosystems.²¹ The same method has been

¹⁴ *Ibid* at 287.

¹⁵ *Ibid* at 288-289.

¹⁶ See Meagan Nieman, “Seeing the Forest and the Trees: Contingent Valuation in Canadian Environmental Law” (2008) 71 Sask L Rev 117 at 118.

¹⁷ *Cassell & Co Ltd v Broome* (1971), [1972] AC 1027 HL (Eng) at 1070.

¹⁸ See Cooper-Stephenson, *Personal Injuries Damages in Canada* (Toronto: Carswell, 1996) at 109.

¹⁹ Dibona, *supra* note 5 at 50.

²⁰ Elgie & Lintner, *supra* note 3 at 253; Anderson, *supra* note 6 at 444.

²¹ OLRC Report, *supra* note 5 at 47.

used also to measure the recreational and preservation values associated with the salmon in the Fraser River in British Columbia.²²

Many scholars consider contingent valuation as the optimal method to assess damages to the environment because, according to what some of the supporters believe, this method is able to “place tangible value on things that are difficult to contemplate in monetary terms” allowing the court to determine a complete economic value of the environment.²³ Supporters also note that “[t]he scope of its application is limitless” and contingent valuation can assess the value of all types of non-market goods that the other methods, such as market valuation, travel cost and hedonic price, are incapable of measuring.²⁴ Indeed, scholars often cite contingent valuation as the only method able to effectively estimate in monetary terms passive values, and apparently able to incorporate the *inherent value* of the natural resources into environmental damage calculations.²⁵

Despite the substantial support received, the application of contingent valuation to a wide range of environmental issues has also led to much controversy. First of all, some scholars criticize the contingent valuation method because it asks respondents to estimate values for hypothetical situations about which they have little information and no experience.²⁶ An ecosystem that supports many organisms in complex relationships may not be well understood by the public.²⁷ Therefore, the value of preserving certain environmental qualities can be obscured by the complex relationships of the relevant ecosystem and ignored by a respondent that does not fully comprehend them.²⁸

Another main criticism is that contingent valuation relies on the assumption that people will do what they say.²⁹ Respondents, it is argued, tend to fail in accurately estimating their willingness to pay for an environmental resource due to the abstract nature of the survey.³⁰ As a result, hypothetical bias occurs so that individuals do not respond to the contingent valuation survey as they would if the scenario was real.³¹ Respondents may purposely overestimate their willingness to pay in order to produce certain policy

²² *Ibid* at 48.

²³ See Nieman, *supra* note 16 at 118 and 128; William D. Shulze, “Use of Direct Methods for Valuing Natural Resource Damages” in Raymond J Kopp & V Kerry Smith, *Valuing Natural Assets, the Economics of Natural Resource Damage Assessment* (Washington: RFF Press, 1993) at 207.

²⁴ See the discussion of the OLRC Report, *supra* note 5 at 48.

²⁵ See e.g. Nieman, *supra* note 16 at 118.

²⁶ See e.g. Dibona, *supra* note 5 at 52 (wondering what experience and knowledge most individuals may have about the value of 200 healthy seabirds or 200,000 seabirds); Cross, *supra* note 5 at 317.

²⁷ Nieman, *supra* note 16 at 124.

²⁸ *Ibid.*

²⁹ See James Peck, “Measuring Justice for Nature: Issues in Evaluating and Litigating Natural Resources Damages” (1999) 14 J Land Use & Envtl L 275 at 284.

³⁰ *Ibid.*

³¹ *Ibid.*

decisions because they do not actually have to pay to obtain them.³² In other cases the value indicated may not result from passive value but from the satisfaction obtained by supporting an environmental cause.³³

Finally, the major drawback of this method is that it relies on the controversial assumption put forward by some economists that a willingness to pay may be used as a measure of value.³⁴ In other words, the value ascribed to the natural resources is based only on the individual willingness to pay, and ignores the worth of natural resources aside from human preferences or satisfactions.³⁵

Use of the contingent valuation method in courtrooms may pose serious problems because given the highly theoretical nature of the surveys the latter could be arbitrary and difficult to objectively verify.³⁶ In addition, the high cost of an accurate study limits its applicability for the majority of cases where the environmental damages claimed are too small to justify such costs for litigation.³⁷

ASSESSING ENVIRONMENTAL DAMAGES FOLLOWING *CANFOR*

In 2004, the Supreme Court of Canada had the chance to comment on the question of compensation for environmental damages. The case *British Columbia v. Canadian Forest Products Ltd.* involved a tort action brought by the government of British Columbia seeking compensation from Canadian Forest Products Ltd. (Canfor) for causing a forest fire that destroyed about 1,500 hectares of public forest land in northern B.C., including specific environmental sensitive areas (ESAs) protected from commercial logging that had been set aside to preserve the areas, the flora and fauna, and fish habitat.³⁸

The Crown claimed damages against Canfor for three categories of loss: i) expenditures for suppression and site restoration in the area, ii) loss of stumpage revenue for harvestable trees, and iii) loss of protected trees (ESAs) set aside for environmental concerns.³⁹ Although B.C.'s third claim was dismissed, the significant aspect of the

³² Cross, *supra* note 5 at 316.

³³ This is the so-called "warm glow" effect which represents the value of the feeling of having done something praiseworthy. *Ibid.*

³⁴ See Mark Sagoff, *The Economy of The Earth*, 2d ed (New York: Cambridge University, 2008) at 30-32.

³⁵ *Ibid.*

³⁶ Elgie & Lintner, *supra* note 3 at 258.

³⁷ *Ibid.* Particularly, the authors state that a litigation quality contingent valuation survey would normally require approximately 1,000 responses at \$100 to \$200 each response, and that not all of these would be the expensive studies. In addition, the bulk of the cost (60-80%) would be spent just on design and analysis of the survey. In the *Exxon Valdez* oil spill in 1989, the contingent valuation study was reported to cost \$3M US.

³⁸ *Canfor*, *supra* note 2 at 1.

³⁹ *Ibid* at 3.

decision is the Court's reasoning that B.C. could have obtained the damages sought had it provided proper pleadings and evidence.⁴⁰

The Supreme Court decided that the Crown may sue as *parens patriae* on behalf of the public for damage to a publicly owned resource and recognized the potential of the common law "to assist in the realization of the fundamental value of environmental protection".⁴¹ Furthermore, the Court recognized that the worth of public natural resources is not limited to just their commercial value but may include non-market values.⁴² However, in the absence of statutory intervention the Supreme Court emphasized the need to proceed cautiously and to act on the basis of properly supported assertions.⁴³ Since the Court found that the Crown had not provided any evidence proving an ecological or environmental loss of the damaged protected sensitive areas, no compensation aside from the restoration costs was awarded.⁴⁴

The *Canfor* decision is significant in many aspects, but it appears to have left crucial questions unanswered. For instance, the Court unanimously accepted that environmental concerns are legitimate factors in the assessment of damages.⁴⁵ However, it did not spend much time debating the merits of the compensable losses even though non-commercial losses are still relatively unrecognized in Canadian environmental law judgments.⁴⁶ The Court then moved on to outline the type of evidence needed to prove the loss such as "the nature of the wildlife and plants, the uniqueness of the ecosystem, the environmental services provided, the recreational opportunities afforded by the resource or the emotional attachment of the public to the damaged or destroyed area".⁴⁷ On the other hand, since the Crown's claim was dismissed for lack of evidence, the Court concluded

⁴⁰ *Ibid* at 12 and 153. The majority rejected the province's claims for losses to the environment on the basis that B.C. had not provided proper evidence, and that the pleadings were limited to seeking damages as an owner of the land and not damages in its capacity as a *parens patriae*.

⁴¹ *Ibid* at 155 (stating that "I do not accept that there is anything so peculiar about 'environmental damages' as to disqualify them from consideration by the Court").

⁴² *Ibid* at 135-136 and 153.

⁴³ While recognizing the Crown's ability to sue as *parens patriae*, the Court did not accept that the Crown may succeed simply because "on this issue [it] occupies the moral high ground". *Ibid* at 81, 132-136, 138-141, 143, 146-147, 155.

⁴⁴ *Ibid* at 12 and 153.

⁴⁵ *Ibid* at 146.

⁴⁶ In *Soutzo v Canterra Energy Ltd*, [1988] AJ No 506 (QL) the Alberta Court of Appeal awarded damages for trees lost by fire as well as damage for temporary loss of use and temporary *loss of aesthetic value*. In *Kates v Hall* (1991), 53 BCLR (2d) 322, the British Columbia Court of Appeal upheld an award of damages for the destruction of trees on a country property despite proof that the market value of the property had not been affected. However, in none of these cases the claim approached the almost \$1.5 million sought for environmental loss in the *Canfor* case. See also Jerry V De Marco, Marcia Valiante & Marie-Ann Bowden, "Opening the Door for Common Law Environmental Protection in Canada: The Decision in *British Columbia v. Canadian Forest Products Ltd*" (2005) 15:2 J Env'tl L & Prac 233 at 241.

⁴⁷ *Canfor*, *supra* note 2 at para 141.

that it was “neither appropriate nor necessary to pronounce on the specific methodology that could be employed in valuation of environmental losses”.⁴⁸

In summary, the Supreme Court did acknowledge that natural resources have values that are not captured by the market system and that “nobody in their right mind would value Stanley Park on the basis of stumpage revenue that could be obtained from the trees”.⁴⁹ However, whether the recognition of these values will evolve into eventual compensation for them is still uncertain.

A LOOK AT THE UNITED STATES

The appropriateness of compensation for passive values of natural resources has been questioned in the US case law following the *Exxon Valdez* oil spill in 1989 and has been found to be compensable.⁵⁰ However, given the controversy generated at trial by the contingent valuation method, in 1993 the National Oceanic and Atmospheric Administration commissioned a panel to determine whether contingent valuation “could provide sufficiently reliable estimate of both use and non-use loss in natural resources damage assessment”.⁵¹

The panel featured many economists, including two Nobel Prize winners Kenneth Arrow and Robert Solow, and heard the testimony of advocates and critics of the contingent valuation method.⁵² In their final report the members of the NOAA panel outlined guidelines and recommendations, and concluded that a well-conducted study “can produce estimates reliable enough to be *the starting point* of a judicial process of damage assessment, including lost passive values”.⁵³ However, meeting this standard of proof has proven to be a serious challenge in the US.⁵⁴

⁴⁸ *Ibid* at 153. The Court rejected the Crown’s claim to an environmental “premium” at 20% of commercial value, describing this calculation as “overly arbitrary and simplistic” and stated that “less arbitrary techniques, which may or may not win eventual support in the Courts, are available and will have to be carefully considered when and if properly presented”.

⁴⁹ *Ibid* at 136.

⁵⁰ *State of Ohio v United States Department of the Interior Asarco National*, 58 USLW 2071 (US 14 July 1989) [*Ohio*].

⁵¹ Kenneth Arrow et al, “Report of the NOAA Panel on Contingent Valuation”, 11 January 1993, online: <<http://www.darrp.noaa.gov/library/pdf/cvblue.pdf>> [NOAA Report].

⁵² *Ibid* at 42.

⁵³ *Ibid* (emphasis added). Suggestions for obtaining accuracy include framing the questions as to avoid strategic responses, including enough information to respondents to allow them to make informed judgments, using yes/no or multiple choice questions format, and to the extent possible avoiding open-ended questions.

⁵³ *Ibid* at 43.

⁵⁴ According to what the NOAA Report states, *supra* note 51 at 37-38, the burden of proof of reliability rests on the survey designers. They must show through experiments that their survey is reliable. In addition,

Given the complexity and the weaknesses of contingent valuation, Courts in the US seem to have rejected the method unless damages are so extensive that restoration costs would not adequately reflect these losses.⁵⁵

CONCLUSION

The whole idea of awarding damages for harm to the environment or public resources is relatively new, and the law still needs to develop in order to assist courts in the assessment of environmental damages.⁵⁶ The Supreme Court of Canada acknowledged that natural resources have values that are not captured by the market system, but whether these values can be measured in the context of litigation is still unclear. Contingent valuation is a limited valuation tool subject to high criticisms as to its reliability and accuracy, and as discussed by the NOAA Report its estimates would be just the starting point of any judicial damage assessment. As a result, the Canadian courts will likely proceed cautiously before relying on this method.

if the contingent valuation survey suffers from any of the following problems it will be considered unreliable:

- A high non-response rate to the entire survey instrument or to the valuation question.
- Inadequate responsiveness to the scope of the environmental insult.
- Lack of understanding of the task by the respondents.
- Lack of belief in the full restoration scenario.
- “Yes” or “no” votes on the hypothetical referendum that are not followed up or explained by making reference to the cost and/or the value of the program.

For a general discussion of the NOAA report see also Nieman, *supra* note 16 at 124-128; and Elgie & Lintner, *supra* note 3 at 258.

⁵⁵ See Nieman, *ibid* at 124-128.

⁵⁶ Elgie & Lintner, *supra* note 3 at 261.