The Preservation of the Intrinsic: Ecosystem Valuation in New Zealand

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The intrinsic value of Nature is often cited as a reason for mankind to protect and preserve the environment, and there are a number of international instruments that acknowledge this. However, New Zealand has also recognised this concept in its domestic legislation, an inclusion that appears to be unique amongst States. Any discussion of intrinsic value inevitably raises fundamental philosophical questions of subjective belief and objective reality, issues that have captured and confounded philosophers for over two thousand years. This article examines the historic context of intrinsic value and identifies the problems that arise when a philosophical or "pure" interpretation is mandated. In order to avoid these difficulties and to give a functional meaning to the concept of intrinsic value this article proposes an ecosystemic approach under which ecosystem health forms the guidance for an environmental management practice. However, the issue still arises under this approach as to how we measure the value of ecosystems. A study conducted for the Auckland Regional Council has responded to this in the form of economic modelling. This study will be examined and critiqued. Finally, three areas in which an ecosystemic approach to intrinsic value has been implemented and proved successful will be highlighted.

1. LEGAL RECOGNITION OF INTRINSIC VALUES

The term "intrinsic value" appears in a number of international and domestic instruments as a foundation for protecting and preserving the natural environment. Internationally, the earliest to recognise these values was the Bern Convention on the Conservation of European Wildlife and Natural Habitats, in which

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the member states acknowledged that in forming the Convention they were:[1]

> Recognising that wild flora and fauna constitute a natural heritage of aesthetic, scientific, cultural, recreational, economic, and intrinsic value that needs to be preserved and handed on to future generations.

The Bern Convention demonstrates a fusion of the many factors that make the environment important to humans but further recognises that it is of value beyond that attributed by man. In 1992, the contracting parties to the Convention on Biological Diversity agreed similarly to recognise "the intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components".[2]

The Draft IUCN Covenant on Environment and Development declares as a fundamental principle that "nature as a whole warrants respect; every form of life is unique and is to be safeguarded independent of its value to humanity".[3] The World Charter for Nature confirmed that its members were "convinced that … every form of life is unique, warranting respect regardless of its worth to man".[4] Other Conventions that acknowledge the intrinsic value of nature include CITES,[5] the 1980 Convention for the Conservation of Antarctic Marine Living Resources,[6] the 1991 Protocol to the 1959 Antarctic Treaty on Environmental Protection[7] and the 1971 Ramsar Convention on Wetlands of International Importance.[8]

As a state party to many of these conventions[9] New Zealand has implicitly expressed support for the existence of intrinsic values. However, surprisingly, New Zealand has *explicitly* recognised their existence in a number of domestic environmental statutes.[10]

1 Convention on the Conservation of European Wildlife and Natural Habitats 31 Cmd. 8738 (1979) (Bern) Preamble, para 4.
2 Convention on Biological Diversity 32 ILM 818 (1992) Preamble, para 1.
3 Commission on Environmental Law of IUCN – The World Conservation Union in cooperation with International Council of Environmental Law, Environmental Policy and Law Paper No 31 Revision 2, Art 2.
4 World Charter for Nature A/Res/37/7 (1982) Annex para 2(a).
5 Convention on International Trade of Endangered Species 12 ILM 1085 (1973) (CITES).
6 19 ILM 837 (1980).
7 Protocol on Environmental Protection to the Antarctica Treaty 30 ILM 1455 (1991), Antarctica Treaty 1959 402 UNTS 71.
8 11 ILM 969 (1972) (RAMSAR).
9 New Zealand is a party to the Bern Convention, The World Charter for Nature, CITES, the Antarctica Treaties and Ramsar.
10 The author has been unable to find any other States that recognise the intrinsic values of nature within domestic legal instruments despite the almost global recognition of the World Charter and the Biodiversity Convention.

The National Parks Act was, in 1980, the first New Zealand statute to identify intrinsic values within the environment.[11] It established that National Parks are "to be preserved in perpetuity for their intrinsic worth and for the benefit, use and enjoyment of the public".[12] Areas deemed suitable for this preservation were those containing "scenery of such distinctive quality, ecological systems or natural features so beautiful or unique or scientifically important that their preservation is in the national interest".[13] These criteria have been largely repeated in the Tutae-ka-Wetoweto Forest Act 2001 which recognises that the Forest contains scenery of such distinctive quality, and ecological systems and natural features so beautiful, unique, or scientifically important that it should be preserved in perpetuity for its intrinsic worth and for the benefit, use and enjoyment of the wider public.[14]

The Environment Act 1986 supports the principle recognised by the National Parks Act, by stating within its long title that the Act's purpose was to:

> Ensure that in the management of natural and physical resources, full and balanced account is taken of –
> (i) the intrinsic values of ecosystems,
> (ii) all values which are placed by individuals and groups on the quality of the environment.

The following year the Conservation Act established the Department of Conservation (DoC), stating that its purpose was to be:[15]

> The preservation and protection of natural and historic resources for the purpose of maintaining their intrinsic values, providing for their appreciation and recreational enjoyment by the public, and safeguarding the options of future generations.

The Act defines "Nature Conservation" in a similar manner:[16]

11 Prior to this, the Geneva Convention Act 1958 schedule 1 recognised the intrinsic value of some personal objects.
12 National Parks Act 1980, s 4(1).
13 Ibid.
14 Section 6(6). The Hauraki Gulf Marine Park Act 2000 s 32(b) also uses this template; the purpose of the Park is to protect "scenery, ecological systems, or natural features so beautiful, unique, or scientifically important to be of national significance, for their intrinsic worth". Waitutu Block Settlement Act 1997, Sch 2 provides for preservation of intrinsic values "as if it were a National Park".
15 Conservation Act 1987, s 6(a) and s 2.
16 Conservation Act 1987, s 2.

> The preservation and protection of the natural resources of New Zealand having regard to their intrinsic values and having special regard to indigenous flora and fauna, natural ecosystems and landscapes.

As the Act's definition of natural resources includes plants and animals of all kinds, and "systems of interacting living organisms and their environment", the Act finds intrinsic values in a wide range of entities. As far as practicable DoC must manage these natural resources in such a way as to maintain their current state and their intrinsic values.[17]

The Resource Management Act 1991 (RMA), as the core legislation controlling development and resource use in New Zealand, recognises the intrinsic value of both ecosystems and water. Section 7 identifies the intrinsic values of ecosystems as a matter that decision-makers shall have particular regard to. Of equal significance are: the ethic of stewardship, the efficient use of resources, and the enhancement of the quality of the environment. Although not of "national importance", particular consideration of section 7 matters is required, and being a Part II concern they are relevant to all actions occurring under the Act, including regulations, policies, plans, and consideration of resource consents and submissions. Effects to intrinsic value may also be relevant as "actual or potential effects on the environment",[18] as a matter decision-makers consider relevant under s 32, or as a Part II principle analysed by an Assessment of Environmental effects.[19]

Unlike other Acts that offer no definition of intrinsic values, the RMA states that, in relation to ecosystems, intrinsic values are to be interpreted as:[20]

> Those aspects of ecosystems and their constituent parts which have value in their own right, including –
> (a) Their biological and genetic diversity; and
> (b) The essential characteristics that determine an ecosystem's integrity, form, functioning, and resilience.

In addition to the difficulties suggested by the assertion of "value in their own right" (that will be discussed below), the qualities contained in this definition, although instrumental, can be difficult to determine and quantify. The integrity of a system, for example, requires the constant health of all natural parts of the ecosystem, whilst its functioning is concerned with continuing cycles of energy and matter transfer.[21] Ascertaining and providing for the

17 Section 6(2) and s 2.
18 Resource Management Act, s 104(1)(a).
19 Fourth Schedule.
20 Resource Management Act, s 2.
21 Interview with Dr T Dennis, Department of Biological Science, Auckland University, 02.10.2004.

characteristics that determine an individual ecosystem's integrity or function is, therefore, a complicated puzzle, and a puzzle that is very sensitive to error.

In addition to complete ecosystems, the RMA also recognises the intrinsic value of bodies of water,[22] as a Part II consideration and by providing for water conservation orders.[23] When determining whether an application for a water order is to be granted, the Environment Court is to have particular regard to the purpose of sustaining outstanding intrinsic values.[24] It is interesting to note that the Amendment introducing conservation orders did so with the purpose of preserving and protecting "the wild, scenic, and other natural characteristics of rivers, streams, and lakes"[25] and contained no reference to intrinsic values.[26] Characteristics of amenity and intrinsic values are suggested as being: its role as habitat, wild, scenic or other characteristics, scientific and ecological values, and spiritual or cultural characteristics.[27]

This link between ecosystems and intrinsic values is also found in later Acts. In order to achieve the purpose of the Hazardous Substances and New Organisms Act 1996 all persons exercising functions under it must take into account various matters, including the sustainability of native and valued flora and fauna, and the intrinsic value of ecosystems.[28] Both the Antarctica (Environmental Protection) Act 1994 and the New Zealand Antarctic Institute Act 1996 define the Antarctic environment as including its intrinsic value.[29]

The Resource Management (Waitaki Catchment) Amendment Act 2004 defines "instream values" (the preservation of which must be provided for in the regional plan)[30] as "qualities important for sustaining intrinsic values and amenity values". The Act also requires consideration of the intrinsic value of the Waitaki River, beds, banks, islands, lakes, and associated features. The Explanatory Note that accompanied the Bill gives an indication of the meaning of intrinsic values by referring to the sharing of water between instream values and essential uses such as public water supply and hydro-electricity.[31]

22 Including rivers, lakes, streams, ponds, wetlands, geothermal water and aquifers.
23 Sections 199 to 217.
24 Sections 199 and 212.
25 Water and Soil Conservation Amendment Act 1981 amending the long title of the Water and Soil Conservation Act 1967.
26 This is likely to be because the Water and Soil Conservation Act was largely concerned with water allocation whereas the Resource Management Act is effects based and requires protection of ecosystems.
27 "The Community Guide to the RMA" http:///www.rmaguide.org.nz (accessed 08.07.2005).
28 Hazardous Substances and New Organisms Act 1996, s 6(6).
29 Schedule 2 and s 6 of the Acts respectively.
30 Section 13.
31 Resource Management (Waitaki Catchment) Amendment Bill, Explanatory Note, Background.

In New Zealand, intrinsic value is closely related to the Maori relationship with the land. During the drafting of the RMA, intrinsic values were often associated with the Maori principle of mauri – "the elemental force that binds all things together and gives them meaning".[32] The associated principle of kaitiakitanga, the "stewardship", principle is recognised in s 7 of the Act. Both of these concepts share common elements with intrinsic value, none of which sit comfortably in planning processes. The relationship of tangata whenua with the New Zealand environment is acknowledged in a number of statutes, none more so than the RMA. Part II of the RMA recognises that "the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga" is a matter of national importance.[33] The relationship is acknowledged as being extensive – "ancestral lands" applies to more than habited land and taonga has been found to include spiritual and cultural aspects. Justice McGechan found in *Bleakley v ERMA*:[34]

> Beliefs which are central to a culture can be taken as treasured by that culture, even if given human failings that are imperfectly actioned … There is no necessary or rational distinction between the tangible and intangible so far as cultural and societal values are concerned, and that observation is as applicable to Maori as to any other.

2. THE MEANING OF INTRINSIC VALUE

Intrinsic value is commonly defined as value that exists independently of human valuation, perception, or consciousness – the value a thing has "in itself", "for its own sake" or "in its own right". The possibility that value may exist without human contemplation has been discussed since the dawn of Western philosophy; Plato characterised such value as a virtue, believing in an intrinsic goodness beyond human perception, whilst Aristotle found within living things "a principle of movement and rest".[35]

Despite centuries of scrutiny, there has been no consensus as to the source or even the existence of intrinsic values, though they have been said to reside

32 The Labour Opposition had originally wanted to place mauri at the top of Part II considerations (4 July 1991) NZ Parliamentary Debates Resource Management Bill, Third Reading (John Blincoe).

33 Resource Management Act, s 6(e). Section 8 requires consideration of the Treaty principles (not defined in the Act) of which one is the protection of taonga. See Department of Conservation, *Giving Effect to the Treaty of Waitangi in the Work of the Department of Conservation* (Wellington, 2001).

34 *Bleakley v Environment Risk Management Authority* [2001] 3 NZLR 213.

35 Aristotle Physics – Book 2.1. See http://classicsmit.edu/Aristotle/physics.htm (as at 20.09.2004).

within people,[36] books,[37] the American flag,[38] home ownership,[39] and the skills of volunteer firefighters.[40] William Frankena (1908–1994) compiled perhaps the most comprehensive list of qualities of intrinsic value, listing: life, consciousness and activity, health and strength, pleasure and satisfaction, truth, knowledge and true opinion, beauty, harmony, morally good dispositions, self-expression, security, adventure and novelty.[41] To complement this he also identified qualities with intrinsic vice.

Frankena's catalogue is a manifestation of the historic trend to question, "what has intrinsic value?" rather than answering the more fundamental questions "what is intrinsic value?" and "can such a value exist?" The first was answered very simply by forming a chain of derived values, in which the final link was non-derivative and therefore of intrinsic value. For example, money is valued for the ability to purchase a holiday, a holiday is valued for relaxation, and relaxation is valued for pleasure and personal harmony. These final states do not derive their value from any consequence or end result and would have been found by Frankena to have intrinsic value. This technique fails to address the major issues of intrinsic value however, as the qualities listed do not have value in themselves but are of ultimate value only to humanity. In comparison, intrinsic values are thought to exist independently of such partiality.

Intrinsic value is an ambiguous and unverifiable concept, which questions whether the source of an object's value rests within itself or within its appreciation by man. Therefore, the inclusion of intrinsic values in environmental legislation raises the fundamental eco-ethical question – why do we protect nature? For its usefulness as a resource (an anthropocentric or utilitarian approach), or because nature has a right to a healthy existence (an ecocentric or "pure" approach).

The Draft General Policy under the National Parks Act 1980 states "we preserve and care for places and species because we value them".[42] Yet the Policy also asserts that by preserving places or species we are declaring them

36 R. Regan, *Abortion and the Conscience of the Nation* http://www.freerepublic.com/focus/f-news/1327740/posts (accessed 08.07.2005).

37 Criteria used to select books to cull from the general collection in the National Library in 1999; (1999) New Zealand Parliamentary Debates (Nick Smith).

38 Flag Protection Constitution Amendment Report, Committee on the Judiciary, 2 June 2003 http://www.house.gov/judiciary/108–131.pdf (accessed 12.10.2004). The United States Supreme Court has also found intrinsic value in the separation of powers doctrine, *Elk Grove Unified School District et al v Michaela Newdow* 02–1624.

39 *Shaw v Selwyn District Council* [2004] EC C67/2004.

40 (14 May 1999) New Zealand Parliamentary Debates (Hon Jack Elder).

41 Frankena, William K, *Ethics*, (2nd ed, Englewood Cliffs: Prentice Hall, 1973) quoted by M Zimmerman, "Intrinsic vs Extrinsic Value" http://plato.stanford.edu/archives/fall2004/entries/value-intrinisc-extrinsic/ (accessed 08.07.2005).

42 New Zealand Conservation Authority, *Draft General Policy National Parks Act*, August 2003, 7.

of intrinsic value – that they have value in themselves, separate from any value that humans may ascribe to them.[43] As a result, the Draft Policy acknowledges two very different foundations for environmental protection: protection for our sake, and protection for Nature's sake. The first is based on the expansive range of values that humans attach to the environment – anthropocentric values. Such values are not limited to consumptive use but include the environment assuming the role of "gymnasium", "classroom", "laboratory", "silo" and "cathedral".[44] Each requires a degree of protection for the environment, yet each is a human use, albeit indirect, and is therefore anthropocentric. Human-centred values that are not based on usage are vicarious values and generally lie in the enjoyment or reassurance individuals and societies receive from the knowledge that natural resources exist and will continue to do so for ongoing generations. In contrast, a "pure" or biocentric approach to intrinsic value, embodied by the Deep Ecology movement, answers the question posed by intrinsic value with a resounding affirmation of Nature's own value. It requires a leap of faith, a position not unequivocally taken in New Zealand:[45]

> Intrinsic values is a notion that asserts that nature has value in its own right, independent of the value that humans give to it. While there is a body of thinking which accepts this concept, to others it is meaningless. For them values are inherently human and this should be the basis for formulating policy.

2.1 The Value of Nature: A Spectrum

Humanity's relationship with Nature can, therefore, be visualised as a spectrum upon which the starting point is a lack of any value at all, a position personified by John Locke who calculated that 99 to 99.9% of the value of land results from the labour from which it was improved.[46] Locke was hugely influential in developing the land ethic of the United States and had a general contempt for all things natural; he wrote, "Bread is more worth than Acorns, Wine than Water and Cloth or Silk than Leaves, Skins or Moss."[47] At the opposing end of the spectrum is the spirituality of "traditional" wisdom and animistic religions. In between lie the commonest shades of thought; from utilitarianism, to rights-based and duty-based views, and reaching a conclusion in holism and deep

43 Ibid.

44 W Godfrey Smith, "The Value of Wilderness", *Environmental Ethics* 1 (1979) 309–319, 309.

45 J Wilson, Treasury Paper on Sustainability, Resource Management Law Reform, Prepared for the Resource Management Law Reform Core Group, 1998, Vol 24, 2.

46 J Locke, "Of Property" in *Second Treatise* 42, accessed at http://www.swan.ac.uk/poli/texts/locke/lockcont.htm (as at 16.06.2005).

47 Ibid.

ecology. The fulcrum upon which this spectrum balances is the dichotomy of anthropocentrism and biocentricism.

2.1.1 Anthropocentric approaches

The inclusion of intrinsic values into New Zealand legislation – "a red rag to intellectuals of a neo-liberal/free-market persuasion"[48] – is in immediate conflict with the market-based approach of anthropocentrism under which human utility is inseparable from the environment and the concept of value. The very term "intrinsic value" exacerbates this conflict; Black's Law Dictionary defines intrinsic value as "the inherent value of a thing, without any special features that might alter its market value".[49] The dictionary then offers the example of a silver coin, of which the intrinsic value is "simply the value of the silver within it". The coin's intrinsic value lies not within its simple existence but, even stripped of historical or collectable value, is derived from the price that can be placed on the silver than forms its shape. "Value" is therefore external and human-centred, and contrary to the meaning of "intrinsic". Under this interpretation, a forest stripped of special significance would only hold value equal to the amount willing to be paid for its timber. Beyond this, the normal concept of "value" cannot trespass.

Characteristic of this utilitarian approach is a belief that the environment is a resource available for exploitation yet separate from human existence. It is considered typical of Western thought and was prevalent during the colonisation of New Zealand. With greater scientific knowledge, the West has largely discarded this approach in favour of a stewardship position under which the environment has resource value yet also recognised is the need to manage it carefully in order for it to provide indefinitely.

Stewardship, under a market approach, is recognition of the environment's enduring value, and is similar to a form of futures trading. Although the current market attributes little or no worth to an element, a canny trader perceives what the commodity has the potential to realise. This view is predominant in the American courts, in which biodiversity was offered protection because species "are potential resources. They are keys to puzzles we cannot solve, and may provide answers to questions we have not yet learned to ask."[50]

48 Salmon G, "The Extent to which Regulatory Control of Land Use is Justified under the RMA: Comments on a paper by Owen McShane", published in *Land Use Control Under the Resource Management Act*, Ministry for the Environment, April 1998.

49 Black's Law Dictionary, 8th ed; 2004 http://international.westlaw.com.ezproxy.auckland.ac.nz (accessed 15.10.2004)

50 *National Association of Home Builders at al v Bruce Babbitt, Secretary, United States Department of Interior and Mollie Beattie, Director, United States Fish and Wildlife Service*, 130 F.3d 1041.

Environmentalists reject this position on the grounds that an unfettered market is unable to determine appropriate value and will result in under-value and over-use of the environment. The Ministry for the Environment has likewise rejected this approach stating "future generations are not 'traders' in the market, yet many consider that they should have fair access to resources".[51] This is another view of stewardship, based upon a moral duty to provide for our descendants.

The duty to preserve resources for future generations has been confirmed in New Zealand legislation, primarily through the sustainability principle. The legal philosophy of the sustainability principle may be described as the right of humans to exist within, depend upon, and use and enjoy a healthy environment. This right, in a legal context, will attract a reciprocal duty. In this case, the duty rests upon the government to protect and manage the environment in such a way that the people of New Zealand, of today and tomorrow, will have access to a healthy, balanced environment. Six statutes recognise this duty by confirming sustainability as a goal and with it the promise that "the ability of future generations to meet their own needs will not be compromised by the decisions of today".[52] In other countries intergenerational equity has resulted in courts upholding a cause of action made on behalf of those unborn generations.[53] However, Australian philosopher John Passmore rejects this duty on the grounds that it rests "on the presumption that our descendants will still delight in what now delights only some of us and did not delight our predecessors".[54]

2.1.2 Biocentric approaches

At this point, the spectrum fades away from anthropocentric views and in its place grows a recognition that a duty that can provide for future generations could apply equally to other species, and even to the environment itself. Characterised by the animal rights movement, this biocentric approach makes no presumption as to value of the environment, it simply supposes that just as any human may value his life any other living creature may do the same, despite the lack of instrumental value its life offers another. The approach is, therefore, founded upon the duty and respect mankind has for other living creatures and

51 Ministry for the Environment, *Environment 2010 Strategy – A Statement of the Government's Strategy on the Environment*, Wellington, Ministry for the Environment, 1995.

52 The Environment Act 1986, Resource Management Act 1991, Fisheries Act 1996, Hazardous Substances and New Organisms Act 1996, Energy Efficiency and Conservation Act 2000, Local Government Act 2002.

53 "Their personality to sue in behalf of the succeeding generations can only be based on the concept of intergenerational responsibility insofar as the right to a balanced and healthful ecology is concerned." *Minors Oposa v Secretary of the Department of Environment and Natural Resources* 33 ILM 173 (1994) 177.

54 John Passmore, *Man's Responsibility for Nature* (London, Duckworth, 1974) 124–125.

is illustrated by the New Zealand Biodiversity Strategy which finds that all life forms and ecosystems have intrinsic value and warrant respect. Similarly, the International Union for the Conservation of Nature has stated that where there is an obligation on the State to conserve natural resources and a right of citizens to a stable and healthy environment there is a "corresponding obligation of citizens to such an environment".[55]

This approach has its roots firmly in a foundation of justice, represented by three sets of relationships: between existing persons, between present and future generations, discussed above, and the relationship between humans and other species. This relationship results in a moral obligation for humans to protect and value all living things without imposing a human hierarchy upon them. Precursors of this view are found in international and domestic instruments protecting animals from inhumane treatment and have been expanded to cause some to suggest that the environment should have the right of standing.[56] In some States with a very narrow degree of standing and a high degree of environmental degradation it is not unreasonable to advance this approach, but it does not fit easily within the human-centred legal context.[57]

This respectful approach is firmly rejected by those of a market-based persuasion because it is purported to require a consciousness not exhibited by many species. Peter Hartley, on behalf of the Business Roundtable, gives the example of male spiders who give up eating when they reach sexual maturation thereby indicating that the preservation of their lives is not of great personal importance.[58] Hartley also notes that such an approach would require the preservation of species of greater sentience over those without, a practice which would eradicate New Zealand's native species in favour of introduced rabbits and stoats.[59]

Beyond duties and obligations, holistic worldviews see the biosphere as interconnected whereupon each part is valuable for the role it has evolved to serve. This belief system is manifested in the Gaia Hypothesis, which suggests that the Earth functions as a single living organism through the interactive

55 IUCN, supra note 3.

56 See, C Stone, "Should Trees have Standing? Towards legal rights for natural objects" 45 *S CAL Law Rev* (1974); D. Favre, "Wildlife Rights: The Ever-widening Circle" 9 *Envtl L* 279 (1979); A D'Amato & S Chopra, "Whales: Their Emerging Right to Life" 85 *Am Int'l L* 21 (1991).

57 The approach has also suffered great criticism for continuing the established anthropocentric view by moral extensionism.

58 P Hartley, *Conservation Strategies for New Zealand* (New Zealand Business Roundtable, Wellington, 1997) 149. In contrast, see M Scully, *Dominion: The Power of Man, the Suffering of Animals, and the Call to Mercy* (St Martin's Press, New York, 2002).

59 Ibid at 150.

processing and passing of matter and energy.[60] The hypothesis maintains a human-centred approach by finding humanity to be Earth's conscious mind, a position that is similar to the duty-based approach discussed above.

Deep Ecology and the recognition of intrinsic values is the darkest shade on our spectrum. So connected are the two that the existence of the latter is said to be the "litmus test" of the former.[61] Coined by the Norwegian philosopher Arne Naess, Deep Ecology is a philosophical and cultural revolution in Western attitudes towards the environment in which the role of man is re-evaluated and viewed as just one entity within a greater web of life, each element being of equal value. Morality forms a central tenet of the movement, adherents proposing a strenuous bottom-line approach under which development is morally abhorrent. This position is based principally on the belief that Nature has value independent of human appreciation.

The relationship between belief and intrinsic value cannot be understated as it creates a difficulty inherent to the application of intrinsic value. The juxtaposition created by an objective reality that requires a subjective belief raises elemental questions of epistemology to which philosophers over three thousand years have been unequal; even Plato's perfect forms could only be known by gods and priests with otherworldly knowledge. Inherent to the nature of intrinsic values, therefore, is improvability, a quality requiring a "leap of faith" akin to that of religious conviction. This interpretation of intrinsic value – that it is a quality independent of human appreciation, ethereal and unverifiable, requiring a subjective belief – is the "pure approach" to intrinsic value.

The subjectivity of the term has been acknowledged: the National Biodiversity Strategy states "*to many people* biodiversity has intrinsic value" and offers a definition of sorts: "the value of the variety of life in itself".[62] The role the environment takes within the cultural and spiritual lives of New Zealanders was vocalised during the Resource Management law reform of the 1980s. The Report of the Royal Commission on Social Policy found that any resource management regime must recognise "the spiritual and scientific principle confirming the interconnectedness of all things"[63], and a Ministry for the Environment paper suggested that due to the precedent of the Environment Act account should be taken of the "full range of physical and metaphysical

60 See J E Lovelock, *Gaia: A New Look at Life on Earth* (Oxford University Press, Oxford, 1979).

61 J Baird Callicott & Michael P Nelson, *The Great New Wilderness Debate* (The University of Georgia Press, Athens and London, 1998) 231.

62 National Biodiversity Strategy 2000, http://www.biodiversity.govt.nz/pdfs/picture/nzbs-whole.pdf (accessed 08.07.2005).

63 Report of the Royal Commission on Social Policy, quoted in M Cameron, *The Consideration of Cultural and Spiritual Values in Resource Management* (Ministry for the Environment, Resource Management Law Reform, 1998) 10, 4.

values held by people with respect to the environment".[64] Such views were repeated during the submission stage for the Resource Management Act in which it was clear that there "was little support for the Act to be only bio-physically based" as for many people separating social and cultural issues from the biophysical environment is not possible.[65] This was considered especially true for tangata whenua for whom concerns about the environment are often spiritually based.[66]

3. NEW ZEALAND'S APPROACH TO INTRINSIC VALUE – 100% PURE?

New Zealand's environmental regime is unique in that it attempts to meld two distinct approaches to Nature within a legal context. Whilst the European view of the environment is traditionally believed to be anthropocentric and utilitarian, the holistic Maori culture is viewed as being in a spiritual relationship with the land.[67] As addressed above, over recent decades numerous statutes have recognised Maori belief systems through principles such as mauri and kaitiakitanga, concepts strongly aligned with intrinsic value. It is important to emphasise that in recognising Maori belief systems Parliament should not be seen as endorsing a spiritual approach to intrinsic value. The distinction between the concepts lies in the protection of subjective beliefs rather than the recognition of the object of those beliefs. The protection and acknowledgement of Maori beliefs in legislation requires consideration of cultural differences and attitudes; for example, section 6 of the RMA requires recognition of the relationship of Maori with their taonga, interpreted to include spiritual beliefs. This protection does not attest to or require the adherence to the truth of those beliefs.[68] By contrast, legislation appears to confirm the objective existence of intrinsic values, something that by their nature is impossible to do. However, if

64 M Cameron, *The Consideration of Cultural and Spiritual Values in Resource Management* (Ministry for the Environment, Resource Management Law Reform, 1988) 10, 3.

65 Ministry for the Environment, Analysis of Submissions, http://www.mfe.govt.nz/publications/rma/land-use-control-submissions-sep98.pdf (accessed 20.06.2005).

66 Ibid.

67 The Maori culture is also seen as anthropocentric and utilitarian to a degree but the culture was holistic and humanity was spiritually part of nature. See A Gillespie, *Environmental politics in New Zealand/Aotearoa: clashes and commonality between Maoridom and environmentalists*, Paper presented to University of Auckland conference on Environmental Justice and Market Mechanisms: Key Challenges for Environmental Law and Policy, Auckland, 5–7 March 1998; M Orbell, *The Natural of the Maori* (David Bateman, Auckland, 1998).

68 *Bleakley v ERMA*, supra note 34.

this appearance were taken as legislative intent it would require local authorities to walk down a "desperately metaphysical path".[69]

3.1 Difficulties with the Pure Approach

The statutory recognition of intrinsic values is inappropriate and results in confusion and uncertainty. Insurmountable difficulties arise from the proposition that the inherent qualities of Nature exist without the existence, or even contemplation, of man. This is not a simple recognition of spiritual beliefs but a confirmation of their veracity.[70] Intrinsic value cannot be defined, measured, weighed, or its existence verified; it is "simply not justiciable".[71] The High Court experienced this difficulty in 2002 when the prison development in Ngawha was said to adversely affect the residing taniwha. The Court stated: "although findings might be made about sincerity of belief, there is no reliable basis for deciding conflicting claims about the beings the subject of the belief".[72] The Court found that all it could do was find that there are people who genuinely believe in the existence of the taniwha but "they could not decide competing claims about effects on taniwhas, or even whether they exist at all".[73]

Despite the unsuitability of a vague and immeasurable term in a society without a common environmental ethic, the protection of intrinsic values is recognised by DoC as being the Department's first and primary concern.[74] The Conservation Act established the Department, guardian of one-third of the country's land area, for the purpose of preserving intrinsic values, a goal that cannot be identified and imposes obstacles before both decision-makers and stakeholders.

Environmental decisions are often polycentric, encompassing multi-disciplinary issues, and restricted by financial limitations. As such, it is necessary for Conservation Managers to prioritise actions and issues against

69 O McShane, "The extent to which Regulatory Control of Land Use is Justified under the RMA" in *Land Use Control under the Resource Management Act*, Ministry for the Environment, 1998.

70 Note the long title of the Environment Act which requires consideration of "all values which are placed by individuals and groups on the quality of the environment" separately and in addition to intrinsic values.

71 *Friends and Community of Ngawha Inc v Minister of Corrections* [2002] NZRMA 445; also see *Beadle v Corrections* W18/2002 in which the Court found that a taniwha was not a necessary consideration as it was not covered by the definition of "environment" in the RMA, s 2(1).

72 Ibid, 401.

73 Ibid, 442.

74 Department of Conservation, *Protection of Intrinsic Natural and Historic Values: goals and guiding principles of protecting intrinsic natural and historic value*, http://www.doc.govt.nz (accessed 07.07.2005).

an overall objective. To do so with the subjective yardstick of intrinsic value is impossible. Both the goal and the methods necessary to achieve it are unable to be objectively evaluated, as are any environmental effects of the decision. The Department has recognised the difficulty and stated:[75]

> How then does the conservation manager choose amongst all these [issues] which cannot be compared? The manager uses the oldest decision-making instrument in the world – gut feeling.

It is inappropriate for a governmental department's mandate to require gut feeling in the decision-making process.[76] An overall guiding principle that can be determined and achieved is required if decisions are to be consistent and balanced. DoC has recognised this:[77]

> It is impossible to get inside the manager's intuition to be sure that responses are consistent. Yet, responses must be consistent if real and valid changes in direction are to be achieved. A way out of the Director-General's dilemma is to break the range of possible tasks into those that relate to human values. Relatively objective sets of rules for decision-making associated with that value can then be created.

This transformation from intrinsic to instrumental is a necessary one, for once intrinsic value is recognised and given worth for its existence it must cease to exist in a "pure" state. The very act of considering and attempting to weigh intrinsic values removes its defining qualities.

An associated difficulty arises when determining how intrinsic values are to be compared, the result of which would be to find that some entities have greater intrinsic value than others. This is a position supported by legislation but relative values are impossible to determine, as any computation is likely to involve human value systems.[78] It is also based upon one's reasoning for the

75 P Lawless, T Stephens, *The Task of Conserving Biodiversity in New Zealand*, Biodiversity: Papers from a Seminar Series on Biodiversity, hosted by Science and Research Division, Department of Conservation, Wellington 14 June–26 July 1994, Wellington, Department of Conservation, 1996, 151, quoted by Hartley, supra note 58.

76 The inappropriateness of considering subjective qualities was illustrated in the Environment Court decision of *Tairua Marine Limited v Waikato Regional Council* [2005] A108/05 in which it was stated, in respect of noise effects: "a consent authority cannot take those subjective matters into account, lest decision-making descend to personal whim, and double counting of adverse effects occur".

77 Ibid.

78 The United States Supreme Court has found speech to have intrinsic value but to different degrees: obscenity, pornography and speech inciting lawlessness have less intrinsic value, a conclusion suggestive of human values.

environment's intrinsic value; if based upon an animal rights foundation sentient creatures will have greater value, disregarding their habitat, if based upon Plato's goodness of living things approach non-living aspects of ecosystems, water, gases, and sunlight, will be discounted. Under a spiritual basis for intrinsic value it may, therefore, be impossible to impose a hierarchy of worth and a decision maker will have no handle with which to grasp intrinsic values or balance them with opposing considerations.

An indistinct purpose also inhibits accurate assessment of the Department's activities. The effectiveness of the Department's performance can only be determined with a clear understanding of what it is intended to achieve. This has raised questions of unaccountability and even parliamentary evasion.[79] The inclusion of undefined goals erects a barrier to council, government and departmental accountability.[80] It gifts a wide discretionary power, the use of which administrators cannot be held accountable for, as the legislative goal is undetermined and vague. This has moved one commentator to state: "intrinsic values, like power, tend to corrupt, and are prone to corrupt absolutely when in the hands of those with monopolistic bureaucratic power".[81] The same commentator has suggested intrinsic values signal an abandonment of the traditional separation of religion and state under which powerful pressure groups can impose their religious beliefs, empowered by the rule of law.[82] Uncertainty of administrative purpose also leads to uncertainty for the New Zealand public, a fact acknowledged by Simon Upton in his valedictory speech to Parliament. He accepted that with the RMA Parliament had passed the difficult political (and philosophical) decisions to the courts, a practice he referred to as "legislative evasion".[83]

79 Roger Kerr, *The Resource Management Act: Fundamentally Sound or Fundamentally Flawed* (Palmerston North, 19 April 2002).

80 Sustainability has also been criticised for failing to ensure accountability. During the Reform it was suggested that "sustainable resource management practices should have explicit basis in legislation rather than leaving them to individual judgment". J T Bairns et al, *Sustainability and its Significance for the Resource Management Law Reform*, Centre for Resource Management, University of Canterbury and Lincoln College, Resource Management Law Reform, Resource Values, 1988, Vol 10, 60.

81 O McShane, supra note 69.

82 Owen McShane, "Beware the Environmental Utopians", *The Independent*, 21 March 1997.

83 Rt Hon Simon Upton, "Too Young – Too Old" (Valedictory Speech given to the New Zealand National Party, 12 December 2000) http://www.scoop.co.nz/mason/stories/PA0012/S00197.htm (accessed 08.07.2005)

3.2 The Value of Intrinsic Value

Despite the difficulties raised by the inclusion of intrinsic values in legislation – difficulties of definition, interpretation, and application – there are benefits to their inclusion. Firstly, they offer an alternative consideration to the market-based valuations of cost-benefit analysis. K Bosselmann identified this value in relation to balancing the human benefits of genetic engineering: "the recognition of nature's intrinsic value would have, at least, the potential to rectify grave imbalances and provide the counterweight necessary for more balanced decisions".[84] Secondly, a gradual hardening of society's views could occur over time as the courts, councils and communities are required to consider and possibly recognise the existence of these values as important aspects of planning and environmental decisions. Such potential has been recognised in the "soft" provisions of the RMA which has been acknowledged as "marking, and in part directing, a change in the way in which people regard the world".[85] Finally, this acknowledgement may assist the re-emergence of an environmental ethic within this country based upon the respect and duty owed to non-human elements of the biosphere. The Parliamentary Commissioner for the Environment has acknowledged these benefits and has stated that the references to intrinsic values "[are] a statement of the relevance of values rather than a direction to secure these values in resource management".[86]

The rewards available from the inclusion of intrinsic values is a motivation for the development of a workable approach to the concept. It is clear that a "pure" interpretation is unsuitable and impractical. In its place administrators and decision-makers require a guiding principle and ensuing management practice which offers practical and measurable outcomes.

3.3 Suggested Amendments

Numerous commentators have suggested amendments that they believe will reduce the confusion and uncertainty imposed by the "intrinsic value" consideration. Hartley, on behalf of the Business Roundtable, found the term to be a "concept bordering on meaningless"[87] and "a fundamental obstacle to

84 K Bosselmann, *Taking Nature Seriously: Building Blocks for a Theory on Environmental Justice*, Environmental Justice and Market Mechanisms: Key Challenges for Environmental Law and Policy, University of Auckland, 5–7 March 1998, 20.

85 John Milligan (unpublished), *A Lawyer's View: Summary of NZILA*, Canterbury Branch workshop, A Hard Act to Follow: Landscape and the Resource Management Act, June 1994.

86 Parliamentary Commissioner for the Environment, *Towards Sustainable Development – The Role of the Resource Management Act 1991*, Environmental Management Review No 1, August 1998.

87 P Hartley, supra note 58, ix.

[DoC] achieving successful outcomes for the people of New Zealand".[88] He suggested that the phrase should be completely removed from statute.[89] Owen McShane in his report on land use control under the Resource Management Act found that "truly intrinsic values" can only be discovered by some "mystical intuitive faculty" and as such should be replaced with "instrumental values" that are measurable and testable. In his responding paper R Nixon finds that substituting "instrumental values" would not remove the confusion and suggests that s 7(d) of the RMA be removed entirely. Nixon suggests that the section 6 matters of national importance, natural character preservation, outstanding natural features and the protection of significant indigenous vegetation, cover all issues anticipated by intrinsic values.[90] However, s 6 alone does not encompass the range of human values associated with the environment, but in combination with the s 5 purpose of achieving sustainable management the importance of the environment is emphasised whilst also acknowledging the human role within it. In another response to the McShane paper Guy Salmon considered that due to the semantic problems with intrinsic value it could be amended to "valued intrinsic characteristics of ecosystems". He viewed the RMA as containing an underlying biocentric concept that would not be extinguished with the absence of intrinsic values: "in attacking the concept of intrinsic values, Mr McShane's conceptual spear is really aimed at the heart of the Act".

4. AN ECOSYSTEMIC APPROACH

It is from this latter view that this article draws its approach to intrinsic values. As seen above, intrinsic value is an undefined, immeasurable concept, the truth of which cannot be determined. As Graeme Scott has commented: "What is wrong with all of this, in my view, is that it contains too much philosophy and not enough ecology."[91] In order to operate successfully and effectively, decision-makers and administrators require a workable approach to environmental management. It is suggested that an ecosystemic approach, used in combination with human values, would provide practical, reliable guidance. Under this approach "intrinsic value" is effectively read as "intrinsic characteristics of

88 Ibid, 161.

89 Ibid, 163.

90 In "The extent to which regulatory control of land use is justified under the RMA: Comments on a paper by O McShane", published in *Land Use Control under the Resource Management Act*, Ministry for the Environment, April 1998, K Tremaine agrees that McShane's suggested amendment would add nothing to the concepts already contained in the Act and notes that instrumental values carry their own definitional problems.

91 G Scott, "An Ethic for Nature", in Howell (ed), *Environment and Ethics – A New Zealand Contribution* (1986) 180.

ecosystems." This approach recognises the relationships between life forms and places great value upon the survival of each for its contribution to the operation of its natural ecosystem. Many metaphysical difficulties are therefore avoided by this scientific emphasis, in contrast to the many raised by the "pure" approach. Rather, it is a holistic approach to the environment supported by current scientific knowledge and aligned with the integrative approach of sustainability.[92]

The ecosystemic approach is not novel, but has its origins firmly in the evolution of ecology, a science founded by visionaries such as John Muir and Henry Thoreau that during the 1970s enjoyed a period of co-evolution with the burgeoning of environmental law. This period enabled ecology, the study of the relationships of organisms and their environment, to greatly influence the development of environmental protection and ecosystemic laws.[93] By ecosystemic laws it is meant "those laws which seek to regulate human activities with explicit awareness of the structure, function and integrity of the ecosystems and the biodiversity within those systems affected by those activities".[94]

A thorough understanding of ecosystems is clearly essential to this approach. However, "ecosystem" has not been defined by New Zealand statute since the limited definition of the Environment Act in 1986. The RMA refers to ecosystems and their constituent parts as including people and their communities, and the definition of intrinsic values identifies some of the attributes of those parts.[95] An archetypal definition would illustrate an ecosystem as consisting "of all the organisms in an area and the physical environment with which they interact".[96] This is a much broader field than that studied by Community Ecology or traditional science as it incorporates both environments modified by man and includes humanity as a feature of the environment. This is in agreement with the RMA definition of "environment," referred to above, but is in conflict with the established paradigm of environmental duality.

One of the greatest proponents of the ecosystemic approach, Aldo Leopold, the developer of the "Land Ethic", recognised that mankind, viewed within an ecological context, is a part of nature and must act as such. However, he never denied the need to use the land economically but simply recognised that

92 In applying current scientific knowledge, issues could arise concerning the application of the precautionary principle, particularly in light of ethical concerns. Recently the courts found that the precautionary principle was not needed when the uncertainty was social or ethical, *Bleakley v ERMA*, supra note 34.

93 See, R O Brooks, R Jones, R Virginia, *Law and Ecology: the Rise of the Ecosystem Regime (Ecology and the Law in Modern Society)* (Ashgate Publishing, Hants, 2002) 3.

94 Ibid.

95 Section 2, definition of "environment" and "intrinsic values".

96 P Ehrlich & J Roughgarden, *The Science of Ecology* (Macmillan, London, 1987) 521.

nature's wellbeing and human economy are intrinsically and intimately linked. He stated: "it is a state of mutual and interdependent cooperation between humans, animals, plants and soils, which may be disrupted at any moment by the failure of any of them". [97]

The Proposed New Zealand Conservation Strategy reflects this view, defining ecosystems as:[98]

> Life support systems and the processes within them [which] sustain all plant and animal life … every aspect of human survival depends on them. The protection of these essential processes and systems is vital for New Zealand as for any society.

The approach, therefore, remains human-centred in that it is accepted that humans are dominant in the Earth's environment and that human well-being and development is a necessary and desired outcome. The central goal of human survival remains but a holism is introduced that recognises that all life is interconnected and, therefore, has value for the role it has evolved to take. This in itself is a change from previous anthropocentric approaches in which man was separated from nature with little responsibility taken for the effects of human activities on the environment.[99] Here, man should be firmly viewed as an aspect of the biosphere, an aspect highly influential and able to inflict damage upon other aspects yet also reliant upon the health and well-being of the biosphere and the ecosystems comprising it. The World Charter states that "mankind is a part of nature and life depends on the uninterrupted functioning of natural systems which ensure the supply of energy and nutrients".[100] Whilst not requiring a change in beliefs it does require a change of perspective:[101]

> Instead of viewing the world of nature as onlookers from outside, we now have to understand how our own human life and activities operate as elements within the world of nature. So we must develop a more coordinated view of the world, embracing both the world of nature and the world of humanity – a view

97 Aldo Leopold, "The Conservation Ethic", in *River and Other Essays*, 182, 183.

98 P Crisp (ed), *Integrating Conservation and Development in New Zealand: A proposal for a New Zealand Conservation Strategy for the IUCN*, Wellington, 1981, 12.

99 This is recognised by the Parliamentary Commissioner for the Environment: "a complex socio-political-economic system ... has evolved to increasingly isolate human endeavour from indigenous knowledge of our dependency on the ecological systems that sustain us". *Creating Our Future: Sustainable Development for New Zealand*, Wellington, 2002, 3.

100 World Charter, supra note 4, preamble.

101 Stephen Toulmin, *The Return to Cosmology* (University of California Press, Berkeley, 1982) 255–256.

> capable of integrating, not merely aggregating, our scientific understanding, and capable of doing so *with practice in view*.

The natural environment remains a resource that may be utilised, but only within the boundaries of ecosystem health and integrity. It is, therefore, a rejection of short-term management and an embrace of long-term environmental bottom lines. It is a practical approach that does not require a definitive answer to why we protect the environment. It transforms the essentially philosophical debate of intrinsic values into a workable and comprehensible method of environmental management. Philosopher Holmes Rolston II sees ecology as a source of value, saying: "no genes, no organism but no ecology, no organism". By acknowledging the lowest denominator within the environment and its role within the greater picture, the approach can encompass spiritual beliefs as well as very anthropocentric views, without making its own assertion. Its basis is the desire for well-being, well-being of humans, economies, wildlife and oceans. Leopold found that:[102]

> A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it does not.

Similar approaches are used in other morally challenging areas of the law. During the drafting of the Universal Declaration of Human Rights, Jacques Maritain confessed that agreement could be reached for a catalogue of human rights only as long as no attempt was made to agree on *why* human rights should be protected.[103]

4.1 Support for an Ecosystemic Approach

The application of an ecosystemic approach to intrinsic values is complementary to the general methodology of environmental law in New Zealand and enables the formation of a cohesive system to protect and preserve natural resources. The RMA in particular advocates strongly for the approach through the sustainability principle at its core, the resource focus, the emphasis on Maori spiritual values, and its integrative approach.

During the reformation of New Zealand's resource management system in the 1980s there was much support for the concept of intrinsic values. The Department of Conservation advocated for it to be a central objective of any new system and the Labour Opposition attempted to include in the RMA a

102 Leopold, supra note 97, 150.

103 Kiss & Shelton, *International Environmental Law* (2nd ed, Ardseley, NY, Transnational Publishers, 2000).

positive duty to maintain intrinsic values. However, it does not appear that Parliament intended the concept to involve a spiritual approach. The guidelines for the Reform suggested an emphasis on quantifiable values whilst maintaining a *utilitarian approach* towards "soft variables"[104] such as sustainability and intrinsic values of ecosystems.

Also evident during the Reform was a recognition that good environmental management depends upon an understanding of ecological processes. The Ministry for the Environment submitted that environmental policies must be based upon "an understanding of the physical character of the resource and the dependence of human systems on healthy ecosystems". The Department of Conservation has since confirmed this, finding that there "is a common understanding that management of resources and the environment must be based on a sound understanding of the way that ecosystems function and the characteristics of elements (including people) with them".[105] Five statutes recognise this dependence by explicitly linking intrinsic values to ecosystems[106] – the RMA definition, in particular, only refers to ecologically defined qualities.

In contrast, The Conservation Act recognises intrinsic value widely in "natural resources", a term that is itself in conflict with the "pure" approach. The Act defines natural resources as including plants, animals, air, water, soil, and the landscape.[107] In addition, the definition includes systems of interacting living organisms and their environment, essentially a definition of ecosystems, that is encompassing of every other aspect of the definition. Under this Act each conservancy is required to produce a Conservation Management Strategy in which they will assess the intrinsic values of natural and historic resources. The criteria and qualities considered in this assessment are all ecological factors, DoC stating that "the CMS identifies the significance, fragility and tolerance of plants and animals, air, water and soil and ecosystems".[108] The National Parks

104 J Caldwell, *Intrinsic Values: Thoughts From a Legal Perspective, Resource Management Law Reform*, Ministry for the Environment, Wellington, November 1988.

105 R Hay, "Preface" to G Park, *New Zealand as Ecosystems* (Department of Conservation, Wellington, 2000).

106 The Environment Act, Resource Management Act, Hazardous Substances and New Organisms Act, and the Antarctica (Environmental Protection) Act and the New Zealand Antarctica Institute Act.

107 An ecosystemic approach can be more easily reconciled with the intrinsic value of non-living aspects of the environment – water in particular. Many pure interpretations (the animal rights movement or Aristotle's goodness theory) require the subject to be alive and capable of independent movement to have intrinsic value. An ecosystemic approach recognises the importance of entities such as sunlight, water and gases to systems.

108 Department of Conservation, "Managing the Protection of Intrinsic Natural and Historic Values", http://www.doc.govt.nz/About-DOC/Policies-Plans-and-Reports/Visitor-Strategy/3.1-Issues.asp (accessed 08.07.2005).

Act identifies a variety of factors present in parks that warrant protection for their intrinsic value. These factors are essentially divided between ecological issues and traditional human use values such as recreation. It is suggested that intrinsic value should more accurately attach to ecological factors than those that are human based.

This collective attention to ecosystems is aligned to the "biocentric heart" of the RMA, which recognises that culture is dependent upon both the operation and modification of ecosystems, and places emphasis on the sensible use of resources and assessment of effects from that usage. The heart of the Act's purpose is to safeguard the "life supporting capacity of air, water and ecosystems", a requirement sometimes seen as anthropocentric but in light of the ecosystem approach takes on a wider, holistic definition.[109]

4.1.1 Sustainability and intrinsic values

The principle of sustainability is a pillar of the Resource Management Act, a goal of the Local Government Act, and has, since the 1990s, been steadily incorporated into dozens of national environmental strategies.[110] In recognition of the role of sustainable management in the RMA, "intrinsic values" should be interpreted in a manner consistent with the principle. To attain this consistency the "pure" approach must be rejected and an ecosystemic approach embraced.

The RMA defines sustainable management as managing natural and physical resources in such a way as to enable social, economic, and cultural well-being in the present whilst sustaining the resources to meet the needs of future generations, safeguarding the life-supporting capacity of ecosystems, and avoiding or mitigating any adverse effects on the environment. This supports the premise that ecological systems are the foundation of the human ability to develop and that their well-being must be ensured. The Brundtland report itself supported this conclusion, stating:

> Sustainability refers in the first instance to maintaining the physical and biological systems, which in turn support human activities.

The World Conservation Strategy of 1980 also confirmed the connection:

109 See Judith Roper – Lindsay, *A Discussion of Ideas, Problems and Opportunities Presented by the Act to Local Authorities*. Resource Management Ideas, No 1 Ecology and the Resource Management Act, Ministry for the Environment, Wellington.

110 See New Zealand Waste Strategy 2000, New Zealand Biodiversity Strategy 2000 and the New Zealand Transport Strategy.

> Sustainability refers generally to the maintenance of essential ecological processes and life support systems. This includes the preservation of genetic diversity and protection of the viability of genetic diversity and protection of the viability of ecological systems, especially major global systems such as climate and forests.

A significant similarity between the two concepts is the emphasis on integration and the recognition of interconnected factors. Whilst an ecosystemic approach recognises the interconnected nature of ecosystems, sustainability relies on integration on a wider scale with recognition of the connection between environmental, social, cultural, and economic factors. It seems appropriate, considering the similarities of the concepts and the widespread recognition of sustainability, that the principle should be applied to the Department of Conservation in substitution of intrinsic values. Currently the Department is excluded from the purpose of attaining sustainable management by s 4 of the RMA.

4.1.2 Mitigation and intrinsic value

An ecological approach is consistent with the RMA's contemplation of acceptable adverse effects.[111] In addition to the difficulty of substantiating intrinsic values, many philosophers have attempted to determine if intrinsic value exists to differing degrees. A pure approach would suggest that intrinsic value endures regardless of the quality of the environment, just as people do not lose "value" as they grow older or become sick. Yet legislation presumes that intrinsic value can be affected, lessened, and improved. Nor does every aspect of the environment have equal value under these statutes. Human concerns remain central to the Acts and healthy and indigenous systems are openly more valuable than altered ones. Similarly, if all aspects of the environment had equal intrinsic value it would be immoral to alter or damage any part. This would be inconsistent with the duty to mitigate damage under the RMA and the requirement to maintain intrinsic value only as far as practicable.

4.1.3 Value of indigenous systems

As noted above, indigenous systems and species are conferred with greater value under a number of statutes.[112] It is difficult to justify this under a pure

111 *Trio Holdings v Marlborough District Council* [1997] NZRMA 97.

112 An exception is the protection of introduced gamefish, see Resource Management Act, s 7(h), protection of the habitat of trout and salmon. Under an ecosystemic approach this is easily justified as salmon and trout are often indicator species for water quality to which

interpretation of intrinsic values and it suggests that thorough consideration was not given to the meaning of intrinsic value. For example, the Labour Opposition in 1990 wanted to include in the RMA a positive duty to maintain the intrinsic values of ecosystems yet with it a specific duty to maintain and enhance biodiversity of indigenous species.

Legislation contains frequent obligations for DoC and other administrative bodies to consider, protect, and preserve indigenous environments. The Department of Conservation is explicitly required to exterminate introduced plants and animals as far as possible.[113] Yet, in both the Conservation Act and the RMA the definition of "natural resources", recognised for their intrinsic value, includes exotic species. This conflict of interests consistently creates difficulties in the areas of pest eradication and population control; for example, the removal of the kiore rat from the Hauraki Gulf islands and the culling of the Kaimanawa wild horses. It is also contrary to New Zealand's environmental reality in which introduced species are seen as the greatest threat to the country's natural stability.

The definition of intrinsic values of ecosystems under the RMA is also supportive of disproportionate values between indigenous and modified ecosystems. The criteria listed as having intrinsic value includes those parts of ecosystems that determine integrity, form and functioning and resilience. These four attributes favour a natural or indigenous ecosystem and unequal valuation of species.

The form of an ecosystem is determined by the sum of its parts; however, the ability of a system to take its form may put greater dependence upon certain species. For example, within a beech forest the beech tree may be the sole species to translate energy directly from the sun, therefore fulfilling a role of great importance for the survival of other species within the system. Therefore, the value of a keystone species to an ecosystem must be found to be greater than other species.

Resilience is essentially the system's ability to resist change, clearly suggesting value in maintaining ecosystems in their natural state. The functioning of a system refers to the continuing transfer of matter and energy within the system. Although any species which takes part in this transfer is part of the ecosystem, only those species which have evolved within the system will not affect the equilibrium established. Introduced species, though part of the ecosystem, will disrupt the transfer system and the functioning of the system as a whole. Lastly, the integrity of the ecosystem is directly reliant upon the system maintaining its natural state and the health of all indigenous parts.

native fish are more tolerant, R Harris *Handbook of Environmental Law* (Royal Forest and Bird Protection Society of New Zealand Inc, Wellington, 2004) 209.

113 National Parks Act 1980, s 4(2).

This is also supported by authority; for example, in the Planning Tribunal's report on the *Mohaka River Water Conservation Order* the Mohaka River was found to have intrinsic value due to the absence of dams, diversions, and significant water rights.[114] Counsel submitted that the phrases "other natural characteristics" and "other characteristics of the river" are wide enough to encompass intrinsic value in its "pure" sense but that it could alternatively be considered as an amenity, observing that wild and scenic characteristics of a river are emotional responses, as is intrinsic value. The Tribunal supported the definition of intrinsic value being the natural state of the environment and a factor of the area's natural character. The absence of dams and significant water rights, thereby preserving the natural state of the river, gave the Mohaka intrinsic value.[115]

Additional protection is accorded areas of natural character by s 6(a) of the RMA, which provides for the preservation of the coastal environment, wetlands, lakes and rivers, and their protection from inappropriate use and development. However, naturalness does not refer to ecological integrity but rather the absence of man-made structures or obvious human influence.[116] Natural character however, "represents the complex integration and interaction of several components",[117] components that include both ecological and cultural factors. Natural character has been interpreted, therefore, as a concept corresponding to the ecological approach that recognises the human role within the system and also human values in relation to it.[118]

The courts have shown indecision in their application of intrinsic values. Many cases refer to the need to account for intrinsic values without a clear consideration of what that entails.[119] Others consider intrinsic value to be in a similar vein as amenity and scenic values[120] or as spiritual values.[121] A number do interpret intrinsic values according to the ecosystemic approach, in particular the Environment Court decision of *Kuku Mara Partnership v Marlborough*

114 PT [1992] W020/92 noted [1992] BCL 722.

115 However, intrinsic value was rejected as a factor in determining whether a conservation order was to be allowed.

116 *Harrison v Tasman District Council* [1994] NZRMA 193, 197.

117 *Trio Holdings v Marlborough District Council* [1997] NZRMA 97, 103.

118 Outstanding landscapes are recognised in a similar fashion; assessment criteria include ecological components, aesthetic values and societies' recognition of the site – see *Wakatipu Environment Society Inv v Queenstown Lakes District Council* [2000] NZRMA 59.

119 *Ashton v Rodney District Council* [1999] EC A158/99, *Back Country Skiers Alliance Inc v Brown* [1999] EC C082/99, *Royal Forest and Bird v Manawatu-Wanganui Region* [1996] NZRMA 241.

120 *Gill v Rotorua District Council* [1993] 2 NZRMA 604.

121 *Waitakere Ranges Protection Society Inc v Waitakere City Council* [2000] EC A89/2000, *Beadle v Minister* of Corrections [2002] EC W018/02.

District Council which found that an island's intrinsic value stemmed from its role as a feeding ground for rare birds.[122] Described as "the bird factor", intrinsic value was found to be an ecological component separate from identified aesthetic values. In *Canterbury Regional Council v Selwyn District Council,* the Environment Court found that soil has value for its intrinsic part of the food chain and has life-supporting capacity due to its ability to produce oxygen, chemicals, and foodstuffs for the multiplicity of life upon this earth. The *Mohaka River* report, discussed above, rejected a spiritual approach to intrinsic values in favour of a "natural" one.

5. VALUATION OF ECOSYSTEMS

An elemental difficulty with the recognition of intrinsic values is that they are immeasurable and unquantifiable. However, it is not unusual for legislation to provide for values that are difficult to consider objectively. Part II of the RMA requires decision-makers to promote social, economic, and cultural well-being in the present whilst enabling the reasonably foreseeable needs of future generations. Matters that must be considered include preservation of natural character, kaitiakitanga, the ethic of stewardship, amenity values, and the relationship of Maori and their culture with their ancestral lands, wahi tapu and other taonga. Despite an endorsement to apply these principles in a "general and broad way",[123] some quantification is required for a market economy to operate. The market economy is recognised as being an efficient and flexible method of providing this quantification and enabling allocation of resources to meet individual needs and preferences.[124] The use of cost-benefit analysis as a decision-making tool is a popular manifestation of the market economy and is required under the RMA.[125]

Cost-benefit analysis provides guides to decision-makers by estimating and evaluating the net benefits associated with alternative methods of achieving defined goals. Its limitation is a reliance on financial analysis, which struggles to measure the non-market values that are prevalent in environmental matters. It would be impossible for the technique to account for intrinsic value but almost equal is the difficulty of accounting for environmental costs such as pollution and habitat loss, or human-centred values such as existence values or the rights of future generations. Having accepted that intrinsic values in New

122 [2002] EC W025/2002, 598. Also see *Waitakere City Council (Dove) v Prager* [1993] DC CRN 20900010191, in which Kenderdine J found that intrinsic value was lost because the ecosystem was "irreparably compromised".

123 *NZ Rail v Marlborough District Council* [1994] NZRMA 70, 86.

124 Environment 2010 Strategy, supra note 51.

125 Resource Management Act 1991, s 32.

Zealand legislation refers to the importance of addressing the environment at an ecosystem level it remains to be seen whether the practical application of this approach is any more feasible than the spirituality and "gut feeling" of the pure approach.

Although benefits and costs are defined by the RMA as including both monetary and non-monetary factors, under conventional economics benefits and costs must be known in a monetary form, and must be based upon the desires of individuals.[126] The allocation of dollar values does not always require that an object be bought and sold in the market, although it does require an estimation of how much people would be willing to give up in order to obtain a specific outcome.[127] This estimation is derived with shadow pricing methods such as the revealed preference and stated preference techniques.[128]

The revealed preference technique uses the prices people are willing to pay for associated goods to estimate value. For example, the combined amount a person would spend for travel and a fishing licence would equal the recreation value of the Mohaka River. An associated technique, the hedonic method, is highly utilised in housing valuations by comparing the value of two similar houses; any difference could be attributed to the existence of a view or nearness to a park or school.[129] The revealed preference technique is only able to quantify use values, not existence values, and so tends to give a lower value to the environment than other methods.

The stated preference technique is better able to accommodate the emotions of individuals, particularly in respect of ecosystem services which are not traded in the market and, therefore, cannot be revealed through consumer actions. The stated preference technique uses surveys and hypothetical scenarios to ask people directly what tradeoffs they would be willing to make to obtain a desired outcome. The technique is able to estimate economic values for virtually any ecosystem or environmental service and is the most widely used method for estimating non-use values. An expansion of this technique has recently been

126 R Harding (ed), *Environmental Decision-making: The Roles of Scientists, Engineers and the Public* (The Federation Press, Sydney, 1998) 145. However, other sources suggest it is not strictly necessary for values to be placed in monetary form as sometimes it will be more useful to make decisions based on ranked data, especially if attempting to achieve the maximum environmental payoff. See http://www.ecosystemvaluation.org (accessed 08.07.2005).

127 http://www.ecosystemvaluation.org.

128 Another often-used technique, benefits transfer, uses the results of these two techniques and transfers them to another situation or area. As such, it has no added ability to determine non-use values.

129 The method has also been used in the United States to ascertain damages for the loss of life or limb, see S Bond, "A Hedonic Housing Model for Housing Stigma Account: the case of a remedial contaminated site in Perth, WA", (2000) *New Zealand Valuers Journal* 4.

employed by the Auckland Regional Council to determine values for stream ecosystems.

5.1 Case Study: Choice Modelling of Auckland Streams

5.1.1 The study

Annually, the Auckland Regional Council receives 100 applications for earthworks consents that will, if granted, cause streams to be adversely affected, either directly or indirectly.[130] In order to combat these effects the conditions of consent may, as a complement to best practice management, require offset mitigation as a form of financial contribution. Whilst best practice management would involve using environmental and structural techniques to reduce damage caused to a stream, offset mitigation would involve augmenting the quality of one stream in order to offset the damage to another – the goal being to maintain ecological health and achieve desired environmental outcomes.

In order to best utilise offset mitigation it is necessary for the Council to have an understanding of desired outcomes. This will assist the Council in determining: when and where mitigation is required, what the objectives of mitigation are, and how it is to be calculated.[131] This information is also essential if the Council is to justify the use of offset mitigation as a consent condition. Any works required as a condition of consent must be shown to be related to the protection, restoration or enhancement of a natural resource, in addition to general reasonableness.[132] The Council, therefore, needs to be able to determine how to achieve the most effective enhancement within reasonable limits.

Initially the Council requested that ecologists resolve these key issues by carrying out a study of the ecological importance of Auckland's streams. The ecologists were able to describe attributes associated with high quality and ecosystem health and also the cost of achieving these outcomes; however, they were unable to confirm which attributes are most valued by the community, information that is needed for the Council to undertake an assessment of benefits and costs as required by the RMA.[133]

The first study of its type in New Zealand, the Auckland Regional Council applied choice modelling methods, derived from the stated preference model discussed above, to guide their usage of offset mitigation in relation to Auckland's streams. Via interviews and postal surveys, participants were

130 These consents are processed under s 13 of the RMA.

131 Kerr, G and Sharp, B, *Community Mitigation Preferences: A Choice Modelling Study of Auckland Streams* (Lincoln University, Agribusiness and Economics Research Limited, Research Report No 256, May 2003) 5.

132 Resource Management Act 1991, s 108(9)(c).

133 Section 32.

presented with descriptions of two streams, one in a relatively natural state, the other degraded. Two alternative descriptions of the streams were then presented, in each of which the quality of the natural stream deteriorated whilst that of the degraded stream improved. From these alternatives the participants indicated their preferred outcomes.

The participants, therefore, had the option of improving the quality of one stream but at the sacrifice of the natural state of the other. The choices were used to derive estimates of money value that attach to environmental outcomes, in this case: water clarity, native biodiversity, fish habitat, vegetation, and channel shape.

The results of the survey determined that water clarity is considered important, with a monetary value of $64.92 per share of clarity, as was native fish biodiversity, each fish species in a natural-state stream being worth $8 and in a degraded stream $3. In contrast, the responses indicated that people saw little benefit in plentiful streamside vegetation cover or in the habitat qualities of natural streams, the participants according the latter no monetary value at all. The cost involved was the deciding factor, however, and any particular mitigating option was rejected if it had a higher cost.

5.1.2 Problems with choice modelling for environmental protection

The study was determined a success by its designers, stating that it would allow the design of mitigation to offset environmental damage to Auckland streams. However, there are difficulties both with the practical use of this technique due to expense and participation rates, and a more fundamental issue concerning the ability of economic models to protect the environment.

Extensive surveys such as this absorb a large quantity of time and money, both in short supply when timely information is required for resource consent applications. In order to circumvent this the study considered methods of benefit transfer under which the results of this broad survey would be applied to specific situations; however, low accuracy rates and large estimation errors resulted in the transfer. An additional problem with the technique is the need to get a strong response rate and a balanced representation. In this case, 500 postal questionnaires were sent to people in both North Shore City and in South Auckland but the usable response rates were only 32% and 21% respectively. These were compared to the results of the 2001 census from which it was determined that there was a significant difference in representation between the study and the community at large.

In order to rely on survey results it is necessary that the participants have a firm understanding of both the questions and what is requested of them. In this study the participants did appear to understand the issues but much preparation was needed to transform the ecological factors into qualities that were clear and applicable to the participants. An understanding of the cost-benefit process is

also necessary, yet is difficult to apply in practice. Holmes Rolston has noted that environmental surveys are often inappropriate:[134]

> The difficulty … is that the question is not what it appears, and even if the respondent comes to understand the pretending involved, he has no rules by which he can translate [social good] into [marketplace value], none by which he can integrate ... value types on a scale commensurate with the market value of wildland products. If a respondent states a huge sum, will this make it into the cost benefit equations or will it be tossed out as a monkey-wrench answer? The citizen ought not in principle be asked to couple insufficient money with his non-market policy preferences; and when he is asked this, he does not in practice reliably know the answer.

Under an ecosystemic approach a further fundamental difficulty is raised, with both the survey procedure and the use of economic models for environmental valuation – the results of the survey will never be a valuation of the ecosystem itself because individuals will rarely have the specialist knowledge to determine what functions and attributes are valuable in an ecosystem. Without advanced understanding of ecosystem processes, community valuation will be limited to non-use values such as beauty appreciation and emotional responses. This explains why water clarity was valued so highly, due to its link to amenity and enjoyment values, and vegetation levels, which are ecologically important for their capacity to reduce flooding, retain silt, and to provide habitat for areas of high biodiversity,[135] were assigned no value by the participants.

An associated difficulty is that valuation of the environment will always be low where there is little collective concern for its well-being. Under cost-benefit analysis every participant's preference is of equal weight and, therefore, without a collective environmental concern, valuation of healthy ecosystems will never be high. Additionally, economic models are not empirically certain but are essentially speculative and can only attempt to determine the desires of the community from their chosen preferences. Cost-benefit analysis, in 1988 already described as an "old-fashioned relic of the 1950s",[136] is, therefore, not a useful technique for according high protection to the environment or determining which factors within the ecosystem should be augmented. To determine this, and to apply the ecosystemic approach correctly, ecological values must be considered above preferences of the community.

This itself raises a fundamental question of the role of the State and the

134 Holmes Rolston III, "Valuing Wildlands", *Environmental Ethics* 7 (1985) 37, edited in E Hargrove, *Foundations of Environmental Ethics* (Prentice-Hall, NJ, 1989) 211.

135 Dr T Dennis, supra note 21.

136 J Caldwell, *An Ecological Approach to Environmental Law* (Legal Research Foundation, New Zealand, 1988).

ability of a participatory democracy to protect the environment.[137] If it were the role of the government to act according to the wishes of the majority, as a cost-benefit model would suggest, only those elements of the environment popularly considered of value will be protected. However, governmental intervention will not necessarily achieve better results. Governments face difficulties obtaining a complete view of individual preferences and are easily influenced by sectional interests. The Ministry of Fisheries addresses this difficulty by finding that:[138]

> The government's task is to develop rules and institutions that promote good environmental outcomes within the framework of a pluralistic society and a market economy. This may require amending the rules governing existing property rights or the creation of new ones. In other instances it will involve introducing rules and regulations designed to protect environmental values that are not easily secured by market exchanges.

The ecosystemic approach and the inclusion of intrinsic values enable decision-makers to further this task by balancing ecological values with conflicting preferences of the community and the market economy. This suggestion has caused the McShane Report to charge intrinsic values with coming "dangerously close to the notions supporting fascism".[139] This is extreme criticism, a more even-handed response would be that intrinsic values and specific ecological references offer a balance to instrumental values through which the central government can offer guidance as to current international scientific thought.

6. THE APPLICATION OF AN ECOSYSTEMIC APPROACH IN ENVIRONMENTAL MANAGEMENT

Although New Zealand has provided ample legislative support for an eco-systemic approach to environmental management an effective joining of ecology and law requires more than an introduction of ecological terms into the statute books – practical implementation is required. The Department of

137 Countries which have experienced undemocratic yet environmentally conscious leadership have been able to achieve a high level of protection; for example, the *Zapovednik* programme, strictly protected areas of Russia, instigated at gunpoint by the Soviet regime in the early 1900s.

138 Ministry of Fisheries, http://www.fish.govt.nz/sustainability/changingcourse2.html (accessed 08.07.2005).

139 However, Leopold's land ethic has been similarly criticised; J Regan found that "the individual may be sacrificed for the greater biotic good … environmental fascism", *The Case for Animal Rights* (University of California Press, Berkley, 1983) 234.

Conservation initiated this movement in New Zealand during the 1990s when, in order to provide for a better biodiversity strategy, it shifted its emphasis towards ecosystem conservation.[140] The Ministry of Fisheries has recently followed this lead by proposing it as the underlying principle of the Fisheries 2010 Strategy.

Following an ecosystemic approach requires that decision-makers consider a much wider community and anticipate the possible effects upon each member. The Department of Conservation has illustrated the paradigm shift involved through the methods that could result in the protection of a kereru population.[141] Under the earlier paradigm the Department would create a protective reserve, but under an ecosystem paradigm a desire to maintain the integrity of a rare forest type would be expressed through greater understanding of the processes that created it and attempts to maintain or reinstate those processes, in particular the behaviour of its keystone species such as the seed dispersal of the kereru. Therefore, by primarily addressing the health of the ecosystem the subsequent effect is the health of its central members. The operation of this paradigm would not exclude a protective reserve as an option but would serve to complement such endeavours with potentially wider success, particularly over non-DoC-operated land.

6.1 Biodiversity Protection

Whilst the ecosystemic approach operates in all areas of environmental management and is in no way restricted to unmodified or "wilderness" environments, the principal application of the approach is currently in the area of biodiversity protection. The role of biodiversity as an essential characteristic of ecosystem integrity is recognised in the RMA's definition of intrinsic values and is bolstered by the support of the New Zealand Biodiversity Strategy 2000.[142] The protection of significant natural areas under the RMA and the Protected Natural Areas Programme, in particular, illustrate the current use of the ecosystemic approach.

6.1.1 Significant natural areas

The Resource Management Act furthers its recognition of the importance of biodiversity by providing for the protection of significant natural areas as a

140 Department of Conservation, *Conservation 2000: Atawhai Ruamano*, Discussion Document, (1993).

141 G Park, supra note 105*,* 73.

142 Current debate questions whether biodiversity is essential to healthy ecosystem functioning; see R Brooks et al, supra note 93, 15, D A Wardle et al, "Biodiversity and Ecosystem Function: An Issue in Ecology", 81 *Bull Ecological Soc'y AM* 235 (2000).

matter of national importance under Part II.[143] This specification for significant indigenous vegetation and significant habitats of indigenous fauna has resulted in a methodology that enables district and regional plans to address the matter of indigenous biodiversity in a proactive manner.[144] For an area to be protected in this way it must qualify under at least one of the primary selection criteria which are developed independently by each district. The primary criteria are generally based solely on ecological features such as: representativeness of original ecological character, the presence of ecological sequences, processes and patterns, diversity of species present, the naturalness of the area, and its context within the greater landscape.

6.1.2 The Protected Natural Areas Programme

The Biodiversity Strategy identifies the need to maintain and restore a comprehensive and representative range of ecosystems in a healthy and functioning state. The realisation of this began in 1983 with the launch of the Protected Natural Areas Programme (PNAP). With the goal of preserving "representative samples of all classes of natural ecosystems ... which gave New Zealand its own recognisable character" the programme systematically identifies ecosystems in need of protection. It has been suggested that the most appropriate and effective moment to involve ecological considerations is during the preparation and initial research period of any programme.[145] This appears to have been the rationale behind the complex scientific modelling representative of the PNAP methodology. Under the programme 84 ecological regions were identified, each made up of one or several ecological districts. Within these areas ecological types are distinguished via their geological, topographic, climatic, and biological features. The areas are then surveyed and the best remaining examples of each ecosystem type are recommended for protection; however, protection is in no way assured.

6.2 Protection of National Parks for their Intrinsic Value

National Parks were the first portion of the New Zealand environment to be recognised for their intrinsic value; however, this value was tempered by a conjoined recognition of the benefit, use and enjoyment the public receives from the parks and the existence of scientifically important systems deserving of protection.[146] In application, this purpose is applied collectively and in a manner

143 Section 6(c).
144 Harris, supra note 112, 490.
145 R Brooks et al, supra note 93, 231.
146 See s 4(2).

that allows intrinsic value to maintain the status given it by Parliament yet with a meaning that enables sensible application.

The National Parks Act is one of the few Acts that recognises intrinsic value in a wider form than ecosystems. Here, possibly vast areas containing scenery and natural features are preserved for their intrinsic value. An interpretation of this provision is that national parks contain "value which is integral to the form of life that New Zealanders share in the long term, which ties together past, present and future generations to the land". The New Zealand Conservation Authority suggests that intrinsic value lies in the natural state of an area and that society is declaring "that there are places where nature should be left to continue without unnecessary human interference, modification and control, and that when we visit these places, it should be on nature's terms".[147] The suggestion that natural state is of priority is confirmed by the National Parks Act, s 4(2) which clearly states that National Parks are to be preserved as far as possible in their natural state and that introduced plants and animals shall as far as possible be exterminated. The Draft General Policy interprets this concentration on natural states as meaning that ecological values of the Park are to be maintained and restored and that any threats to those values are to be removed.[148] The policy also recognises the benefits of addressing biodiversity concerns with an ecosystemic response rather than an individual species response. This is particularly so for indigenous invertebrates and soil organisms, the largest part of New Zealand's indigenous terrestrial biodiversity.[149] National Parks have the capacity to provide for this form of ecosystem management through maintenance and restoration of a full range of indigenous ecosystem types whilst "focusing on key ecological processes and key characteristics of ecosystem structure and composition".[150] The combination of these policies indicates that the purpose of the National Parks Act is being interpreted in a form that facilitates an ecosystemic approach to intrinsic values and is employed in combination with the human-centred values of National Park use.

6.3 Protection of Heritage Sites of Intrinsic Value

Although the protection of heritage sites for their intrinsic value relates largely to the protection of man-made or modified sites, examination of the protection method is illuminating. The principle that history or historic sites have value independent of their significance to humanity is a much harder premise to accept than the intrinsic value of Nature, yet the philosophical issues and practical problems identified above do not appear to arise in the execution of

147 Draft General Policy, supra note 42, 7.
148 Ibid, 24.
149 Ibid.
150 Ibid, 27.

heritage value protection.[151] This is due largely to the practical approach taken towards management of historic resources, though assistance must come from the inanimate nature of the subject.

6.3.1 The Historic Places Act 1993

The retention of New Zealand's history is purported to be an important consideration in New Zealand's planning system and much protection is given to recognised heritage sites.[152] The two main pieces of legislation protecting historic heritage are the Resource Management Act and the Historic Places Act (HPA).[153] The RMA integrates human heritage values with planning processes and controls impacts on heritage caused by resource use and development; however, it does not recognise an intrinsic value within historic places. The HPA, in contrast, requires all persons acting under it to recognise the principle that historic places have lasting value in their own right, and establishes a separate process through which heritage sites are managed. In addition to these, the Conservation Act provides heritage protection on conservation lands.

The HPA states its purpose as being "to promote the identification, protection, preservation, and conservation of the historical and cultural heritage of New Zealand". However, heritage is not defined by the Historic Places Act but was introduced by the 2003 Amendment to the RMA which defines historic heritage as "natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures" deriving from qualities including archaeological, cultural and historic. This is a wide interpretation and includes artifacts such as paintings, and customary and historic associations with the landscape such as mahinga kai under section 6(e) of the RMA.[154]

Fulfilling the purpose of the HPA is entrusted to the New Zealand Historic Places Trust (HPT) (*Pouhere Taonga*). The Trust has a broad range of responsibilities in respect of New Zealand's cultural heritage, primarily as an archive of

151 See *Te Aro Heritage Trust v New Zealand Historic Places Trust* [2003] EC W052/03 in which the Environment Court found that archaeological sites have intrinsic value on two levels: firstly, "for their own sake, as monuments or as representative examples of past ways of life and people"; and secondly, "value for scientific information they can contain".

152 As a result of public pressure the Auckland City Council has increased the protection for historic and character buildings through built heritage funding and Proposed Plan Modification No 132 to the Auckland City Operative Plan (Isthmus 1999), see http://www.aucklandcity.co.nz. However, there remains scepticism as to the success of these measures, see Margot McRae, "House Proud of our Heritage", the *New Zealand Herald* (Auckland, New Zealand, 6 June 2005).

153 Other relevant statutes include the Antiquities Act 1975, the Reserves Act 1977, the Conservation Act 1987, and the Ngai Tahu Claims Settlement Act 1999.

154 Harris, supra note 112, 493.

information and as an advocate. The Trust compiles the National Register of Historic Places, Historic Areas, Waahi Tapu and Waahi Tapu Areas, administers and manages historic reserves and its own historic buildings, and issues "authorities" with which archaeological sites may be modified. The Registration of a site does not of its own guarantee protection but the Register does form the basis of many local authority heritage lists. The HPT also has a role identifying heritage values and as such is able to furnish councils with expert advice.

In respect of property with historic importance that is not under the control of the State the Trust has two means by which to effect management: the use of covenants to guarantee ongoing protection, and its role as an affected party under the RMA. Although heritage covenants give the Trust an ongoing interest in sites of interest the primary method for the Trust to protect historic and cultural resources is through its position as an affected party, in respect of resource consent applications involving listed heritage sites, under ss 93 and 94 of the Act. This ensures that the merits of notification, and the application itself, are considered in light of heritage values. The significance of this role has increased with the passing of the 2003 Amendment, which requires notification hearings, although of a limited fashion, in the instance of one or more affected parties refusing approval.[155] The Trust generally uses its powers to give advice on how best the property's heritage values may be protected whilst still achieving the objectives of the landowner.[156] This practice would appear to demonstrate that a practical approach rather than a "pure" approach to intrinsic value has been adopted.

6.3.2 The Conservation Act 1987

Until 2000 the Department of Conservation was responsible for the administration of the Historic Places Act, a responsibility that now rests with a designated Minister.[157] The Department continues to retain responsibility under the Conservation Act to manage the historic resources on the land it administers and also has a general advocacy role for the protection of historic values.[158] In addition, the Reserves Act adds further responsibilities.[159]

Under the Conservation Act land may be specially protected as either conservation parks or amenity areas in order to protect historic resources. The purpose of conservation parks is to protect these resources, subject to which

155 Resource Management Amendment Act 2003.

156 Harris, supra note 112, 499.

157 Archives, Culture and Heritage Reform Act 2000.

158 Conservation Act 1987, s 6(a).

159 Historic Reserves, a reserve category under the Reserves Act, gazetted for "the protection or preservation of a place, object, and/or natural features of historic, archaeological, cultural, educational or other special interest".

the Department is to facilitate public recreation and enjoyment.[160] In the same manner, amenity areas are to "contribute to and facilitate people's appreciation of [historic] resources, and where appropriate foster recreational use", subject again to protection of the resource.[161]

6.3.3 The Resource Management Act 1991

In addition to recognising historic heritage as a matter of national importance,[162] the RMA provides for heritage protection authorities to install a heritage order against places of special interest, character, intrinsic or amenity value, visual appeal or of special significance to the tangata whenua.[163] The order acts like a designation by incorporating the protection of features and places into district plans and once in place no person may do anything that would wholly or partly nullify the heritage order. A heritage protection authority can also apply to the Minister of Lands to have a place of historic significance compulsorily acquired under the Public Works Act 1981.

The Acts employed to preserve the intrinsic value of New Zealand's heritage present a united approach to the issue, which is functional and effective. Relevant bodies are provided with a range of practical mechanisms that enable them to extend control over heritage properties, including: planning limitations and development standards, rates relief, restoration funding, and the Trust's heritage covenants. The success of this systematic approach to protection is supportive of the need to give "intrinsic value" a practical interpretation that can be comprehensively applied with a recognition of cultural and social values.

7. CONCLUSION

In addressing New Zealand's recognition of intrinsic value this article has identified the difficulties attached to two very different approaches to environmental protection. The first is an almost spiritual belief in the intrinsic value of Nature, the second a reliance upon economic modelling of community preferences. It was demonstrated that when a high level of environmental protection is desired both are inappropriate and ineffective without a collective environmental ethic. Presented as a counterbalance to the extremes of these two approaches is an empirical ecosystemic approach. Although community

160 Conservation Act 1987, s 19.
161 Conservation Act, s 23B.
162 Resource Management Act, s 6(f).
163 Section 189.

preferences and ethical positions are invaluable as both factors in the decision-making process and as goals to be achieved, the ecosystemic approach will provide practical guidelines from within the physical boundaries of ecosystem health and well-being. This approach is complementary to the sustainability principle and is reflective of current scientific knowledge. It is, therefore, best able to provide for sound environmental practices that will ensure the long-term enjoyment of New Zealand's most precious resources.