STAGE 3 - SECTION 32

CHAPTER 9

NATURAL AND CULTURAL HERITAGE

APPENDIX 10 - M.E ECONOMICS OF NATURAL AND CULTURAL HERITAGE ASSETS: RECOMMENDATIONS FOR POLICY DEVELOPMENT

Christchurch City Council

Executive Summary

Heritage is an asset, mostly intangible, but encapsulated in property that also includes other assets/values. Since heritage policies focus on protecting, maintaining, enhancing the heritage component, there is potential to run into conflict with the non-heritage assets of the heritage property in question. This often leads to private cost and public benefit outcomes, which may be resisted by the owners of heritage assets on their properties/land.

Within economics, capital assets store wealth and generate production for future consumption. Heritage assets are placed in a specific category of cultural or heritage capital as they have an additional value to non-heritage assets. For example a historic building has functions that set it apart from other buildings. It may have distinct aesthetic qualities or be a portal for understanding how life was lived in the past. These functions may have a non-market value. Intangible assets, such as indigenous language are critical to identity and sense of place, which has value in terms of the economics of uniqueness. Similarly, natural capital provides dividends to society in the form of ecosystem services and the unique use of natural capital in a particular place constitutes natural heritage. Yet assets require careful management, and investment for their maintenance. Assets generate benefits from their use and from their existence. This is an economic 'utilitarian' interpretation of heritage, which provides a rationale for framing the discussion of value in heritage.

In order to evaluate heritage policy, that is, the heritage policy objectives' consistency with the purpose of Resource Management Act and the provisions as to effectiveness and efficiency in achieving those objectives, it is necessary to:

- understand the nature of the heritage values,
- know how those benefits are distributed,
- recognise the costs to the property owner.

Chapter 9 of the Proposed Christchurch Replacement District Plan relates to Natural and Cultural Heritage. Heritage in Chapter 9 encompasses a broad range of components – indigenous biodiversity, significant trees, natural features and landscapes, natural character in the coastal environment, historic heritage including, though not limited to, built heritage. Although the attributes of cultural, natural and historic heritage are different, use of the term heritage in this report is intended to encompass all aspects of heritage, unless otherwise specified.

Christchurch City Council has proposed a mix of regulatory and non-regulatory policies to achieve the Objectives of Chapter 9 Natural and Cultural Heritage of the Proposed Christchurch Replacement District Plan. The policy mix implicitly acknowledges the burden of heritage maintenance and enhancement falls largely on private landowners, while heritage values are of benefit to both the private property owners and the public. To redress this burden on private landowners, a set of heritage incentives are available to landowners.

This report discusses heritage as an asset, how it is regarded within economic valuation processes and presents a methodology to evaluate heritage policy in light of the ownership of heritage assets by groups of individuals, yet benefits derived from those assets from different individuals. A Heritage Benefits Matrix is proposed, to clarify the effects of natural and cultural heritage policy on the objectives of Chapter 9, but also on the objectives of other chapters within the Proposed Christchurch Replacement District Plan. This is important, because heritage policies will affect not only heritage outcomes, but others such as economic outcomes and community development outcomes.

Christchurch City Council has undertaken a series of background technical reports that can populate a Heritage Benefits Matrix. These can be used to undertake a Section 32 of the Natural and Cultural Heritage Chapter, within the Resource Management Act valuation context.

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1 Introduction

1.1 Overview

Christchurch City Council is preparing the Proposed Christchurch Replacement District Plan (PCRDP). A district plan contains guidance and rules about how landowners can use and develop land, including heritage aspects. The policy and rules for natural and cultural heritage are contained in Chapter 9 of the PCRDP, which covers:

- Indigenous Biodiversity
- Outstanding Natural Features and Landscapes, Significant Features and Landscapes and Areas of Natural Character in the Coastal Environment
- Historic Heritage
- Significant Trees

Territorial authorities are required to establish, implement and review objectives, policies and methods to achieve integrated management of the effects of the use, development, or protection of land and associated natural and physical resources of the district (Resource Management Act s31).

The district plan must give effect to the higher order planning documents (RMA Sections 74 and 75), including the Canterbury Regional Policy Statement[1], National Policy Statements[2] and provisions in the district plan have to align with other statutes, such as the Building Act, the Conservation Act 1987, the Local Government Act 2002 and Heritage New Zealand Pouhere Taonga Act 2014[3].

Natural and cultural heritage are both physical resources and intangible assets. The primary document for achieving integrated management is the district plan. Territorial authorities are required to prepare and change district plans in accordance with the functions outlined in RMA Section 31, under any direction from the Minister under section 25A(2), and are required to prepare and publish evaluation reports that examine the extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of the RMA Act.

The development of the PCRDP differs from other Territorial Authority's development of District Plans throughout New Zealand. The Canterbury Earthquake Recovery Act 2011 (CERA) and CERA's Recovery Strategy for Greater Christchurch guide the development of the PCRDP. This is an important contextual backdrop to the rationale behind Chapter 9 Natural and Cultural Heritage. The cultural recovery in CERA's recovery strategy for greater Christchurch is given in Box 1, while the Natural Environment recovery strategy is given in Box 2. These are two of a total of six components of recovery goals (CERA, 2012).

[1] The Canterbury Regional Policy Statement is important and relevant for understanding the evolution of the natural and cultural heritage chapter of the proposed district plan. In particular Chapter 9, Ecosystems and Indigenous Biodiversity influences natural heritage, as does Chapter 12 Outstanding Natural Landscape Feature, in the context of terrestrial landscapes, and Chapter 8 the Coastal Environment for areas of character in the coastal environment. Chapter 13 Historic heritage of the Regional Policy Statement should also be read to understand the context of this proposed district plan.

2 The New Zealand Coastal Policy Statement is of importance for the development of Areas of Natural Character in the Coastal Environment.

[3] The New Zealand Charter for the Conservation of Places of Cultural Heritage Value (ICOMOS NZ Charter 2010) also guides planning for cultural and historic heritage.

Box 1. Cultural Recovery in CERA's Recovery Strategy for Greater Christchurch (CERA, 2012)

Section 15 Cultural Recovery

Cultural activities are an integral part of life in greater Christchurch and of our identity as a region. Cultural activities, including sport, art, recreation, and enjoyment of heritage, attract residents and visitors. There are many wāhi tapu and wāhi taonga of significance as a consequence of Ngāi Tahu's long-standing occupation of the region and use of natural resources. Heritage places, memorials and commemorative sites, museums and archives, performing and visual arts spaces, and sports and recreation facilities were significantly affected by the earthquakes. Iconic sport and recreation facilities are a significant part of the region's infrastructure and economy as they provide venues for participation and high-performance activities. By repairing or replacing lost facilities and maintaining events in the cultural sector, the many clubs and societies will continue to exist and bind communities together. Greater Christchurch has lost much of the heritage that was one of its defining characteristics. Retention and conservation of restorable heritage buildings, places, archaeological sites and places of cultural significance, and restoration of access to heritage collections, will help recreate that distinctive sense of place and identity that has defined the region and contributed to its economic development. Kia mau ki te kura whero. Hold fast to the valued treasures. The cultural recovery of greater Christchurch is vital for a functioning and liveable city. There are opportunities to consider cultural, sporting and recreational requirements as a whole. All partners can work together to identify community needs and, where appropriate, consider facilities that offer a range of cultural activities. New opportunities will be sought so cultural activities contribute to community wellbeing and economic growth.

Cultural Goals

4. Renew greater Christchurch's unique identity and its vitality expressed through sport, recreation, art, history, heritage and traditions - by:
    - 4.1 acknowledging and celebrating the rich and diverse Ngāi Tahu, colonial and other heritages and connections;
    - 4.2 resuming cultural, community and sports events and activities;
    - 4.3 encouraging participation in a range of entertainment, cultural, recreational and sporting activities;
    - 4.4 restoring historic buildings, where feasible, for the benefit of the community; and
    - 4.5 acknowledging losses and creating spaces to remember, while embracing necessary changes to the city's character and urban form.

Box 2. Natural Environment Recovery in CERA's Recovery Strategy for Greater Christchurch (CERA, 2012)

Section 17 Natural Environment Recovery

Greater Christchurch relies on its healthy natural environment which includes the air, coasts, water, land and biodiversity and the ecosystem services they provide. Recovery programmes need to be undertaken and sequenced in ways that do not harm the health and functioning of the natural environment. They should also consider how they can help the environment to adapt to global environmental issues such as climate change, sea level rise and resource scarcity. Using existing mandates, local authorities are working hard to rebuild and enhance infrastructure and buildings. This work opens up a significant opportunity to: solve discharge issues; design our city structures to adapt to changes in our natural systems; and improve the natural environment. The flood-carrying capacity of rivers and stopbanking is being restored to pre-earthquake levels. Fixing sewerage and storm water systems has reduced discharges of raw sewage and other pollutants into the rivers and the sea. Actions to address land subsidence and silt inundation are improving the water quality and reducing the flood vulnerability of drains, waterways and rivers. There are opportunities to enhance Ngāi Tahu cultural and environmental values through re-establishing or increasing the extent of indigenous flora and fauna as river banks are rehabilitated, and by creating river corridors, parklands and wetlands in appropriate areas. Biodiversity also benefits from all this work to address environmental degradation caused by the earthquakes. Many of the recovery activities mentioned in the previous sections can improve the health and resilience of the natural environment so that it is better than it was before the earthquakes. Certain recovery activities and new developments may need to apply for resource consent. This process provides the normal safeguards for the environment as the effects of activities are assessed against existing Resource Management Act plans. There is a lot more work to be done to restore the natural environment and improve its resilience and sustainable management. At this stage it is not clear whether a specific Recovery Plan is needed or whether the existing tools will be sufficient for this work.

Toi tū te marae o Tāne; Toi tū te marae o Tangaroa; Toi tū te Iwi. When the domains of Tāne (land) and Tangaroa (water) are nurtured and sustained, so too will people prosper and flourish.

Natural environment goals

6. Restore the natural environment to support biodiversity and economic prosperity and to reconnect people to the rivers, wetlands and Port Hills - by:

- 6.1 ensuring recovery activities value, protect and sustainably manage the sources of our water;
- 6.2 ensuring ecosystems are healthy and functioning;
- 6.3 improving the quality and function of estuaries, waterways and wetlands to support the unique biodiversity that is endemic to Te Waipounamu;
- 6.4 providing public access to and opportunities for outdoor recreation, cultural, social and economic activities;
- 6.5 enhancing air quality through managing recovery activities that impact on air quality, such as heating, transport, demolition and construction; and
- 6.6 storing, sorting and processing waste in an environmentally safe and effective manner, including minimising and recycling construction and demolition wastes.

The policy objectives for Chapter 9 are based on heritage maintenance and enhancement of existing ecosystems, landscapes, natural features and coastal environment, including explicit recognition of the role of historic heritage in Christchurch's distinctiveness and identity (place making) and recovery (place development). Chapter 9 of the PCRDP was originally developed for the area outside of Christchurch Central's "4 Avenues" (which were provisioned for in Chapter 13 "Central City" of the PCRDP). However, now the natural and cultural heritage objectives and policies are contained in Chapter 9 only, which covers the entire CCC area.

The heritage objectives of Chapter 9 – Natural and Cultural Heritage are shown in Box 3. The PRCDP provides detail about how those objectives can be attained through a mixture of rules and non-regulation (incentives). The objectives in Chapter 9 require evaluation in terms of effectiveness of achieving the purpose of the RMA and National Policy Statements (RMA Section 32; RMAA Section 32; New Zealand MfE, 2014; Treasury, 2015).

1.2 Evaluation within the planning framework

Under the Resource Management Act 1991 (RMA), a Section 32 evaluation is to be carried out prior to the introduction of a new plan, a plan change, policies, standards or regulations.

The Section 32 requires that:

- New proposals must be examined for their appropriateness in achieving the purpose of the RMA
- The benefits and costs, and risks of new policies and rules on the community, the economy and The environment need to be clearly identified and assessed
- the analysis must be documented, so that stakeholders and decision-makers can understand the rationale for policy choices.

The Resource Management Amendment Act 2013 (RMAA) introduced new requirements under Section 32 (see MfE, 2014). Although the new requirements do not change the purpose of Section 32, they do encourage quantification of costs and benefits, emphasising the need to assess economic costs and benefits, and generally require a more robust, more clearly articulated analysis to a level of detail that is proportionate to the type of proposal. The 2013 changes seek *quantification* of effects, but not necessarily monetisation of the effects. MfE (2014) published *A guide to section 32 of the Resource Management Act 1991, incorporating changes as a result of the Resource Management Amendment Act 2013,* but guidance on heritage issues is specifically excluded from the guide. No rationale is given as to why the guidance does not cover or focus on heritage aspects, but heritage planning, management and provisioning requires special/nuanced consideration, largely because heritage is an intangible asset and there are characteristics of heritage assets that lead to specific market failures (ICOMOSNZ, 2010). Other characteristics, such as the public good structure of ownership of heritage and increasing value of heritage assets over time (as opposed to the depreciating value of physical assets as their usefulness declines), present challenges in accounting for heritage values and also for assessing equity issues, especially regarding who pays for and benefits from heritage.

Box 3. Policy Objectives in Chapter 9 Natural and Cultural Heritage

9.1.1 Objective - Indigenous Biodiversity and Ecosystems

Indigenous biodiversity is maintained and enhanced and areas of significant indigenous vegetation and significant habitats of indigenous fauna are identified and protected.

9.2.1.1 Objectives – Outstanding Natural Features and Landscapes

a. The district's outstanding natural features are protected, including the following identified features:
   i. Kaitorete Spit
   ii. Te Waihora / Lake Ellesmere
   iii. Wairewa / Lake Forsyth
   iv. Brooklands Lagoon and Spit / Te Riu o Te Aika Kawa
   v. Waimakariri River
   vi. Travis Wetland / Ōruapaeroa
   vii. Riccarton Bush / Pūtarikamotu
   viii. Te Ihutai / Avon-Heathcote Estuary
   ix. South Brighton Spit / Te Kōrero and Estuary entrance

b. The The district's outstanding natural landscapes are protected, including the identified landscapes on:
   i. Banks Peninsula / Te Pātaka o Rākaihautū
   ii. The Port Hills / Ngā Kohatu Whakarakaraka o Tamatea Pōkai Whenua

9.2.1.2 Objective – Significant Features and Landscapes

a. The district's significant features are maintained and enhanced, including the following identified features:
   i. Ōtūkaikino Creek
   ii. Styx River / Pūharakekenui
   iii. Styx Mill Reserve
   iv. West Melton Dry Plains / Ōkakea
   vi. Christchurch Coast / Te Tai o Mahaanui
   v. Waikākāriki / Horseshoe Lake
   vi. Ōtākaro / Avon River
   viii. Heathcote River / Ōpāwaho

b. The district's significant landscapes are maintained and enhanced, including the identified landscapes on:
   i. Banks Peninsula / Te Pātaka o Rākaihautū
   ii. The Port Hills / Ngā Kohatu Whakarakaraka o Tamatea Pōkai Whenua

9.2.1.3 Objective – Natural Character in the Coastal Environment

Natural character in the district's coastal environment is preserved.

9.3.1 Objective – Historic heritage

Historic heritage is maintained recognising the important contribution it makes to the district's distinctive character and identity, and its role in recovery.

9.4.1 Objective – Significant Trees

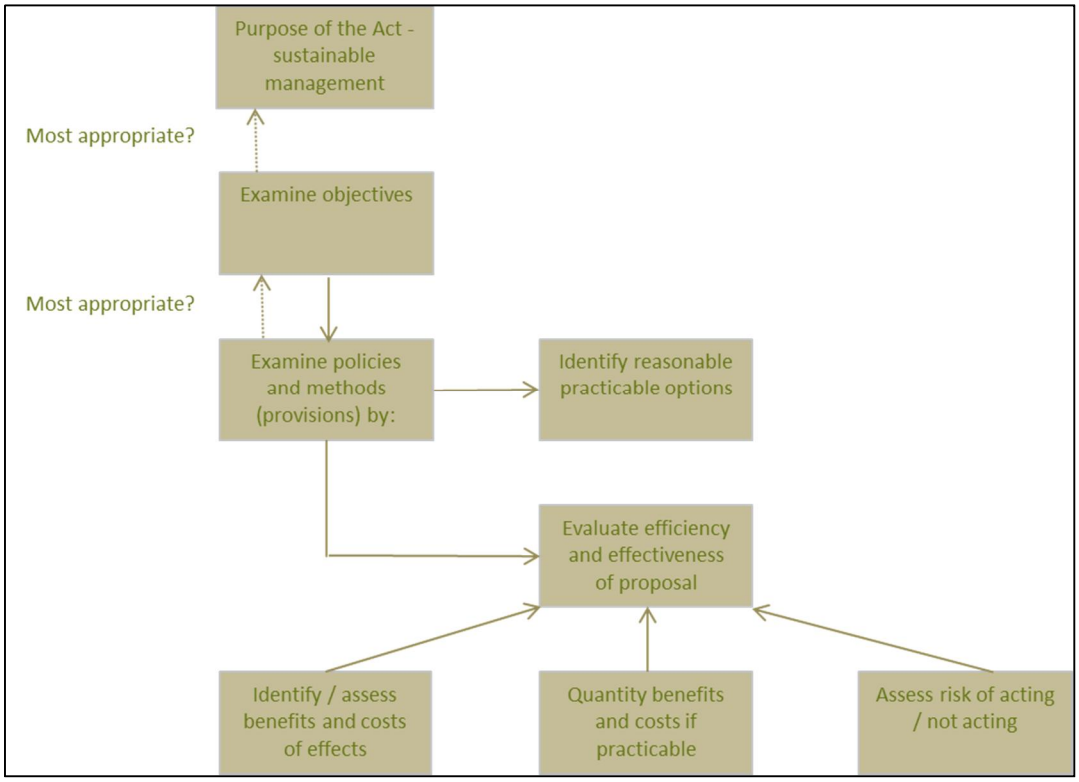
Maintain and enhance the contribution of significant trees and trees in road corridors, parks, reserves and public open space including in relation to:
   a. landscape character and amenity;
   b. cultural values;
   c. purification of air and rainwater;
   d. releasing oxygen and storing carbon;
   e. cooling of the built environment and waterways;
   f. stormwater and erosion management;
   g. biodiversity protection and enhancement.

In addition, Section 32AA (RMAA, 2013) sets out the requirement for undertaking and publishing

further evaluations for any changes that have been made to, or are proposed for, the proposal since the evaluation report for the proposal was completed, and must contain a level of detail that corresponds to the scale and significance of the changes. Thus a Section 32AA takes into account the marginal changes in a plan.

The key components of the Section 32 evaluation process are given in Figure 1. It shows a hierarchy of planning, with the purpose of the RMA (sustainable management) at the top, with a series of objectives underneath, with a set of policies and methods to achieve those objectives (e.g. the District Plan provisions). The purpose of the Section 32 is to evaluate the efficiency and effectiveness of those provisions, by identifying the benefits and costs, quantifying the benefits and costs where possible[4], and assessing the risk of acting or not acting.

Figure 1. Key components of the Section 32 evaluation process



Source MfE (2014:15)

1.3 Purpose of this report

The purpose of this report is to inform the development of a Section 32 on Chapter 9 Natural and Cultural Heritage. It provides commentary on economic principles that should be considered when undertaking a Section 32, and identifies the economic attributes that distinguish the management of heritage assets from other policies. The report also discusses the rationale or justification for the choice of policy measures to achieve heritage objectives.

[4] The Treasury (2015) has published guidelines on undertaking a cost benefit analysis.

1.4 Organisation of this report

Section 2 describes the characteristics of heritage from an economic perspective. This section is intended to be used as a reference section to examine heritage with an economic theory lens (note, not necessarily monetary or financial), notwithstanding the cultural, social and environmental dimensions of heritage. The handling of 'value-sets' within the economic discipline is used to express the stream of benefits that are generated from heritage assets. Within the RMA, heritage is considered a resource. Resources are assets, which generate a stream of benefits. However, heritage resources are not simply physical assets but also can be considered intangible assets. Intangible assets pose methodological limitations to valuation. Section 2 elaborates on the valuation methods used within economics, and highlights specific issues of valuation that are pertinent to undertaking a Section 32 for Natural and Cultural Heritage.

Section 3 explores four broad heritage policy approaches, available for use within the PCRDP. These are regulation, fiscal incentives, market incentives and voluntary measures. When drafting a new policy or regulation, an impact assessment of its likely effects, based on evidence, is required. This section provides a rationale for the choice of policy mechanisms, considering the advantages and disadvantages or high level costs and benefits of the various regulatory and non-regulatory approaches.

Section 4 presents recommendations for how work should progress to undertake the Section 32 for Chapter 9 – Natural and Cultural Heritage. It draws from and is informed by the background information provided in Sections 2 and 3, alongside documents from Christchurch City Council.

2. Heritage Assets

The conservation and management of natural and cultural heritage has given rise to a vast body of literature at local authority, national and international levels. Heritage, in its broadest sense, is an asset which does not align with resources that typically have a physical form and well defined use (Treasury, 2002; Licciardi and Amitahmasebi, 2012). Heritage has value and significance in many ways, such as: providing continuity (in the midst of change); a source of community identity and wellbeing; enabling a sense of where we are in time; and contributing to the economy. Natural heritage is recognised as contributing to ecosystem services, which are directly appropriated in the economy.

Heritage is not always a resource or entity that is openly exchanged. Market processes of buying and selling, which reveal relative scarcity of the entity and its monetary value, is a core focus of economic enquiry. Heritage is consumed/appreciated indirectly by residents, visitors and tourists, and contributes to the community's economy, well-being and sense of pride. Although it has been argued in NZ case law that heritage is a resource[5], heritage is an example of an intangible asset, and as such its value can be difficult to determine (RICS, 2009). However, heritage can be embodied in physical assets – such as objects, buildings, monuments, spaces, landscapes and streetscapes – as well as in less tangible ways – such as place-names, language, stories and rituals. When heritage is embodied in physical assets, then those assets typically have other values which are not part of the heritage value. As a consequence, valuing heritage can pose methodological challenges.

Christchurch City Council has recognised the value of heritage. Prior to the earthquakes, Christchurch City Council had identified the (cultural) heritage values as follows[6]:

- Heritage helps to define a unique sense of identity for individuals and communities and the city of Christchurch.
- Heritage helps to create communities by connecting individuals to neighbourhoods, social groups and the city as a whole through its physical, cultural, emotional, intellectual and spiritual aspects.
- Heritage provides continuity in a constantly changing society and environment, affirming where our communities have come from and enabling an understanding of the present in order to plan for the future.
- Heritage has value to the whole community and serves beyond individual interests to contribute to the greater public good and community prosperity.

Heritage assets are public goods which create a sense of place and identity for communities. Although many assets which have heritage value are in private ownership[7], the context within which heritage values are realised is very much part of a larger public context, and these values have characteristics of a public good. The characteristics that assign heritage value are understood within the context of their relevance of a former time (historic heritage); a former physical state (natural heritage); or due to particular social conditions (cultural heritage). Indeed classification of heritage requires alternative experiences, often experts to identify the unique characteristics that define what heritage is.

[5] AA McFarlane Family Trust v Christchurch City Council, EC, C46/99

[6] http://www.ccc.govt.nz/cityleisure/artsculture/christchurchheritage/heritageintro.aspx

[7] With regard historic heritage, at least 80% of heritage items are in private ownership in Christchurch City. The Christchurch City Council owns approximately 14% of heritage items, while the Department of Conservation owns 2%.

The theoretical basis for treating heritage as an asset has its roots in capital theory, central to production processes in economics. Capital is defined (traditionally) in classical economics as a physical good (e.g. a machine or building) that gives rise to a flow of services or benefits over time. Different types of capital have subsequently been identified, as they are necessary components of production: the traditional physical capital, human capital such as labour and more intangible capital such as social and cultural capital. Within economics, capital assets store wealth and generate production for future consumption. Heritage assets are placed in a specific category of cultural or heritage capital as they have an additional value to non-heritage assets.

For example a historic building has functions that set it apart from other buildings. It may have distinct aesthetic qualities or be a portal for understanding how life was lived in the past. These functions may have a non-market value, as measured by the willingness of society to preserve that building. Intangible assets, such as indigenous language are critical to identity and sense of place, which has value in terms of the economics of uniqueness (World Bank, 2012). Similarly, natural capital provides dividends to society in the form of ecosystem services (e.g. regulating climate, provisioning of food) and the unique use of natural capital in a particular place constitutes natural heritage. Yet assets require careful management, and investment for their maintenance. Assets generate benefits from their use and from their existence. This is a Utilitarian approach to heritage, but provides a rationale for framing the discussion of value in heritage.

2.1 Property rights and heritage

For heritage assets, their value emanates from a shared historic cultural context. The heritage assets are associated with buildings, landscapes and natural features that are embodied within a physical state or property.[8] The property regime is predominately private, individually owned, and because properties which have heritage value commonly also have other values, key issues can emerge at the interface between management or preservation of heritage assets, and the management of those other, non-heritage values.

Moreover, heritage values of buildings often arise with the passage of time, well after its initial construction. This is especially the case for heritage residential buildings, which, when built do not immediately have heritage attributes, but attain that quality over time. The building does not only fulfil its original purpose and use, providing benefits such as shelter and a home to the owner. Usually over time, it also acquires a heritage value, the benefits of which are realised in part by the owner of the building, but also by the public who may appreciate the aesthetics of the building, the story it tells, the connect to former times. It is not limited to residential buildings, as commercial/industrial buildings have heritage value, e.g. Antigua Boatsheds. A similar set of benefits emerge from natural heritage assets on private land, such as *taonga,* indigenous flora or scenic quality. It is not always possible for the owners of private land to exclude others from realising benefits resulting from, for example, the scenic quality of land (Fortman, 1995). Landscapes and natural assets, although often on private land, are often 'used' or appreciated by others than the owner. Hence the argument of treating

[8] Excluding heritage assets such as language which is embodied in people and cognitive processes.

heritage assets more as a common pool resource (managed collectively), or more accurately as having public benefits.

There are different types of property regimes, ranging from individual private property ownership, to collective ownership (by groups of people), to state ownership (akin to private property, but the owner being the state), to true open access or commons, where there is no owner only users, who have no property related duties enshrined in law. These are presented in Table 1.

Property rights are based on a set of rules that either enable or limit the use of the property. The limit on ownership, that is, what owners can and cannot do with their property has always been circumscribed in law or custom. Traditionally the limitations placed on property owners were intended to overcome obvious problems that impacted either neighbours or the wider society, sometimes in an informal way through local customs.

Private property (from a strict economic perspective) implies exclusive title to land or a resource, enabling use of that land/resource, the ability to exclude others from using it and ability to sell or transfer ownership. Examples of private property include freehold titles and it also includes Council owned land, even though access may be given to the public. This latter point shows that a property right regime in the strict economic or legal sense of the word relates to the registered title owner of the property. It does not detract from the importance of a Council, as property owner, purchasing property for natural and cultural heritage purposes and providing public access or entitling the public to use the property.

Table 1 Types of property rights regimes

Regime Type	Owner	Owner rights	Owner duties
Private property	Individuals – fee simple or freehold title. e.g. residential home; land owners; Council property.	Use; excludability; transferability; enforceability	Compliance with rules, both formal and informal. Avoidance of socially unacceptable uses
Common property	Collective (multiple owners) e.g. Multiply owned Maori land	Use; shared excludability; subtractability	Maintenance; constrain rates of use/over exploitation
Crown property	Crown Property Management (on behalf of Her Majesty the Queen), and delegated to different agencies (e.g. DOC, Corrections, Housing NZ Corporation).	Excludability; Rights granted under prevailing governing system	Maintain social objectives; management according to prevailing political beliefs
Public Good	None	Capture	None, although increased obligations through national and international legislation and convention.

Common property is when there are multiple owners. Examples of common property in New Zealand include Body Corporates and shared facilities such as access ways. It also includes 'Multiply owned' Maori land (when the title is held by three or more people). Crown property is land that belongs to Her Majesty the Queen, with vested authority in different governmental departments. Open access property regimes include pure public goods, where there is no owner and no ability to exclude other people's use. Within economics, they have been termed 'common pool resources' (Hardin, 1968). There are limited examples of open access heritage assets, but some of the ecosystem services that natural heritage contributes to and helps create, can include the clean air that people use (to breathe). The problem with open access goods is that due to their size and characteristics, it is difficult and costly to exclude potential users from obtaining benefits from their use, and also difficult to ensure users do not overexploit the resource/asset.

The key issue is that heritage is basically a public good, and when it is embodied in public property, there is no problem because there is no disjoint between the nature of the heritage asset, and the nature of the building or landscape in which it is embodied.[9] However, there is disconnect between public asset heritage and privately owned assets with heritage value.

2.2 Valuation of Heritage

When looking at heritage assets through an 'economics' lens, the issue of valuation emerges (Manatu Taonga, 2013). Valuation is the process of accounting for things that are important to people. Value is a property of an object, whether physical or abstract, representing that object's degree of importance. However, people in different cultural settings communicate their sense of value in multi-layered ways (O'Connor, 2002 & 2007).

The value set attached to heritage by society is made up of groups of individuals, communities, organisations, institutions and visitors. It is not uniform and can change in intensity across communities over time. As an example, the value and emphasis placed on natural heritage (which gives rise to ecosystem services) has increased considerably over the last twenty years. This has been due largely to a deepening understanding of how ecosystems work, and value sets have moved from individual belief sets to shared societal values of acceptance of the importance of natural heritage. In the past, natural heritage values were given a zero value in many economic valuations of potential projects, largely because the ecosystem was not fully understood, or thought to be an unlimited resource, and hence a value was not explicitly attributed. This is also because natural values could not be monetised easily, and their values were unable to be expressed in terms common with other components.

[9] It is acknowledged that the argument is not as simple as public versus private ownership: there can be complexity associated with publicly owned heritage assets, especially when other factors such as health and safety issues override the heritage value.

Table 2 Summary of Rating Units Containing Historic Heritage Items

	Total Pre-quakes	Demolished between September 2010 and March 2015	Percentage Demolished
Heritage Items in the District	922	233	25%
City Plan Heritage items (including Central City)	588	199	34%
City Plan Heritage items (excluding the Central City)	279	65	23%
City Plan Heritage items in the Central City	309	134	43%
Banks Peninsula District Plan Heritage Items (including Lyttleton township)	334	34	10%
Banks Peninsula District Plan Heritage Items in Lyttleton township	126	30	24%

Without laboring on the point, it should be acknowledged that there are changing value sets regarding heritage, which will determine what gets measured or valued. This is evident in post-quake Christchurch when the series of natural disasters damaged or destroyed 25 percent of historic heritage items registered on rating units (Table 2).

The value of remaining undamaged historic buildings can be seen to be higher than pre-quake times, given the loss in numbers of heritage buildings (increased scarcity). However, the value of heritage buildings to the owners may diminish if the use/utility value of the building (other than heritage) was compromised by the earthquakes. In this instance, buildings have multiple uses/values, with heritage being one. For example, a heritage house has value for the owner, as a place to live. The heritage and utility values may conflict, especially because the heritage component is subject to regulatory controls, which may undermine the value of the utility component. The value attributed to heritage can diminish relative to other considerations, and in particular relative to safety considerations for unreinforced heritage buildings (Paxton et al, 2013; Gibson Economics, 2014). This latter perspective is an example of how heritage could be seen as a 'luxury' good, and highlights the role of a mediating agency to assess and ensure the societal values of heritage are included in decision making, and how best to manage those values. There are methodological complexities moving from valuation on an individual level to valuation for society, as the value sets are not simply the sum of the individual's preferences.

The value of heritage may change due to clustering of heritage assets in a particular location. If a set of heritage items or historic heritage buildings are concentrated, creating a heritage precinct, or streetscape, there is value associated with heritage density (e.g. as a 'honey pot' for heritage visitors; or similarly for natural heritage, in the formation of heritage landscapes) on a different scale that generates collective benefits/value.

Understanding the logic or process of valuation is important, but oftentimes economic valuations are seen narrowly as reductionist processes using monetary terms to express the value of the object in question. Monetary expression of value is one means of gauging relative scarcity or desirability of an object, when traded in market conditions. However, not all objects, particularly heritage assets, are

traded, and not all markets work perfectly. Hence the challenge of expressing heritage value in a systematic manner.

The concept of value has been developed within economic theory. Value is central to welfare economic theory, with its roots in utilitarianism, expressing the degree to which a good or service satisfies individual (or societal) preferences. Valuation is a subjective anthropocentric process, and most Western ethical theories share the assumption that value must ultimately be reduced to matters of interest or concern to humans. Heritage values are no different, as they are intrinsically associated with human wellbeing – either material, environmental or spiritual wellbeing. The following section discussed valuation approaches from an economic perspective.

2.3 Valuation in Economics

Humans use empirical measurement processes to assign values to objects, and to monitor changes to objects that are valued. The valuation process involves an assessment of the current state of the object in question, and changes to the original observation of that object. The concept of value is central to welfare economic theory, which was formulated around a 'utilitarian' concept – centred on increased wellbeing and reduced suffering. Valuation is a subjective anthropocentric process, and most Western ethical theories share the assumption that value must ultimately be reduced to matters of interest or concern to humans. Notwithstanding that, the concept of existence or intrinsic value is recognised within economics, but in reality, valuation exercises are largely undertaken with reference to the human use of the object being valued.

There are different economic techniques and tools for valuation and the heritage teams will need to clarify how to assign value to heritage assets for the Section 32 report on Chapter 9. Within economics, the prevailing method to measure value is using the Total Economic Value method, and this is introduced below.

2.3.1 Total Economic Value

Value is a rank of importance given to an object. It shows a reciprocity between an object and evaluator, whereby the evaluator gets some degree of satisfaction or utility from the object (either physical or abstract). Within Welfare Economics, value is linked to utility, and utility is most likely expressed in monetary terms. Welfare economics assumes that human preferences are the only source of economic value. Total Economic Valuation (TEV) is a framework that emerged from environmental economics (Pearce and Turner, 1990). It considers categories that contribute to overall value, and has been adopted in the international collaborative project of The Economics of Ecosystems and Biodiversity (TEEB). This approach is not without criticism, as it tends toward monetary valuation (Costanza, et al., 1997) while improving the techniques of environmental cost benefit analysis (Spash and Vatn, 2006). The components of the TEV include active use values and non-use values, and are presented in Table 3.

Table 3. Components of Total Economic Valuation

Total Economic Value	Active Use Values	Direct Values – current	Used in production processes
		Indirect Values - current	Provides support to main production processes
		Option Value – future	Future direct and indirect values
	Non-Use Values	Bequest Values	Environmental integrity for future generations
		Existence Values	Value from knowledge of continued existence

Values of heritage assets include consumption of heritage by tourists/visitors for a particular landscape, or use of a building (either residential or commercial) for different purposes. Use values for heritage assets also include aesthetic value, symbolic value (conveying meaning and information that forms an interpretation of the community's identity), or spiritual value. Non-use values applied to heritage assets include the existence value[10] and option values[11]. Non-use values reveal the importance people place on ensuring that future generations have access to, enjoy or use the heritage assets. Existence value moves somewhat beyond an anthropocentric valuation approach and recognises that the continuation of an asset is important in and of itself. This could include a landscape, natural state or a species. These non-use values are not observable in the marketplace, since no market exists on which the rights to them can be exclusively exchanged. The same methodological issues apply to the valuation of heritage assets (World Bank, 2012) as to natural assets (Christensen *et al.,* 2013; TEEB, 2010; Dymond *et al*., 2013; NZIER, 2013).

The monetary value of an object or service can be gauged when traded in a market. Hence the term direct value. Direct Use Value is a term used to describe the value (monetary or otherwise) obtained from consumption of a good or services. Many heritage buildings are traded on the market, and the value of heritage can be gauged by comparing the sale prices of heritage and non-heritage buildings, which otherwise have similar attributes (Baez and Herrero, 2012). Many goods and services are exchanged on a market, which automatically reveals their value. Market valuation is the price at which an asset or services would trade in a competitive auction setting. Market valuation is appropriate for private goods and services, but problematic for heritage goods and public goods where externalities (positive and negative) are usually not included.

Indirect use values are also derived from personal use, but as their title suggests they are not traded on the market. Natural heritage assets have value that is realised through the ecosystem services that are generated. These ecosystem services are traded indirectly on the market – e.g. visual landscapes are used/consume in the tourism industry, and in this instance value can be calculated in monetary terms.

Option value is related to future ability to use the resource or service, even if there is no use for it now. This is particularly relevant to non-renewable resources, whose depletion or use now will inhibit

[10] E.g. value associated with the continuation of, for example Te Reo as a living language, even though the people who value it may not consume its services directly; or the authenticity value of a heritage asset, that a site is valued for its own sake, because it is real, has historic integrity.

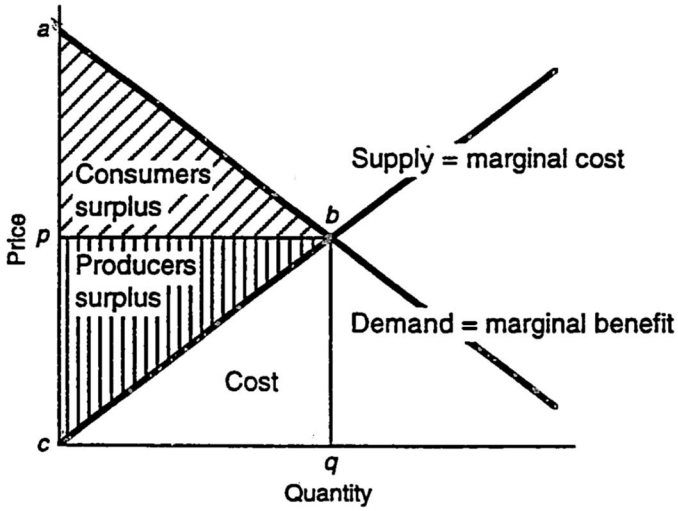
[11] E.g. preservation of a landscape or state of nature to preserve the option that they or others might consume the asset's services at some future time; the site may have scientific value, as a source for scholarly study in the future.

the ability of future generations to use them, but is also of relevance for heritage assets such as language.

Moving on the scale from direct, to indirect value, to option and bequest values, the more difficult it is to measure the value sets. At one end of the spectrum there is the trading of goods and services that can be observed. In the middle, techniques can be used to glean or impute a value. However, option and bequest values have radical uncertainty attached to them, and are nearly impossible to measure.

O'Connor (2007) approaches monetary valuation using an opportunity cost analytical framework, or a marginal analysis. Therefore measurement is of changes from the status quo, without measuring the status quo, *per se*. This is reflected in the TEEB (2010) approach for valuing natural capital (of relevance to natural heritage), where the practical use of economic valuation is assessment of incremental change arising from user changes, and not at valuing an entire ecosystem. The purpose of economic valuation in policy decisions is to provide information on the impact of the change, and not to value the entire site or resource (NIWA, 2010: Appendix 32). This approach aligns with the consumer and producer surplus concepts (Figure 2), or the changes in monetary value along a demand or supply curve, and links in with willingness to pay and willingness to accept (Young, 2005).

Figure 2. Economic concepts: marginal analysis, showing consumer and producer surplus



Use of a marginal analysis is important when looking at heritage resources. The cost of the last unit of a heritage asset (e.g. the last few pairs of breeding kiwis) would tend to infinity, as there would be infinite demand for that resource (theoretically, the value of the last unit of the heritage asset would be the cost to substitute it, or make/create it, but for ecosystem services or cultural assets, such as Te Reo, it is not currently technically feasible to replace them). Marginal analysis avoids measuring the asset value of an object, which is sometimes desirable to know, in order to place the value of a marginal change in context. This is a key point in the evaluation process, which should address how much heritage maintenance and enhancement will be improved, or heritage outcomes are attained.

Willingness to pay shows a range (to a maximum) that a person would be willing to pay for a (certain level/quantity) of a good or service. Methods such as revealed preference and stated preference

valuation methods are used to measure willingness to pay for services that are not traded on open markets.

Revealed preference methods (Pearce and Turner, 1990) estimate the value of a particular good based on actual market behaviour. It is based on observed spending behaviour, and the value of the environmental good or service is inferred from that behaviour. Revealed preference methods include:

- Travel Cost method: based on travel time and expenditure by visitors to a particular heritage site.
- Hedonic Pricing: Differences in what people pay for similar goods based on different heritage attributes are measured, to assess what people implicitly pay for heritage assets (e.g. land with native bush; see Walls, 2015).
- Cost of illness approach: cost of health impacts are measured by expenditure on medical costs (perhaps relevant to risk from unreinforced heritage buildings).
- Replacement Cost methods: the value of an ecosystem good or service expressed in terms of the cost of replacing that good or service; this approach may not be relevant to heritage assets, as the uniqueness of the heritage good is what defines it.
- Production Function Approach: value of an asset that is used to produce a market good, e.g. incorporating all landscape values into a tourism product, which results in visitor expenditure while accessing/utilising the landscape.
- Stated preference methods are survey based, in an effort to elicit what hypothetically would be paid for a good or service. They use willingness to pay for an environmental good, or willingness to accept compensation for a reduction in environmental quality. The main survey tools are:
    - Contingent Valuation: In a survey people are asked about what they would be willing to pay for the attainment of some level of environmental/ecological service.
    - Choice Modelling: similar to contingent valuation, but ranking preferences.

A final method of assessing market values is to use Benefit or Value Transfer methods to transfer the results of previously applied valuation methods to a new case study, in order to estimate intangible costs. This approach is widely criticised, as the heritage value is usually so unique. However, given the time and money required to undertake many valuation exercises, the benefits transfer method is increasingly employed to provide estimates of value, particularly for natural heritage and their associated ecosystem services. Dymond (2013) collated numerous studies on individual components of New Zealand's ecosystem benefits, which could be used within a benefits transfer study. Of particular relevance (while recognising the methods for ecosystem accounting are still experimental) from Dymond's book are:

- Wetland ecosystem service (Clarkson, Aussiel and Gerbeaux, 2013),
- Ecosystem services of Lakes (Schallenberg, de Winton, Verburg, Kelly, Hamill, and Hamilton, 2013),
- Water quality (Davies-Colley, 2013),
- The many uses and values of estuarine ecosystems (Thrush, et al. 2013),
- Natural capital and ecosystem services of soil (Dominati, 2013),
- Freshwater biodiversity (Joy and Death, 2013)
- The value of ecosystem services for recreation (Clough, 2013),
- Indigenous Maori knowledge and perspectives of ecosystems (Harmsworth and Awatere, 2013),
- Ecosystem services in New Zealand cities (Meurck, et al., 2013),

- Landscape aesthetic experience and ecosystem services (Swaffield and McWilliam, 2013)

Non-use values such as bequest and existence values reveal the importance people place on ensuring that future generations have access to, enjoy or use objects. Existence value moves beyond a human focused valuation approach and recognises that the continuation of an object is important in and of itself. This could, for example, be a landscape, a natural state or a species.[12]

2.3.2 Valuation Scope

The first point in a valuation exercise is to establish the scope of valuation, or articulate what is being evaluated. The introduction of a new policy requires an evaluation of the changes that policy would bring about, over and above what occurs currently, without the policy. This is a different exercise to valuing a heritage asset in and of itself e.g. addressing what the value of our indigenous biodiversity are, which is an exercise involving the valuation of a stock, and usually involves calculating or imputing from other forms of investment the cost of replacing that asset. Such evaluations may not be possible for heritage assets, as many assets are irreplaceable, and have value precisely due to their uniqueness (NZTA, 2014). The asset is a stock, whereas how the asset is used or appreciated flows from that asset. Heritage assets are a unique class of economic good, as their value tends to appreciate over time. Many valuations get caught in trying to measure the value of the stock, as the use values are linked to the value of the asset.

In undertaking a review of the district plan, the Christchurch City Council are required to undertake an assessment of whether what currently is in the proposed District Plan is fit for purpose, in order to meet the Council's objectives (a 'Section 32' report). Section 4 below assess the regulatory and policy options that can be used for heritage maintenance and enhancement, and partially contributes to a Section 32 on the heritage chapter. However, the more specific details contained within Chapter 9 will have a significant effect on heritage outcomes, and further analysis will be required to establish the costs and benefits of their implementation. This is particularly relevant for distributional or equity issues – in terms of where the burden of the costs of heritage management is felt.

2.3.3 Valuation Scale

It should be recognised that there are different value sets, which will determine what gets measured or valued. There are methodological complexities moving from valuation on an individual level to valuation for society, as the value sets are not simply the sum of the individual's preferences. Given the problems acknowledged by bounded rationality and incomplete information, heritage values may not be apparent to an individual, and hence undervalued.

The value sets may differ at different scales. For example, if an area has an abundance of one particular heritage asset which is unique to that area, they may be valued differently at that level in comparison to at a national level. This is not so much an issue for natural heritage, as national assessment criteria exist. However, the ecosystem services from New Zealand's natural heritage may be significant on a global scale. It is also of relevance for cultural heritage, particularly relating to the uniqueness of Maori culture and heritage, from a global perspective of indigenous heritage. The issue of scale highlights

[12] See NIWA, (2009); Kaval (2010) and NZIER (2013) for more detail on valuation methods, contained in Appendix B.

distributional and equity implications of heritage assets, and our ability (or mandate) to assess heritage at these different levels.

In terms of time frames of economic evaluations, the scale can vary considerably. Restoration of natural assets may require long timeframes for benefits to be realised, and/or for the services to be fully functioning. Game theorists model economic behaviour through the use of agents, their preferences and value sets, usually in finite games (one which has a beginning and an end). In these games, optimal choices and decisions can be worked back from the end strategy (Dixit, Skeath and Reiley, 2009). Repeated games introduce an inter-temporal trade off, discounting the present for the sake of the future. How far into the future our economic models extend depends on how the modeller constructs time. This is important to consider when discussing the conservation of heritage assets, as benefits are realised in the future, not necessarily by the current generation. The question of how long heritage assets should be maintained should also be addressed. The concept of infinity poses interesting theoretical challenges within economic theory, and it changes the strategies within economic game theory. Carse (1987) introduced the notion of an 'infinite game', which has no discernible beginning or ending. It is played on a continuum, with the goal of continuing play, for the sake of continuity only. It is interesting to consider heritage as an infinite game, as it can determine the choice of policy response to maintain that heritage asset. For example, if a critically endangered endemic natural heritage asset was recognised, and attempts were made to ensure its survival, it is most likely that strict rules would be introduced as a heritage management option. Examples of this could include little spotted kiwi or Hector's dolphin and the activities that are permitted in their habitats.

Ecological economists recognise that natural heritage that give rise to ecosystem services are required *ad infinitum*, to support life and prevent planetary extinctions and species loss. Therefore the strategies of the players in an infinity game will conceivably be radically different, as the aim of the 'game' or heritage management options is continuity, not personal gain – as is characterised by many economic game theory frameworks (Mesquita, 2010).

2.3.4 Valuation Agent

Within the rational choice economic framework '*Homo Economicus'* is the central agent, assumed to act rationally in their own self-interest, having the ability to make judgments toward their subjectively defined ends. Two important components of rationality embodied in the rational choice framework are the so called 'self-interest' and 'present-aim' standards. Self-interest suggests that people only value objects that accrue to them directly. A methodological problem arises instantly when a rational choice approach is applied to a society or group of individuals – are the value sets of societal decisions simply the sum of individual preferences, or more specifically can individuals take into account and weigh the costs and benefits for society at large, into their personal decision matrix? Clearly value sets clash, what is considered good practice for one person is not by another. Even the process of collating individual preferences is a research intense and costly exercise, requiring an inordinate amount of information, on effects and trade-offs.

Ultimately it highlights the importance of the evaluating agent(s), in terms of whose values are considered, and at what scale (at an individual, community, regional or national scale). There is an argument against the inclusion of unrestricted individual preferences in evaluating for society, as

some people may have objectively 'bad' preferences[13]. However, gathering a complete set of preferences is not feasible anyhow, so considerable discretion is left to the evaluator in undertaking an economic valuation process, and determining the scale used.

2.3.5 Equity Issues

A large proportion of historic heritage places, natural and cultural heritage assets are in private ownership. The costs and perceived burdens of heritage maintenance, which ultimately benefits the wider community, often fall to private owners (Petry 2011; Graham Spargo Partnerships 2007). At least eighty per cent of historic heritage items are in private ownership in the Christchurch City Council area.[14] A problem arises if private landowners are unable or unwilling to enhance and maintain heritage assets within their remit. This can occur if landowners are unable to pay for maintenance of the asset on their land or if they are unaware of the heritage values associated with the asset. These two problems are associated with market failure and information failure, and result in a sub-optimal level of heritage maintenance.

Table 4 Public and Private Costs and Benefits Matrix of Heritage Assets

	Private	Public
Benefits	Enjoyment of the heritage asset Increased property value, which may be capitalised on sale of heritage asset Production of marketable products (e.g. visitor attraction) Sense of meaning and identity	Amenity value of the heritage asset, heritage landscape, or cultural heritage Use of heritage asset for economic purposes (e.g. cultural tourism, business operation) Bequest of heritage assets to future generations Community identity, social cohesion, social capital and sense of pride Valuable diplomatic tool, conveying respect Community altruism: gifting to future generations
Costs	Opportunity cost Loss of productive land Increased maintenance costs – premium price to pay for specialised heritage skills Travel costs of visitors to the heritage asset.	Costs of research and communication of heritage values (information costs) Administration costs of policy development and implementation Opportunity costs of rates remission, grant funding etc. Capital and maintenance costs of subsidising heritage work (e.g. planting trees on private land).
Distributed Costs	Co-funded heritage projects e.g. 50% grant-aid Ongoing maintenance costs Information exchange, in terms of state of the heritage asset and changes to the asset	

[13] Use of the term 'bad' here is in the sense that they are pervasive to society as a whole, for example drug addiction, or in the context of heritage, there may be a lack of information on the importance of the heritage asset. Oftentimes it takes an expert or outsider to determine what heritage assets are.

[14] The authors accessed data for built heritage in private ownership, and suggest that a similar analysis for natural heritage assets including SES, landscapes and trees should also be undertaken in order to clarify the proportion of natural heritage in public and private ownership.

There is a role for a mediating agency, such as Christchurch City Council, to address these failures, and hence the rationale for Chapter 9 Natural and Cultural Heritage, which determines the management of heritage assets in the city and surrounds. This management includes rules and regulations alongside non-regulatory management approaches. There is a debate regarding heritage assets, over the conflict between the gains to an individual heritage asset owner and the altruistic benefits to society. Thus, a distinction is made between public and private benefits and costs associated with ownership of heritage assets (Table 4). A category of distributed costs is also given, given that Councils co-fund heritage enhancement and maintenance with private landowners and there is an information exchange between both parties also.

The distinction between public and private benefits and costs raises the issue of who should pay for the heritage assets that are created. The 'beneficiary pays' principle is based on the recipient of a good or service bearing the costs of its provision. If a person or group wants something such as heritage enhancement and maintenance, they should pay for that good or service. This principle is applied to most transactions in the market – the private purchase of goods and services. Heritage tourism uses this principle – as tourists pay for heritage, through the direct purchase of heritage services (e.g. admission fees into museums, usage fees on tracks; and indirectly through accommodation and food services while availing of these heritage experiences). This is how, in principle, heritage is leveraged for economic gains (although not the only way).

There is an expectation that the Council as regulator, acting in the interest of the public good, also gives some support to the private landowners who maintain heritage assets on their land/properties. As heritage is a public good, which creates a sense of place and identity for the community, there is an expectation that government will give some support, and take some tangible responsibility for conserving a region's historic heritage (EPHC, 2004). Non-regulatory incentives are tools to encourage owners of property to take responsibility for the stewardship of the heritage assets that exist on their property, for the benefit of the wider community, and for future generations.

In summary, value sets are not trivial. These issues of public and private benefits, valuation scales and timeframes for valuation are areas that will require refining, in the development of a Section32 for Chapter 9. It should also be recognised that it is not just benefits that are measured. The costs of achieving heritage outcomes - or evaluating heritage policy - requires consideration.

3. Evaluating Heritage Policy

Achieving desired heritage outcomes on private land can be pursued through four broad types of policy tools:

1. Regulation - governance through formal rules in statutory plans, with recourse to the judiciary and formal sanctioning processes to ensure compliance;
2. Fiscal incentives – discretion or concession on the rates (local taxes) collected at a property level;
3. Market based incentives – the exchange of goods and services the Council requires, or financial incentives and disincentives;
4. Voluntary approaches – providing information and advocating for a certain type of behaviour.

Alongside regulation, the Council has considerable discretionary scope to achieve heritage outcomes through incentivising behaviour that will result in heritage enhancement and maintenance in a voluntary or non-regulatory manner. The Resource Management Act states that decision makers are required to actively consider alternatives to regulation, in preparing policy statements and plans.

The challenge in designing incentive policies is to balance the 'variable mix of altruistic motivation and material self-interest' (Benabou and Triole, 2006). It is considered good practice to use a combined '*sticks and carrots'* approach to heritage management, whereby non-regulatory incentives (financial or non-financial) provide the inducement to the desired heritage outcome, as prescribed in the rules or regulatory plans (the "stick"). Farrant (1999) emphasises that incentives and regulation are not tenable individually, but rather need to act in concert with each other. Without incentives, the desired outcomes of regional and district plans are unlikely to occur (Rogers and Dwyer, 2013). Incentives can help reduce any negative connotation associated with owning a heritage asset, and illustrate the benefit and value associated with heritage asset.

The choice of policy can be viewed or rationalised in terms of assessing the benefits and costs of maintaining natural and cultural heritage assets and achieving heritage outcomes. Desired heritage outcomes may include the enhancement and maintenance of particular natural and cultural heritage. Particular landscapes and place based ecosystems can be targeted and their enhancement (in terms of heritage value) can be monitored. Desired heritage outcomes may include more intangible outcomes, which should be borne in mind. As an indicative list, examples of more indirect heritage outcomes for consideration include:

Shifts in social norms or mainstreaming heritage values:

- Changes in awareness,
- Changes in value sets,
- Changes in the salience of a heritage asset,
- Changes in management of heritage asset, and
- Changes in public behaviour.

Strengthened organisational capacity:

- Emergence of heritage organisations/voluntary groups/heritage partnerships,
- Improved information sources and communication of heritage values, including websites, information repositories.
- Increased visibility of heritage messages,
- Increased public involvement with heritage issues/projects.

Changes in impact:

- Improved physical conditions (e.g. native vegetation cover),
- Usability of heritage asset,
- Increased interpretation of heritage assets/sites, including on site information,
- Change in value of heritage asset (particularly built heritage and natural heritage, land values).

3.1 Heritage Regulation

In any discussion of attaining heritage objectives through regulating activities permitted on private property, the issue of ownership and property rights emerge (see section 2.1). Under the RMA, regulations can be introduced that impose constraints on activities that can take place or that must not take place.[15] Heritage regulations, such as scheduling or listing of a heritage building or assignation of a Site of Ecological Significance place obligations on the land owner that may incur additional costs to the land owner. The scale of costs may range from minor costs of adhering to management practices on the land to more substantial opportunity costs.

Regulation and rules are a means of controlling behaviour, and can be effectively used to attain a minimum standard regarding heritage (e.g. control over modifying a building or landscape).[16] Legislation and regulation establish rules that constitute or constrain rights and allocate responsibilities. The principal regulatory device is 'listing' of heritage assets. Formal rules are laid down by an authority, and are enforceable. Rules traditionally are seen as emanating from statutory authorities, but it is also acknowledged in a less formal sphere such as customary rules. Both formal and informal rules have in common that they modify behaviour due to a sanctioning process. There are consequences to non-compliance or rule breaking. A regulatory approach specifies the rights of behaviour that is embodied in the ownership and use of heritage land or property.

The introduction of new rules, changes the property right regime. Inevitably there will be resistance to constraints placed on property and land owners, particularly if there will be a cost to the owner if maintenance work is taking place. The property owner may incur a real cost for maintaining the heritage asset to a certain specification when maintenance work is being undertaken, which requires specialist expertise. It should be stressed that no extra costs are imposed on the property owner simply by the listing of a building or area of land. A problem may exist when a landowner who has made an investment decision and bought the land in the condition without heritage status, is faced with restrictions to their use of the land when a heritage status is assigned. This can have a direct effect on their potential income streams from that property/land e.g. limiting the construction of stock tracks or vehicle access for farming. This is an example of an opportunity cost, equating to value of the activities on that property that they have to forgo. Arguments against a heritage regulation can be constructed using the logic that landowners/property owners had not anticipated the opportunity

[15] NZHPT (2007) identify 'positive' regulatory methods that were in use in Christchurch City Council, in the regulatory provisions for historic heritage, which provided dispensations or flexibility for the need to comply with other district plan standards in order to achieve historic heritage objectives. Three positive regulatory provisions were 1) a plot ratio bonus for developments retaining heritage items within the Central City Zone; 2) Exemption from the need to comply with car parking and loading standards in the central city zones; and 3) allowance for non-residential use of heritage buildings in residential zones.

[16] It should be noted that a regulation cannot ensure the conservation of a building or landscape. Property owners can still neglect a building, to the point that it falls into disrepair and beyond. Demolition of a listed building, or alteration of a scheduled landscape without consent (if non-complying activity) incurs a legal sanctioning process.

costs that would be associated with new heritage listing status, in comparison with the rights they experienced when they bought the land/property (in the absence of heritage listing) .

It is important that any response to heritage regulation, provided by landowners is consistent with an explicit economic principle, as this ensures that there is a rational explanation of the equity issues which may emerge, regarding the costs associated with the heritage regulation. Given that heritage regulation requires a change in the rights and privileges of property and land owners many councils choose not to use regulation in isolation, but complement regulation with market incentives, rates relief and voluntary approaches (advice, information and advocating best practice). Such a mixed approach requires good communication between regulators and landowners at all stages. A *cost sharing principle* can be used to allocate the costs of providing heritage benefits according to the public/private split of those benefits (Pannell, 2008 and 2010).

A criticism of the use of regulation is that it can be a litigious process, e.g. the Insurance Council of New Zealand's challenge of CCC's 'Earthquake-Prone, Dangerous and Insanitary Buildings Policy 2010' following the earthquake series. Increasingly partnerships between local government, heritage stakeholders, landowners and central government are being forged, which enable a shared understanding of the problems. Indeed it is for this reason that Benett (1999) argues that regulation can exacerbate the 'tragedy of the commons', as it discourages relationships of mutual responsibility between private actors and regulating agency(ies). Partnerships are an efficient response to mitigate against appeals to decisions, and ultimately reduce the number of decisions being made in the Environmental Court or relevant judicial process. Bennett (1999) recognises the attempts made by governments to move toward this 'moral economy', which he describes as a mutual regulation between private actors, that is aligned with the motives/intentions of the regulator. Hence the appeal of the more intangible desired policy outcomes listed in the previous section.

The most extreme change of private property rights to ensure heritage maintenance is through Council purchase of land or heritage building to ensure its i.e. compulsory purchase of land/property. Christchurch City Council does not use compulsory purchase, but has a Historic Places Fund for the purchase of historic buildings, by agreement with the owner. The intention of this Fund is to on-sale the building either after repairs or later to a new investor, rather than keeping it in Council ownership.

The Council's Biodiversity and Public Open Space Strategies also seek to protect and enhance the District's 'high quality' landscapes through land purchase - either by Council or other parties (note: that these areas often overlap with Outstanding Natural Landscapes or Coastal Natural Character areas but are generally included for multiple reasons e.g. biodiversity, recreation or water catchment protection purposes). Any purchase of land with natural heritage in Christchurch, would be facilitated through and/or aligned with the aims of the Council's Public Open Space Strategy and the Biodiversity Strategy. Examples of successful land purchases which align with the aims of these Strategies include Te Oka Farm, Misty Peaks, the upper Grehan Valley catchment, and the Kaituna land exchange. The Strategy also contributed to the recent Saddle Hill Scenic Reserve acquisition supporting DoC, the Government's Nature Heritage Fund and the Rod Donald Banks Peninsula. The Rod Donald Trust also refer to the Open Space Strategy for their land acquisition/access projects.
A cost benefit analysis on the decision to purchase land can be framed in a discrete study of the cost of the land in comparison with the expected heritage benefits from that land, such as landscape and ecological values, while also acknowledging shared use values (e.g. the heritage asset is also within a water supply catchment).

It is not financially viable for all heritage buildings and landscapes to be in Council ownership[17], and there is recognition that heritage outcomes have to be achieved through private (non-Council) ownership, with attempts to change rules or change behaviour through incentives and other voluntary means. There are some advantages of using regulations for achieving heritage outcomes:

3.1.1 Advantages of regulations

1. Addresses market failure in the provision of heritage outcomes.
2. Regulations are direct and deterministic in their outcome. There is an added degree of certainty in heritage outcomes (provided that the rules are monitored and enforced, notwithstanding vandalism and intentional destruction of heritage assets, which, although criminal activities result in the loss of heritage assets).
3. Guarantee of a minimum level of heritage outcome (e.g. protection of a defined number of heritage buildings, or a set area of Sites of Ecological Significance). As such, heritage outcomes can be monitored and measured.
4. Appropriate for heritage assets that are most at risk.
5. Regulations are flexible – they can be invoked and removed.
6. Listings can add to the prestige of the land or property owner. It is noted that some landowners would be offended if a building or tract of bush were delisted, as the status of their asset would be altered.
7. Regulations or heritage listings increase visibility of the heritage asset, which enables targeted non-regulatory support for those assets (i.e. non-regulatory measures may be dependent on listings or regulation).
8. Regulations provide reassurance to the community that places of particular importance will be protected.

3.1.2 Disadvantages of regulations

1. Responsibility is placed on the property owner, who may incur significant costs, raising equity issues.[18]
2. High likelihood of contestation of a new regulation, given point 1 above. (This is a general comment, and may be reduced by working with land and property owners prior to the introduction of the new regulation).
3. If regulations are challenged (through a lengthy hearings process), an uncertainty exists in the rule-set which may adversely affect heritage buildings in particular.[19] This area needs to be

[17] Christchurch City Council owns approximately 14% of built heritage items (as per the Rating Units).

[18] The Canterbury Earthquakes Royal Commission (2012) noted that prior to the earthquake series, there were approximately 4,000 unreinforced buildings, and now there are approximately 500 fewer (e.g. 3,500). There is a high correlation between unreinforced buildings and heritage buildings, given that most unreinforced buildings were built between 1880 and 1935. The Royal Commission report (Vol 4 S.5) sampled 100 heritage buildings, and found that 72 of them were unreinforced. 54 out of that sample 100 heritage buildings were damaged in the quake, but to different degrees. There are costs associated with seismic upgrading heritage buildings, ensuring they do not become obsolete. There may be costs associated with specialist labour skills for maintaining heritage assets, both historic and natural heritage e.g. tiling, façade restoration ironwork, stone carving, blacksmithing etc. (Heritage Council Ireland, 2015).

[19] See evidence from Amanda Coats (Architect) in relation to Palmerston North Plan Change 13 on Cultural and Natural Heritage. Accessed 18/03/2015 http://www.pncc.govt.nz/media/2595617/pc13_1_part_1_web.pdf

assessed in the Section 32 in more detail, particularly the relationship between earthquake strengthening and heritage buildings[20]

4. High transaction costs of introducing a new regulation, given the effects on property rights.[21]
5. Regulation (of any type) can create inefficiency, if the amount of heritage maintenance determined by the rules exceeds the private and social demand. This 'deadweight' loss in the economy is difficult to measure however, but may persist if laws are not revisited regularly.
6. Requires monitoring and enforcement of the regulation, costs to the Council.
7. Although minimum standard is met, it does not ensure enhancement or improvement of heritage asset. Regulation offers no incentive to do better.
8. Equity issues emerge, given the burden on the private land owners who provide the heritage public good.
9. Can hinder the relationships between Council and landowner or be a barrier to the forming of meaningful heritage partnerships, if regulation is seen as 'red tape' or the Council is seen as adversarial.

In Summary

Regulation regarding heritage assets are specified in the statutory plans, particularly the Proposed Christchurch Replacement District Plan.[22] Regulation alone will not necessarily ensure the protection of intangible heritage assets, but it will ensure a minimum level of heritage maintenance.

[20] See Gibson 2014 for cost benefit analysis in Seattle, and Tailrisk (2014) for NZ relevant discussion.

[21] As an example of high transaction costs, it may simply be too expensive and time-consuming for heritage stakeholder interests to formulate and negotiate an alternative efficient solution to a regulation, or a tweaking/amendment to a regulation. This is a risk in the planning process if not enough time is given for exploring alternative efficient solutions to regulation.

[22] The Resource Management Act section 86B identifies the type of rules that have immediate legal effect from notification of the plan. These include rules in a proposed plan that protect or relate to water, air, soil, indigenous vegetation, significant habitats of indigenous fauna or historic heritage.

3.2 Heritage Incentives

Incentives are a critical tool in achieving heritage outcomes, and complement the regulatory approaches, used in regional and district plans. Often incentives may make the difference between whether a restoration project goes ahead or not. A contribution from a Council, no matter how small, can be an important psychological factor and a reward for positive behaviour (Henley 2006; CODC 2012).

Table 5 Summary of non-regulatory incentives

Fiscal Incentives	Brief Description	Relevance
Targeted rates remission	Used for landowners with natural or historic heritage on land. A non-contestable guaranteed rates relief scheme, usually given to compensate land that is legally retired or under covenant (restricted use), normally with active management toward heritage maintenance and enhancement.	Extensive use in NZ local government
Income tax rebate	*Not used in NZ, but used extensively in Europe, America, Canada and South America. There is an argument against the use of tax deductions or tax credits on income, on inequality grounds. Tax credits are given on income tax, against expenditure on heritage*	*Not used in NZ*
Market Incentives		
Loan Schemes	Loan repayable with instalments through rates. Not used for heritage assets at present, but used by Auckland Council in "Retrofit your home" scheme.	Limited use
Rates attachment	A loan, with repayments structured into rates invoice.	Akin to loan
Grants for individual landowners	Used for historic heritage buildings, market subsidy. Contestable fund.	
Grants for community groups	Common instrument, used for natural heritage and built heritage.	
Asset purchase (by Council) for on-selling	Direct intervention by Council to protect heritage asset, without holding asset long term.	Strictly not incentive. Linked to regulation
Consent fee waiver	Application fees related to heritage waived.	
Payment for Environmental Services	*Not used in NZ, but used in Europe and America. Commodification of natural heritage, and payments made for maintaining those goods/services*	*Not used in NZ*
Free or subsidised resources	The provision of free/subsidised resources, such as plants, herbicides, pest animal traps, weed bins or weed disposal.	
Non-Financial Incentives		
Heritage Awards/Recognition	Used currently for natural heritage. Recognition of QEII or other covenant on land – can be used in conjunction with rates remission. Used to recognise good practice/standards through prizes or endorsement of work.	
Heritage Events	Used for both natural and historic heritage, and can take on many forms. Usually a planned celebration on a day, or over a period of days.	
Interpretation – Information provision	Dissemination of prepared information, e.g. Heritage walks, heritage pamphlets, native trees to plant etc.	
Technical information to landowners	Interactive person-based advice from Council staff, tailored to property/land owners about best practice and funding opportunities.	
Heritage network facilitation	Council facilitates/provides a mechanism for collaboration with other individuals or groups to provide support and to share information.	*Progressive method*

After reviewing the national and international literature on how to incentivise heritage outcomes, a set of measures to incentivise heritage can be identified. They are presented in Table 5, divided according to fiscal incentives, market incentives and voluntary or non-market/non-financial incentives. Note, *not* all these measures are in use at present in New Zealand, and if so, these are shown in italic. Also, not all of the incentives are relevant to Chapter 9, but should be considered in the context of providing alternatives to regulation.

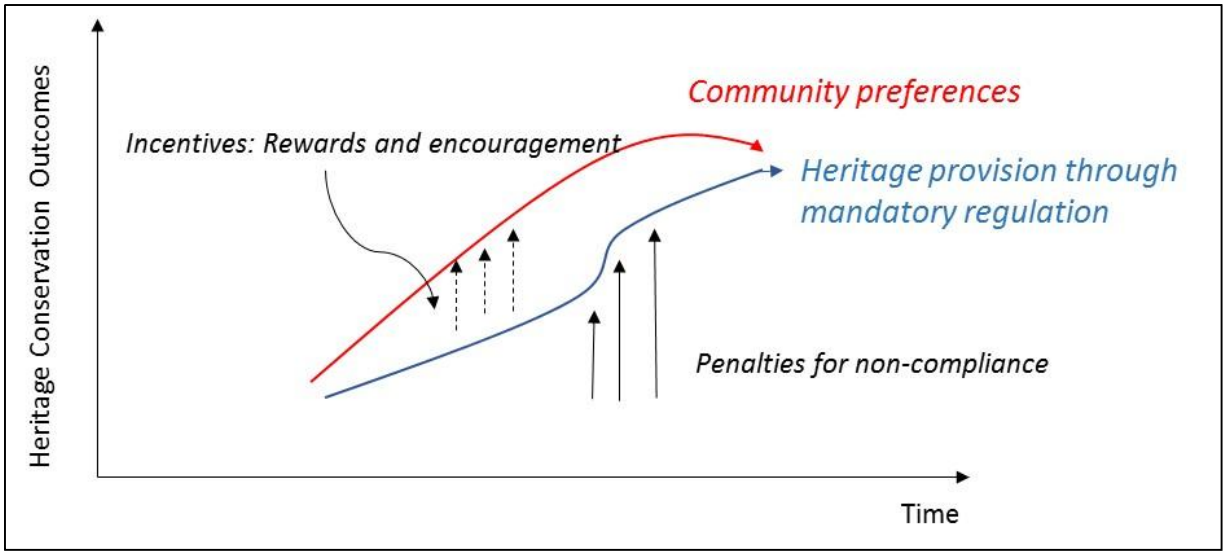
Incentive policies can be designed to support and encourage local communities, mana whenua and individual land owners to be actively engaged in enhancement, protection and restoration initiatives for Christchurch's natural heritage, local environments, historic (built and cultural) heritage. A voluntary approach seeks to establish social acceptance of a practice, such that the practice will be implemented by the respective stakeholders involved. This requires a social learning for stakeholders and sharing a common set of values – regarding the importance of heritage maintenance and enhancement. Education, information and extension activities are important instruments to achieve this. Raising awareness of heritage values, involving stakeholders and trying to develop ideas on the basis of meaningful debate are means of achieving social acceptance of principles.

Incentives assist and stimulate the community in managing heritage assets (Rogers & Dwyer 2013: 7), including historic buildings, landscapes and indigenous flora and taonga. Incentives can lead to reduced effort to monitor and enforce regulatory protection measures. There are also added benefits which may not have otherwise occurred: incentives can provide a stimulus for private investment in heritage, can arouse pride in heritage maintenance and enhancement, can support additional conservation work, can create goodwill and better relationships with Council, and can promote voluntary designation (EPHC 2004: 3, Pike 2006: 6, Porteous, 2014).

Local government in New Zealand has a mandate for incentivising heritage outcomes. These are predicated on a market failure in the provisioning of heritage goods and services. Left to market forces (e.g. non-intervention), heritage maintenance is likely to occur at a sub-optimal level, and heritage losses can occur. Even with intervention such as regulation (or rules regarding the management and upkeep of heritage assets), there is a role for incentivising heritage outcomes.

Heritage outcomes are prescribed through policy development in the planning framework. Regulation alone will result in the achievement of a certain level of heritage outcome. However, it is argued that regulation will not always achieve the desired heritage outcomes, as revealed through community preferences. Identifying and approximating community preferences is a difficult task, not least because it depends on whose preferences are taken into account, but also recognising that preferences change and adapt to prevailing circumstances (e.g. attitude to heritage buildings post-quake). We assume that regulation alone is insufficient to meet community preferences, and that there is a greater level of heritage maintenance that gives public benefit and that can be achieved through incentivising behaviour. This can be due to an information failure (e.g. heritage owner being unaware of value and significance of heritage asset) and mismatch between public and private benefits and costs. This framework and mismatch is illustrated in Figure 3 below, and incentives (rewards and encouragement) are warranted to bridge that gap, when community preferences for heritage maintenance outcomes are higher than what is delivered by regulation alone. It is assumed that incentives will change behaviour over time, and subsequently align the provision of private heritage outcomes with public, or community preferences.

Figure 3. Rationale for incentivising heritage outcomes



The main reason for local government to develop and use heritage incentive policies is to induce private landowners to work toward heritage enhancement outcomes in addition to regulatory requirements, attaining higher levels of heritage maintenance. Incentives create a balance between the costs borne by private owners and the requirement of the Council to preserve heritage for the public (Farrant 1999, McClean 2013: 6). Incentives recognise the co-benefits of heritage maintenance to the private landowner and public/community.

As stated in section 2.3.5, there is debate between the gains to the individual (landowner) and the altruistic benefits to society, with a 'variable mix of altruistic motivation and material self-interest' (Benabou and Triole, 2006). Incentives go some way to ensure that owners are not unduly disadvantaged by constraints or extra expenses that regulation may impose (EPHC 2004). Incentives could be in the form of award giving for best heritage practices. Recognition for best practice fulfils the human need to feel respected and valued by others (Manslow, 1943). Positive recognition for heritage maintenance and enhancement reinforces desired behaviour toward achieving heritage outcomes. There are different types of incentives that could be used by Council, and these are discussed below.

3.3 Fiscal Incentives

Fiscal mechanisms to incentivise heritage include tax deductions or tax credits on income, and are used extensively internationally for heritage conservation (see box 4). Tax deductions on heritage is a situation where the owner deducts specified expenditures on heritage maintenance/restoration from income, reducing effective taxable income if not at a local authority level. Tax credits are given where the owner deducts a fixed percentage of (heritage) expenditures from income tax payable. Tax credits have an added advantage in that the credit is given after expenditure on heritage enhancement has been undertaken, rather than issuing a rates remission without conditioning it on a level of activity. However tax credits place an additional administrative burden on the conservation agency. They also may not be relevant to the New Zealand local government context, as they are usually offset to income

Box 4. International Experience with Incentivising Heritage Outcomes

Despite different legislative contexts, which are important in understanding why fiscal instruments emerge, it is useful to review how fiscal measures are used to achieve heritage outcomes in other countries, and whether any lessons can be taken from their experience. This information is used to develop the advantages and disadvantages associated with the use of rates relief for heritage outcomes.
A review of international literature revealed the use of fiscal/tax relief in North America (Canada and the United States) for natural heritage conservation; and in Brazil which uses fiscal incentives for biodiversity conservation (Grieg-Gran, 2000). Although within different legislative contexts, these policy tools are used in a similar manner as in New Zealand, with a proportion of rates remitted for land either covenanted or with special management practices associated with it.

Within Europe, fiscal measures are used more for built heritage than natural heritage (Pickard and Pickerill, 2007). While acknowledging a completely different legislative context in the European Union, market based approaches are used for natural heritage conservation. In particular European farmers argued for 'Payment for Ecosystem Services', for the public goods they provided particularly on land with high biodiversity value. This is a form of the government 'buying' landscapes, environmental and ecosystem services from farmers.

Tax relief is available to property owners with heritage buildings however. For example, tax relief is given on income tax and/or corporation tax[23] to the owner/occupier of an approved heritage building or garden in Ireland; and tax relief is given up to 50% of costs during the period of carrying out works on heritage properties in France. Other countries like Spain offer a tax credit system, for historic buildings that are open to the public.
Such fiscal relief is instrumental in maintaining intergenerational continuity within families, especially in cases where the value of the objects/property is greater than the ability of the inheritors to pay for any inheritance tax bill liable. From the international literature two forms of tax relief emerged: Property tax relief and income tax relief (Pickard and Pickerill, 2007).

tax, and may require significant additional resourcing within Council to establish. Most European countries operate an income tax deduction system, which is deducted from the national tax take, rather than local (although there are different permutations of fiscal mechanisms used, regarding heritage conservation). Property tax incentives are used extensively for heritage buildings in Europe and North America, which are more aligned with rates remission in New Zealand. It is also worth noting that most European countries have a capital gains tax, which reduces the speculation associated with appreciating land values, which is an issue in the New Zealand context. Rates remissions are also given on inheritance tax.

Relief from Council rates is a popular request from owners of heritage properties in Councils where this incentive is available in New Zealand (Petry, 2011). The relief can take various forms, such as freezing, postponement and differential rating. Rates relief is an equitable incentive tool, as it spreads the cost of conservation over the public rate-payers (Townsend 2009). Rates relief is not used in Christchurch City Council for natural and cultural heritage New Zealand (Johnson, 2007), however rates relief as a policy tool was trialled between 2001 and 2004 in Christchurch. It was not considered

[23] A corporation tax is akin to local government tax, levied by the local authorities

effective for built historic heritage, as there was little control by Council over heritage outcomes for the buildings.

A Department of Conservation report of 2001 specifically addressed the protection of habitats (natural heritage) on private land (Davis and Cocklin, 2001), with a critique of how rates remission is usually granted on land that is covenanted with either the Department of Conservation (DoC) or the Queen Elizabeth II Trust (QEII). The report provides a good clear discussion of the fiscal incentives available to Councils, to incentivise natural heritage. Increasingly in the international literature, this has been termed 'conservation easement' (Hanley *et al.*, 2012; Environmental Law Institute, 2003) whereby landowners and the conservation agencies enter voluntary agreement over the outcomes they will deliver, regarding heritage. In return, the conservation agency offers financial support in the form of a grant funding and/or a rate rebate/remission.

3.4 Market Based Incentives

Grant schemes are market incentives, involving the transfer of money or capital goods (e.g. trees and vegetation) to a private landowner. Grants are the most common market based incentive offered in New Zealand (Farrant 2009; Graham Spargo Partnerships 2007; McClean 2013), and dwarf the other market based instruments, in terms of magnitude and potential direct effect on heritage outcomes. Grants are increasingly undertaken as a public private partnership, between Council and landowners.

Other market based instruments include loan schemes, consent fee waivers and transferable development rights (for historic buildings), payment for ecosystem services (for natural heritage – not discussed here, as it is not of relevance in a New Zealand context). Arguably, consent fee waivers and payment for ecosystem services are a form of grant, as they involve a direct payment to the heritage asset owner in return for heritage maintenance and enhancement services. Loans are similar, in that they enable heritage maintenance, but differ to grants in that the cost of heritage maintenance and enhancement is not gifted or paid by the Council, but is repaid by the heritage asset owner.

These different market based incentives are discussed below.

3.5 Grants scheme

Grants are used for both historic heritage and natural heritage. The types of grants listed below are used in New Zealand (EPHC, 2004):

- Entitlement grants – given to any owner whose property meets pre-set eligibility criteria.
- Discretionary grants – applicants compete for selection, with grants only given to worthy applications. This is the most common form in New Zealand (McClean, 2013).
- Performance grants – strict criteria define types of heritage projects that would be supported.
- Capital grants (small scale) – gifting of resources such as pest control, plants, weed disposal facilities to achieve natural heritage objectives.

Grant schemes are normally solely set up by the Council, but they can also be jointly administered by the Council and a community trust or other organisation (e.g. corporate sponsorship). Increasingly, grants are structured as a public-private partnership, involving investment from both parties, either

through direct monetary contributions or through in-kind contributions, such as time and labour. Grant funds are given for work that is *necessary* for heritage enhancement (such as purchasing materials for fencing, contribution toward restoration projects or heritage plans), and not for routine repair or maintenance or non-essential additions or alterations (Nahkies 2001a). It is acknowledged that public money should not be used to support private individual's interest only (Graham Spargo Partnerships 2007), but should be used in the provision of public goods. Grants can be given outright (100% of a project funded) or, more commonly, can be in the form of a subsidy (1:1).

With regard to natural heritage, grants are increasingly defined as environmental payments or 'Payment for Ecosystem Services', which explicitly recognises that the public authority is buying services that have natural heritage outcomes (e.g. protecting indigenous flora, fauna and landscapes). Payment for Ecosystem Services are used internationally. This is the direct commodification of heritage as an asset, which results in heritage services to the public (see below).

The means of distributing the grants to landowners can be designed creatively, to get best value for heritage outcomes. For example, conservation auctions are used in the United States. Therefore, there are many ways to govern the administration of grant schemes, tailored to the desired outcomes and the existing institutional modus operandi within the Council. Occasionally, to provide ongoing protection, a heritage covenant is used to protect the outcome of the conservation project, although this can produce undue constraints and outweigh the value of the grant (Nahkies 2001a). In the case of historic heritage in Christchurch, covenants caused concern amongst property owners with fears of an inability to change and utilise their buildings effectively in the future. Grants schemes usually provide only a token contribution towards heritage costs, but offer important moral support, and may make the crucial difference between a project being implemented or abandoned (Pike 2006).

3.5.1 Advantages of grant schemes

There are a number of advantages associated with a grant scheme (EPHC 2004, Farrant 2009, Graham Spargo Partnerships 2007, Nahkies 2001a, NZHPT 2004, Pike 2006, Rogers & Dwyer 2013, Townsend 2009).

1. They are a simple, direct and tangible incentive for an owner.
2. Subsidies are appreciated by the public and may make the difference between a project going ahead or not.
3. They are highly transparent (if assessed by a committee).
4. By contributing a proportion of the cost, grants can leverage private investment, a clear advantage over strict regulation.
5. Grants can foster and encourage voluntary heritage outcomes, particularly if the grant scheme is widely advertised and there is good knowledge of the availability of heritage related funding.
6. Grants can easily be aligned with district or regional plans with eligibility and assessment criteria.
7. Grants are good for targeting priority areas, either geographically or with specific eligibility criteria.
8. Grants can be tax free, if run by a charitable trust.

9. The cost of the entire grant scheme can be adjusted annually through the annual plan, as demands on Council resources change.
10. Often, grant schemes are flexible, and have the capacity to give greater funding to flagship (significant, larger-scale) projects. Performance grants tend to be best suited to this.
11. A grant scheme is robust. Normally the work is carried out before the applicant is reimbursed. This way, there is certainty that the money will be spent for the purpose that it was intended.

3.5.2 Disadvantages of grant schemes

There are some disadvantages and challenges to a grants scheme including:

1. Being a direct capital cost, it requires the sourcing of money by Council.
2. Having a high chance of oversubscription (demand and requests may exceed the capital available) which may lead to disenchantment and worthy projects not going ahead. This could militate against large projects, in particular.
3. The management and administration is intensive and expensive, as there are often more applications than can be granted.
4. If no restriction on resale of land is included in the scheme, grants could directly increase the land owners' capital gains through a subsequent sale (hence the careful design of grant conditions).
5. Information about available grants can be difficult to obtain. Some local authorities do not advertise grants widely.
6. There may be a deterrent to apply, if the amount of grant available is considered too low.
7. The transaction costs for the applicant may be an issue. This is dependent on the amount of time and effort required, and administrative conditions placed on the applicant.
8. There may be a resistance to financial assistance given strong feelings of autonomy – especially due to a perceived interference with property rights and a wish to be 'left alone'
9. Grants often do not provide solutions to situations of building abandonment (demolition by neglect) when owners either do not have other funds available for repair works or simply refuse to take care of a place.
10. Grants do not provide solutions to 'orphaned buildings' when owners cannot be identified or contacted.
11. Grants can be seen to distort market processes, particularly if linked directly with agricultural production (e.g. landscape preservation and the argument of payment for ecosystem services).

3.5.3 Case Studies – Types of Grant Schemes

a) Payment for ecosystem services

Payments for ecosystem services have a similar structure to grants for natural capital. They explicitly recognise the creation of heritage assets and services, and as such are payments for the landowner to conserve or create those assets/services. In addition to the advantages listed above for grants, payments for ecosystem services are outcome oriented, and therefore they are contingent on the

production of heritage goods and services. This makes the payment for heritage assets somewhat transparent.

Payments for ecosystem services have a disadvantage in that they may be trade distorting. This is a point particularly argued by free market advocates (such as New Zealand) against the European Union's farmers, as throughout the 1990s European farmers argued the 'multifunctional' aspect of their farming practices, given that agricultural land contributes to natural and cultural heritage while also producing food and fibre. Arguing for 'Payment for Ecosystem Services' (PES), which in essence justifies the governmental/European agencies 'buying' environmental and ecosystem services from farmers can be seen to be trade distorting, giving an unfair competitive advantage in the production of agricultural commodities.

In terms of type of grant scheme, there are some observations regarding the advantages of a particular design over another. Regarding natural heritage, payment to protect ecosystem services or payment for natural heritage maintenance and enhancement is a *proactive* incentive, as opposed to most incentives offered in New Zealand to date, which have been predicated on the landowner having already instigated land protection (in the form of covenanted land). This is a subtle distinction, but very important in terms of changing behaviour. Owners of covenanted land display conservation behaviour that is not predicated on any financial gain for that behaviour – rather the opposite is true: it is a form of altruism, not based on the profit-maximising motives assumed within a market framework. Furthermore a demarcation needs to be made between incentives to protect ecosystem services at the local (site & landscape) level compared to the market oriented ecosystem services mechanism – such as carbon trading. The latter, a form of biodiversity banking or trading is in its infancy and the literature is waiting for evidence that this type of incentive scheme provides benefits to natural heritage. Casey *et al.* (2006) report…."*the emergence of private markets for ecosystem services such as carbon sequestration and water quality is just beginning, and no formal assessment of their biological effectiveness or economic efficiency has been carried out."*

b) Grant schemes in New Zealand

The generic term 'grant' covers a myriad of transfers to private heritage asset owners, with the intention of ensuring that heritage assets are conserved. Grants have been administered in New Zealand for built heritage, natural heritage, collective or community group management of heritage assets, ranging from small scale projects to funding large long-term heritage maintenance and restoration projects.

Some examples of projects funded by grants includes: the reconstruction of the steeple and other work at Holy Trinity church at Pakaraka (Northland), which included large funding from Lotteries' repair and refurbishment of the former Salvation Army Hall in Opotiki, which had been in very poor condition; the reconstruction of the veranda and façade detail to a building in Hinemoa Street, Birkenhead which had assistance from the North Shore Heritage fund; and the recent repair of the bell tower at St Johns Church in Northcote, achieved with assistance from Council's heritage fund and support from the Auckland Council's heritage advisor.

The NZHPT's research for the Canterbury Earthquakes Royal Commission shows that heritage grant schemes and other sources of funding had a major influence in facilitating earthquake strengthening

of heritage buildings in Christchurch prior to the September 2010 earthquake. This resulted in the survival of some heritage buildings of national significance such as the Arts Centre, Canterbury Museum and Christ's College (McClean, 2013).

Incentive schemes such as waterways protection in New Zealand's 'Fonterra Clean Streams Accord' are increasingly used within agriculture to achieve an understanding of the need to protect ecosystem services leading to improved land use practices and resource management. Water restoration projects, such as that undertaken on the Waikato River (NIWA, 2011), have seen the establishment of contestable clean-up funds (made available by central government to the Waikato River Authority) for improving water quality while also restoring the river to former times. Restoring the natural capital and ecosystem services of degraded agricultural land and resulting effects on contiguous waterways, has become a priority in New Zealand (Ehrlich *et al.* 2012). Examples in New Zealand are non-regularly incentives encouraging riparian planting, re-vegetation, nutrient retention, pollution abatement and pest control. Bryan (2013) identifies that it is important to target incentives and for authorities via policies to have the ability to motivate changes in land use and management. Incentive schemes are offered to New Zealand farmers in different regions who protect the riparian edges of waterways and re-vegetate erosion prone areas (e.g. Taranaki Regional Council's streamside fencing and planting, through development of riparian management plans, with a Council subsidised plant and tree scheme).

c) Differences in design of grant schemes

In terms of ensuring efficiency in the use of public funds 'reverse' or procurement auctions have been used overseas, where the auctioneer (conceivably the Council) procures heritage benefits from a selected set of landowners (Schilizzi and Latacz-Lohmann, 2007). The logic of such a tender process is to ensure market efficiency in the pricing of heritage projects. The landowners are chosen on the basis of their submitted bids, which reflect their supply price. This was used in the US, in the Conservation Reserve Programme, since 1985. It was also used in Australia (Bush Tender, Catchment Care Australia).

3.6 Loan schemes

A loan scheme typically involves providing applicants with a low-interest loan (lower than what is commercially available) or with subsidies. This could take the form, for example, of a loan provided by a commercial lender and the interest rate gap funded by the Council to get the rate under commercial levels (EPHC, 2004; McClean, 2013). These kinds of incentives are usually given to community groups (Nahkies, 2001a) and are uncommon in New Zealand due to administrative and legal requirements. Loan schemes can fund an entire project or part of a project, requiring some financial input from applicants (Farrant, 2009). They can be lent on a long-term or short-term basis, and may be secured against the property if necessary (EPHC, 2004), and repaid alongside rates, known as a 'rates attachment'. Like grants, loans are commonly only granted to scheduled places for heritage maintenance works, and applications are assessed by a heritage advisor or a committee (Rogers & Dwyer 2013: 16).

In order to reduce the risk of an owner selling at a significant profit after the granting of a loan from the Council, S*uspensory Heritage* loans can be used (Farrant, 2009). The repayable amount is set at a sliding scale. For example, 100% to be repaid immediately after the loan is given; to 50% after five

years have passed without the property changing hands; to 0% after ten years without being sold. In effect, the loan progressively becomes a grant while ownership remains unchanged. Suspensory loans benefit *bona fides* applicants wanting to restore and conserve, rather than only wanting to make a capital gain.

Similarly, a loan can be given as a *rates attachment.* This is a situation when the loan is repayable with instalments through rates. Although not related to heritage, an example of where this loan scheme has been trialled is by the Auckland Council for the purpose of insulating and heating homes, with the "Retrofit your Home" scheme.

3.6.1 Advantages of loan schemes

The advantages of loan schemes are similar to that of grants, with additional benefits given the requirement to recoup money loaned, and the resulting private investment this requires.

1. Loans enable the Council to assist larger and longer-term heritage outcomes than most grant schemes.
2. Loans result in a long-term self-perpetuating heritage fund (with repaid loans).
3. Increased goodwill is generated between the heritage asset owners and the Council, increasing social capital between the local government and private landowner.
4. Loans can be the catalyst or keystone as to whether a project goes ahead or not (particularly large projects or for community trusts which go not have enough capital).
5. Loans ensure the ability to leverage increased private investment, and ensure co-funding for heritage projects.
6. The advantage of the loan subsidy approach over loans made direct by a heritage organisation itself is that (a) much of the administrative cost falls to the partnering financial institution; and (b) no capital is required to be set aside (with the cost of the subsidies met on a recurrent basis).
7. Loans may be most appropriate for heritage outcomes that require long timeframes – for example it may enable community groups to purchase a heritage building under threat of demolition.

3.6.2 Disadvantages of loan schemes

Loan schemes are not without additional disadvantages including:

1. The increased financial risk to Council, who may be at occasional risk of default (bad loans).
2. There is no guarantee against the owners reselling at a profit (capital gains), capitalising on Council loans (although suspensory loans overcome this problem).
3. The high administrative burden and legal costs for establishing and getting repayment of loans. This can be partially overcome where a partnering financial institution provides the lending service.
4. The relative lack of transparency (compared to grants), in terms of the real costs of the loan.
5. Loans may not be attractive in a low interest rate environment.

6. Additional legal costs of registering a loan may be significant for small loans, therefore there may be prohibitive transaction costs; for example a loan may need to be registered as a mortgage.
7. Council may be taking on a lending risk that other lenders may not take on, therefore the Council would need to consider what their response and exposure would be if the borrower is unable or unwilling to meet their loan commitments
8. Debt will be on Council balance sheets until loan is repaid

3.7 Consent fee waiver

The waiving of fees relating to historic heritage resource consents has been used by many local authorities around the world. By waiving consent fees, an owner is not administratively charged for the consent, for work related to historic heritage. Costs are normally paid from an internal Council fund. Farrant (1999) notes that it is important that fees are waived only for the part of a consent that is triggered directly by heritage protection (e.g. not for the part of a consent that may seek to break other rules – unless this is required for heritage reasons).

3.7.1 Advantages of consent fee waiver

Advantages of consent fee waivers are (Farrant 1999, Graham Spargo Partnerships 2007: 23):

1. Directly recognises the financial burden heritage designation may put on a resource consent
2. The cost of resource consents relative to the value of works being undertaken can be a material consideration. Resource consent fees (or hourly staff charges) can be substantial.
3. Recognises that historic heritage maintenance and enhancement is for the public good.

3.7.2 Disadvantages of consent fee waiver

Disadvantages of consent fee waivers are listed here (Farrant 1999, Graham Spargo Partnerships 2007: 23):

1. Impact on Council's budgets
2. Costs redistributed to other ratepayers
3. Unknown uptake levels and impact on budgets.

3.8 Voluntary/Non-Market Based Incentives

Subsidising, or providing free-of-charge, information, advice or technical knowledge from Council staff members to owners of natural and cultural heritage assets places can be a highly effective incentive, as can holding heritage events and recognising heritage best practice through award giving. These are all non-market based incentives.

3.9 Information, advice, and technical assistance

Heritage incentive policies can provide for free technical advice and information from Council staff (McClean 2013: 53). In this way, property owners can be provided with the services of people with relevant skills and expertise, either free-of-charge, or for a subsidised fee (EPHC 2004: 26). This may include advice on maintenance and repairs, renovations, additions, funding and incentives, policy and strategy (Rogers & Dwyer 2013: 20).

3.9.1 Advantages

Advantages include (Graham Spargo Partnerships 2007: 17 & 24):

1. Ensures owners of historic heritage places are well informed about choices
2. Enables problem-solving and opportunity-spotting by Council
3. Can improve the understanding of the public about heritage
4. Helps forge a better relationship between Council staff and owners
5. Staff generally have a good background understanding of the situation. They can pass on knowledge and foster competence and enthusiasm.

3.9.2 Disadvantages

Disadvantages include (Farrant 2009, Graham Spargo Partnerships 2007: 17 & 24):

1. Can be a weak tool to influence outcomes compared to direct financial incentives
2. Free advice can be abused by owners or designers, so may need to be capped

If the advice and information is delivered by Council staff, there is an added advantage learning about the landowner. In particular, Cross *et al.* (2011) conclude that the time spent contacting landowners is time well spent to screen for landowners who have a heritage maintenance ethic.

Information

3.10 Heritage awards and events

Compliance with historic heritage maintenance regulations can be recognised and promoted through heritage awards, events and celebrations (McClean 2013: 53). Townsend (2009: 7) states that many developers are motivated by a desire to do something positive for the community, if some form of recognition is given. Prestige can be gained for recipients of awards (NZHPT, 2004: 54). Award programmes recognise exemplary heritage work. They can be recognised in heritage events,

newspapers, with certificates, or with plaques, which can commemorate significant properties in a highly visible and permanent way. This tool is often undervalued, but can provide a catalyst for community interest in, and political support for, heritage maintenance (EPHC 2004: 28). The Christchurch Heritage Awards Charitable Trust was established to develop and deliver a quality and innovative programme of Heritage Awards. Funding for the Heritage Awards is sourced from grants and the establishment of a complimentary family of sponsors who have naming rights to an appropriate Award Category. The advantages and disadvantages cited in Graham Spargo Partnerships (2007: 17 & 24) and Petrie (2011) include:

3.10.1 Advantages

1. Gives public recognition and celebration, incentivising people to pursue best practice.
2. Gives prestige to owners of historic heritage places.
3. Encourages other owners to adopt similar approaches for their buildings
4. A celebration of good practice
5. Promotes heritage in the community
6. Enables politicians to engage in a positive way with community – builds bonding social capital between recipients and local authority.

3.10.2 Disadvantages

1. A weak tool to influence outcomes compared to market based ones
2. Unclear how much of a motivation awards or celebrations have on behaviour
3. Heritage events may be costly to organise and hold.

3.11 Philanthropy

Philanthropic donations to Council to assist in the protection of heritage assets is something that can be considered in the overall incentives strategy as there are indications that there is an appetite for philanthropic giving. Traditionally, philanthropic support for heritage maintenance has been low compared to traditional recipients of health/medical/hospitals, children, religion and education (Smith 2012). This situation is changing where donors see a physical entity such as a heritage asset (forest, archaeological site, river catchment, wetland and island) as something tangible to protect for the benefit of community. Smith (2012) observes from the UK…."*Much of the debate around giving has focused on the overall level of giving. However, policy is also likely to impact on the causes that people give to and therefore on the type, as well as the level, of public goods that are provided."*

Philanthropic giving has got a lot of relevance to heritage protection. This takes on many forms – from private landowners covenanting land, which is a philanthropic act to the gifting of buildings, large tracts of land/natural assets to Council ownership.

In the United States, trusts have been formed to administer land donated by philanthropists. The donors do not necessarily receive rates relief/tax relief (plus other incentives), but the trusts they have formed do. The main point raised here which is supported by Smith (2012) is that incentives can be many faceted and when policies are well structured, all stakeholders benefit; especially the

community. This is supported by Casey *et al.* (2006) who identify that philanthropic donations channelled through mechanisms such as covenants/conservation easements can benefit other heritage initiatives besides biodiversity such as recreation, open space, historical sites, amenity and scenery.

3.11.1 Advantages

The advantages of philanthropy include:

1. Discretion of the Council to achieve heritage outcomes, if they have ownership of the asset, or control over limiting development as in the case of covenants.
2. Ensures protection of heritage assets, with long term planning.
3. Provides the Council with an opportunity to showcase good heritage management practice.
4. In the case of covenants, philanthropy strengthens the link between heritage organisations and Council (QE II Trust, Historic Places Trust, Department of Conservation); forms of bridging social capital between statutory and non-statutory agents and agencies.
5. Increases asset portfolio of Council, without being burden on ratepayers (for the capital cost).

3.11.2 Disadvantages

1. Gifting of large assets and heritage buildings in disrepair may place financial unintended burden on the Council, in terms of renovation, upkeep and maintenance (increased operational costs).

3.12 Promoting or Encouraging Covenants

Covenants are an extension of philanthropy, albeit at a smaller scale from that described above, with a noticeable difference that the landowner retains property rights over the land. Covenants are examples of gifting portions of privately held land for future posterity, without transferring ownership. There are four main types of covenants offered by New Zealand territorial authorities.

(1) Department of Conservation Act 1987
(2) Queen Elizabeth II National Trust Act 1977
(3) Ngā Whenua Rāhui (for Māori land)
(4) Reserves Act 1997

Conservation covenants such as DOC and QE II are the most common mechanism used by landowners to voluntarily protect heritage assets. The positive particular advantages of covenants of relevance to natural heritage including:

1. The land/site has a level of legal protection (Queen Elizabeth II National Trust Act 1977)
2. The heritage values of the sites are surveyed, recorded and monitored.
3. Ongoing advice and assistance is provided to the land owners from QE II & DOC.
4. For DOC covenants, DOC has robust best practice methods to assess the ecological values of land to be vested as DOC covenants.
5. For DOC covenants, DOC have the expert staff to guide and mentor applicants in applying for DOC covenants.

6. The QEII model of protection of heritage values on farm land has been well demonstrated as being cost-effective and rigorous. QE II is supported by Federated Farmers, thereby strengthening social capital within the community.
7. QEII is independent of the government - landowners manage covenanted sites in conjunction with QE II, but can also be under the natural heritage policies of the local government authority
8. In the case of farm land with QE II covenants, farmers retain ownership and management of the land and continue to control access.
9. The New Zealand land tenure process has yielded covenanted land that is accessible to the public. They can create goodwill between public and landowners.
10. QE II has promoted landowners to create ecological corridors between covenanted land, where possible. Collaborative protection by adjacent landowners creating connected covenants.
11. QE II covenants cannot be rescinded with change of land ownership. However, this can occur with other covenants such as Bushlot covenants.
12. Territorial authorities incorporate QE II covenants into natural heritage policy (District Plans)
13. QE II sets a high ecological threshold for accepting a site to be covenanted
14. QE II have an ecologically robust and transparent process for applicants (and territorial authorities to follow).
15. QE II work with owners to set up environmental management plans to balance the needs of protection of heritage assets with the need to continue with land use practice (agriculture, tourism).
16. Covenant management plans can be developed in association with territorial authorities to ensure policies are adhered to.

Of note is the Banks Peninsula Conservation Trust (the Trust), which carries out important work in relation to the protection and enhancement of Outstanding Natural Landscapes and Coastal Natural Character areas through providing education and financial support to land owners. Many land owners will choose to place covenants (open space or bush preservation) over parts of their property which have special landscape values (often this decision is made at the time of applying for consent and forms part of the assessment of the consent). Council provides financial support and guidance to the Trust. At present the Trust is mentioned in the policies of Chapter 19 (Rural Zone) of the Banks Peninsula District Plan. Of the 80+ properties visited as part of the District Plan Review[24], the positive role of the Trust was evident, through assisting landowners with covenanting parts of properties with important landscape values and discussing with land owners the benefits of the advice or assistance the Trust has provided. There are overlaps between covenanted land in the Banks Peninsula and land identified as Outstanding Natural Landscapes, although the categories are not mutually exclusive.

[24] This was part of the expert assessment work undertaken for the Landscape Study.

3.13 Conclusions about evaluating heritage policy

From the literature review, it is clear that a combination of complementary tools are recommended to achieve natural and historic heritage outcomes through the District plan[25]. Regulation and set-rules pertaining to protecting specific heritage assets are specified in the PCDRP. Other policies are required to incentivise landowners to protect heritage assets that are on their land, that are not covered under the regulation. Incentives are used to encourage good outcomes for places which are not under regulatory control.

Overall, an emergent theme is that having a combination or a suite of incentives in operation at any one time is desirable. In terms of developing a coordinated policy that uses a range of incentives, these include different kinds of financial, fiscal and non-market based incentives, which should be evaluated in tandem with each (in a Section 32) rather than as alternatives. Overall from the literature review, an incentive needs to have a meaningful benefit for recipients. The gain (financial or non-financial) needs to be adequate enough to motivate people to do heritage maintenance work. This requires careful consideration in the design phase.

EPHC (2004:38) contends that "no single financial incentive or other policy tool offers a 'magic wand' solution; rather, a combination of complementary tools produces the best results. Ideally, a comprehensive heritage program incorporates strong financial incentives; advisory services for owners; a planning regime that is sympathetic to heritage outcomes, or at least neutral; promotion of heritage maintenance outcomes through a system of 'revolving' acquisitions, donations, and restorations; and a strong focus on community promotion, information and demonstration".

Within this paradigm, the role of the mediating agency is that of supporting rather than controlling networks. This can be applied to the local government context, as Council creates rules and governs, particularly natural resources. Healy (2004) outlines a number of important design principles useful to consider in a social capital policy framework. These are summarised as:

1) Cultivating mutual help and self-help;
2) A movement away from identifying 'needs' only to identifying unique community 'capabilities';
3) Promoting trust through equality and respect for rights;
4) Letting go of excessive and over-detailed control (e.g. Policy 9.1.1.4, which aims to empower and trust communities to be responsible, which is an aspatial policy);
5) Valuing, rewarding and recognising voluntary effort and achievement.

From the literature review, it became clear that the design of an incentives tool-kit (for both natural and historic heritage) is crucial for success. For example, there are a range of different ways to structure a loan system, which will determine how attractive it would be for intended property owners, for rate-payers and for administrators. For financial or market based incentives, caution is warranted against market-distorting effects. However, this was more relevant in the international literature, particularly pertaining to payments for ecosystem services on farms, and in countries (such as those in the EU), justified on environmental/ecosystem grounds.

[25] Cultural heritage outcomes can be achieved through these planning mechanisms, but also require additional non-spatial planning mechanisms to incorporate important behavioural and cognitive processes, such as language (Te Reo) and customs.

The review also highlighted some of the administrative hurdles that can be faced in implementing incentives. These are critically important in *ex ante* evaluations of incentive policies, as they can be addressed through scheme design. They can be determinants in the success of incentive schemes. Within economics, these have been termed 'transaction costs' – and are a recognition that it is costly to give and receive information, it can be time consuming and costly (for both parties) to set up a contract with Council and it can be difficult to monitor activities, after the activities have been agreed upon, especially if voluntarily agreed.

The ability to leverage private investment for heritage outcomes emerged from the literature. At its most generous, this can take the form of philanthropy or giving to the state/society. Financial incentives can stimulate private investment but also community projects can stimulate social capital. This is a form of 'capital recycling' or using the various forms of capital (natural, social and financial) in the creation of public goods. Heritage assets are linked to economic outcomes through tourism and visitor events (production of landscapes, streetscapes and visitor experiences), and when the assets are used in other production processes (e.g. selling of Maori arts and crafts; visiting an area for landscape experiences). Although these are the utilitarian uses of heritage, there are existence values associated with heritage maintenance that should be considered in scheme design, associated with the value of conserving heritage assets for their own sake.

An abiding policy message throughout this literature review is the importance of flexibility in design of incentive schemes, while also having a strong monitoring component to the incentive schemes. There is scope to tailor the heritage incentive for particular circumstances, and many lessons can be learnt from experiences in different countries.

4. Recommendations for Section 32 on Chapter 9 Natural and Cultural Heritage

4.1 Introduction

Christchurch City Council is required to undertake a Section 32 for Chapter 9 Natural and Cultural Heritage. Broadly, CCC must assess whether the objectives of Chapter 9 are the most appropriate for realising the purpose of the Act – sustainable management (while also giving regard to other relevant legislation regarding natural and cultural heritage). CCC must then examine the provisions to achieve the objectives, and assess whether the policies and methods in Chapter 9 are most appropriate for the objectives. Section 3 of this report contributes to this process – as it has identified the high level advantages and disadvantages (costs and benefits) of the different policy approaches taken with regard to achieving natural and cultural heritage objectives.

CCC then has to evaluate the efficiency and effectiveness of Chapter 9. To do this, the benefits and costs of effects have to be identified and quantified where possible. Some of these efficiencies in achieving outcomes can be taken from section 3 of this report, while others will need further analysis. Section 2 of this report can be used to assess the costs and benefits, although further work will be required to identify specific costs. Finally, the risks of not acting will require elaboration. There are some economic assessment tools that can be used for undertaking a Section 32.

4.2 Economic Assessment Tools for Section 32

Three types of economic assessment tools are worth considering. These are cost-benefit analysis; cost-effectiveness analysis; and multi-criteria analysis.

Box 5. Types of Economic Tools of relevance for Natural and Cultural Heritage Section 32

Cost benefit analysis is an assessment and comparison of all costs and benefits associated with different and alternative options.

Cost effectiveness analysis is an assessment of the costs of alternative methods to achieve a particular type of outcome.

Multicriteria analysis is an extension of cost benefit analysis, which can be used to evaluate and rank options or simply to distinguish acceptable from unacceptable outcomes.

Cost benefit analysis requires the articulation of costs and benefits associated with, in this context, the introduction of the provisions in the district plan. Costs and benefits can be framed in qualitative terms, using the concept of value, associated with heritage assets. Section 2 of this report identified how value is determined within economics, noting that value can be left in qualitative form. In practice, particularly for heritage, where economic valuation studies are rare, it can be costly, time-consuming and often difficult to value all the costs and benefits of diverse heritage values in monetary terms. Furthermore the economic benefit of heritage outcomes in cultural, educational and historic terms is unlikely to be fully reflected in a financial value based purely on market price. There is often a lack of data to enable measurement or the monetisation of the full range of market and non-market benefits and costs associated with heritage assets. Cost benefit is a single criterion approach.

Cost Effectiveness analysis is useful to use when there is more than one means (e.g. policy or rules) to achieve the desired heritage outcomes. Cost effectiveness then looks at the least cost approach to attain that objective. It requires clear analysis of the cost of implementing the policies and understanding of the private costs to land/property owners. We identified a gap in the documents/literature reviewed, that costs associated with implementing Chapter 9 have not been fully elaborated (especially the costs to CCC of implementing each objective and policy e.g. administration, staff time and resources) Cost effectiveness may be useful to undertake after a multi-criteria analysis, as there may be a number of policies that result in the desired heritage outcomes, and cost effectiveness can be useful to prioritise the different policies.

Multicriteria analysis is a formal process of structuring and articulating a wide set of considerations. Treasury NZ describes multi-criteria analysis as the most common form of qualitative analysis for comparing unvalued costs and benefits. This is particularly suitable for heritage values, which are not easily quantified, and given that there are numerous different outcomes that can be achieved. It is a tool for appraising and ranking alternative policy options against a given set of objectives and criteria. A multicriteria approach allows the inclusion of a range of non-monetary criteria which are important for CCC in achieving policy objectives.

A sample multicriteria outline is given in Figure 4. It shows the policies within Chapter 9, with the intended or likely effects (on the left hand side). These would be scored against how they would achieve the heritage objectives of Chapter 9, but also how they would score (perhaps unintendedly) against other objectives in the District Plan. For example, conserving significant trees may have effects on objectives of clean air, which is a secondary or indirect effect of the purpose of the significant tree policy. Similarly, heritage maintenance and enhancement have effects on economic development, which may not be an objective of chapter 9, but of a different chapter.

Figure 4 lays out a method for assessing the proposed policies contained in Chapter 9 (listed on the left hand side), which would be assessed by CCC staff to determine how the proposed policies contribute to the objectives of the chapter. For example, *Policy 9.1.1.1.4: Incentives and assistance to maintain and enhance indigenous biodiversity; a*. Encourage landowners, the community and Ngāi Tahu to take an active role in maintaining and enhancing indigenous biodiversity will have a presumably positive effect on Objective 1: Biodiversity and ecosystems, but will also have a positive effect on some of the outstanding and significant natural features and landscapes in Objective 9.2.1.1. It may also have a positive effect on the natural character in the coastal environment (Objective 9.2.1.3). These positive effects are represented in Figure 4 above in the red shaded area, and can be scored/ranked on a scale ranging from high-medium-low positive effect, to no effect (given a zero effect). It is expected that the values in this area are *not negative*, given that the policies are giving effect to the objectives of the natural and cultural heritage chapter.

Figure 4. Example of Multicriteria Analysis layout, for Chapter 9 Natural and Cultural Heritage

			Chapter 9 Natural and Cultural Heritage Objectives (*indicative list below – would contain ALL objectives)*						Other Objectives of the Proposed Replacement District Plan				
Policy	Effects		Objective 9.1.1	Objective 9.2.1.1	Objective 9.2.1.2	Objective 9.2.1.3	Objectives 9.3.1.1	Objective 9.4.1.1	Objective X e.g. commerce and industry	Objective Y e.g. urban quality	Objective Z	Objective Q	Objective T
	Positive to achieve heritage objectives		+3	+1			0						
				+2				+3					
					+1								
	Other consequences often unintended									+3		-3	
									+1		-2	-1	
										-2			

The policies should be assessed in terms of their effects on other objectives within other chapters of the proposed District Plan. The natural and cultural heritage policies can result in other consequences, sometimes positive and intended (complementary policies), but also perhaps unintended (conflicting

policies). Although a review of the other chapters of the proposed District Plan is out of scope of this particular report, it is incumbent on CCC to identify the likely effects of Chapter 9 policies on other objectives within the District Plan. For example, a policy on conserving significant trees can positively contribute to a strategic direction of improving the quality of the urban environment amongst other effects. Of particular note for heritage are the use values that emerge from heritage maintenance and enhancement, particularly relating to the tourism industry. Therefore policies within Chapter 9 will have effects on the strategic directions set out in Chapter 3 (e.g. providing for the needs of commerce and industry, particularly given the setback to the hospitality and tourism sectors due to the earthquakes). This latter example shows the complementary nature of policies in different chapters, but there could be conflicting policies; for example maintaining heritage values on residential housing could conflict with the key issue of affordable housing, identified in the Proposed District Plan.

There are other consequences, or unintended effects that should be identified and included in a Section 32 report. These are both negative and positive effects of a policy. In undertaking this exercise, CCC will be able to identify who gains and who loses from the policies, and thereby identify how to target the non-regulatory heritage incentives that accompany the proposed District Plan.

4.3 Assessing Natural and Cultural Heritage Values

From reviewing the analyses and preparatory reports undertaken by CCC to date, it is clear that value sets have been articulated with regard to heritage, especially reflected within the policies of Chapter 9 – Natural and Cultural Heritage. These values, if achieved through the rules and incentives, result in heritage outcomes, or associated heritage benefits (Box 6).

Box 6. Values expressed in Chapter 9 – Natural and Cultural Heritage Policies

Policies 9.1.1.1 expresses values associated with indigenous biodiversity and ecosystems in terms of Sites of Ecological Significance. A set of criteria (Appendix 3 from the Canterbury Regional Policy Statement) is developed for assessing those sites (Policy 9.1.1.1.1). Existence values are evident in this policy, as part of the criteria relates to rarity/distinctiveness of the indigenous vegetation/biodiversity. The use values of ecosystem services are also expressed.

Policy 9.1.1.3 considers cultural values to iwi, while also expressing value in *how* the natural management is managed (through communities/landowners and Ngai Tahu). These are a mix of use values and values associated with intangible outcomes such as the processes required to protect indigenous biodiversity and ecosystems. The importance of non-regulatory incentives, guidance and assistance is explicitly stated in Policy 9.1.1.1.4.

Policy 9.1.1.1.5 of offsetting adverse effects of land development on indigenous biodiversity is a recognition of all the values of biodiversity (use, non-use and existence), using a compensatory principle in an attempt to maintain the value of indigenous biodiversity that is being removed/affected.

Policies 9.2.2.1 to 9.2.2.7 express values or importance associated with specified physical outstanding natural features, outstanding natural landscapes, significant features significant landscapes and natural character in the coastal environment, all of which have existence and bequest values associated with them, due to their uniqueness. These sites also have use values, especially for tourism and recreation, and their value is such that the natural characteristics should be restored or rehabilitated.

Policies 9.2.2.8 and 9.2.2.9 express a value associated with improvement to natural character, recognising the value of using education and interpretation/guidelines to achieve heritage outcomes. These policies recognise the value of how heritage assets are managed.

Policy 9.2.2.10 places a cultural value on Ngai Tahu and Papatipu Runanga's culturally significant landscapes, which can be associated with both use values and existence values.

Policy 9.3.2.1 expresses the value of Ngai Tahu's wahi tapu, wahi taonga and significant landscapes, which have existence and use values.

Policy 9.3.2.2 explicitly develops protection for historic heritage items and heritage settings, that are listed as either High Significance (Group 1) or Significant (Group 2), against inappropriate subdivision use and development. 'Significance' is based on an assessment of the criteria in Policy 9.3.2.3.

Policy 9.3.2.3 outlines the six value sets to use for an assessment of significance. The values cited are: i) historical and social; ii) cultural and spiritual; iii) architectural and aesthetic; iv) technological and craftsmanship; v) contextual; and vi) archaeological and scientific. For High Significance, an additional assessment criteria of authenticity and/or integrity is outlined.

Policy 9.3.2.5 and Policy 9.3.2.6 recognise value in how heritage assets are managed e.g. in partnership with HNZ Pohuere Taonga and using best practice heritage principles.

Policies 9.3.2.7 to 9.3.2.9 recognises use (and re-use) value, particularly in the unique context of earthquake recovery. An emphasis is placed on original settings of historic heritage items

Policy 9.3.2.10 expresses value in the mainstreaming of heritage, through increasing awareness and education.

Policy 9.3.2.11 recognises the value of *how* heritage outcomes are achieved – in particular through incentivising heritage, as discussed in section 3.2 of this report.

Policies 9.4.2.1 recognises a set of values associated with trees, which makes them worth protecting. These include both the existence value of significant trees (botanical and landscape values)and the use value (such as amenity environmental or ecological services).

Policies 9.4.2.2 and 9.4.2.3 recognises the value of maintaining the health and integrity of the significant trees, or the importance managing/investing in natural assets, which have use values (environmental, landscape, cultural, social and economic).

We suggest the construction of a Heritage Impact Model (akin to, or developed from Figure 4), that would be constructed as a benefits matrix. It would include the benefits, as identified through the heritage outcomes in Chapter 9. Some efficiency or process benefits could also be included (given that some of the objectives relate to *how* policy is implemented (e.g. communities taking ownership of heritage maintenance/management). Appendix 2 gives examples of criteria that can be used to measure the process of policy delivery or how it is implemented. Some of the objectives may require further elaboration or the benefits associated with the objectives (particularly process objectives) should be spelt out in the analysis. Given that heritage policy requires a mix of regulatory and non-regulatory approaches, working in tandem with one another, some efficiency outcomes could include outcomes that relate to process (see introduction to section 3 of this report). Other intangible benefits such as mainstreaming heritage values are important to include, although may be impossible to measure.

The outcomes of the heritage policies should be split into direct and indirect effects. Direct effects are considered the outcomes that give effect to the objectives of Chapter 9, whereas indirect effects are those that give effect to other objectives in the proposed district plan (either positively or negatively). The combined direct and indirect effects are an important part of policy evaluation and planning, and they both need to be addressed in Section 32 evaluation. It is necessary to:

- be able to differentiate between direct effects and indirect effects to ensure there is no double-counting
- have established guidelines as to the extent of inclusion, and significance of indirect effects, and how these are to be dealt with in any evaluation, relative to the direct effects.

Indirect effects are likely to be at a lower average level than direct effects, and be more widely spread within the economy and community, and geographically. Also, there is often more scope for indirect effects to be in the opposite direction from direct effects – e.g. where direct positive effects accruing to one group or locality may give rise to indirect negative effects accruing to other groups or localities, albeit at a lower average level per person (business) affected.

4.3.1 Comments on 9.1 Indigenous Biodiversity

The values accorded to indigenous biodiversity were developed by Christchurch City Council in the Technical Report for Sites of Ecological Significance, which accompanies Chapter 9, Natural and Cultural Heritage. The methods used to render values associated with indigenous biodiversity have been underway for several years: on the Banks Peninsula work commenced in 2008 following a Consent Order in 2007, requiring the Council to *"identify areas of significant indigenous vegetation and significant habitat of indigenous fauna."* In Christchurch City, work commenced in 2013 to review and add to the existing Ecological Heritage Sites listed in the operative Christchurch City Plan (1995). Both of these areas of work have combined to develop the Schedule of Sites of Ecological Significance, guided by the Canterbury Regional Policy Statement where criteria for identification and evaluation of ecological significance are established. The Council embarked on a collaborative process (particularly landowner involvement), with a variety of stakeholders and experts to ensure that the process of biodiversity protection was relevant and robust.

Appendix 1 presents some relevant material that can be drawn upon, regarding (terrestrial) ecosystem services in New Zealand and their values. Furthermore, Gordon (2013) argues that, deriving from the 1992 Convention on Biological Diversity, genetic resources are identified as having actual or potential value, which is of benefit to humanity. This value set may not fit into the scale of evaluation that is undertaken for the district plan, but the benefits are associated with the existence and bequest value. Doody *et al.,* (2010) explored the role of residential gardens in the maintenance and enhancement of urban biodiversity in a case study of Riccarton Bush, in Christchurch. Indigenous biodiversity may also have health benefits in the form of aesthetics contributing to well-being. The provisions for indigenous biodiversity give effect to policy direction in higher order documents, such as the Canterbury Regional Policy Statement, The Conservation Act (see Appendix 3) which is the main Act governing the protection of indigenous biodiversity. The Conservation act has a hierarchy of values, placing the greatest weight on intrinsic value, followed by non-commercial recreation, and then by tourism.

If information on the current expenditure on Christchurch City Council's expenditure on indigenous biodiversity education (e.g. pamphlets, information brochures, outreach and education) and indigenous biodiversity enhancement and maintenance were available, it could be included in the Section 32 report. It may also include park rangers and park maintenance time.

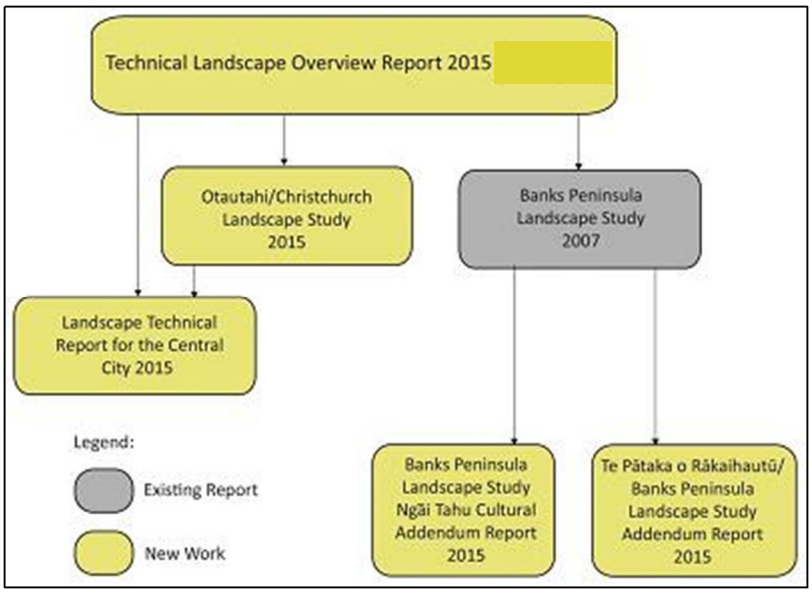
An assessment of the effectiveness of providing advice and technical guidance relating to indigenous biodiversity should be undertaken, given that this is an important non-regulatory measure to enhance natural heritage outcomes. A Landowner Support Package for Sites of Ecological Significance was developed by Council, initially driven by the 2007 Consent Order for Banks Peninsula, while now being driven by the NZ experience and international literature that rules/regulation alone do not protect (and seldom enhance) areas of high ecological value. Through the implementation of CCC's Support Package for Sites of Ecological Significance the aim is to increase understanding and awareness amongst landowners and the wider community of the implications of land management practices on ecological values. Although it is difficult to measure social learning and increased awareness, proxy indicators can be used to assess how effective the landowner support package is (e.g. participation rates, interest in and uptake of contestable grants, discernible changes in land management practices as a result of technical advice, along with the monitoring of biodiversity outcomes (e.g. ecological surveys).

4.3.2 Comments on 9.2 Outstanding Natural Features and Landscapes, Significant Features and Landscapes and Areas of Natural Character in the Coastal Environment.

The Banks Peninsula Landscape Study (Boffa Miskell, 2007) and the updated 2015 Banks Peninsula Landscape Review alongside the Otautahi/ Christchurch City Landscape Study (Boffa Miskell and CCC, 2015) provide a good basis to identify the value of Outstanding Natural Features and Landscapes and Significant Features and Landscapes. A Technical Landscape Overview Report was prepared by CCC as part of the District Plan review, which can be used to inform the benefits associated with the Outstanding Natural Features and Landscapes, the Significant Features and Landscapes and the Areas of natural character in the coastal environment (identified in Chapter 9.2.1). The reports are shown in Figure 5 below. The Council's Biodiversity and Public Open Space Strategies provide strategic policy advice and guidance for the protection and enhancement of the district's 'high quality' landscapes.

Overall, the cultural landscape values have been identified through Stage 1) landscape characterisation; Stage 2) landscape evaluation; while also identifying landscape values and sensitivities and any potential threats to landscape values. After Stage 1 and 2 were completed, the landscape study findings were used to draft management recommendations and to inform the provisions to manage effects on landscape values in the planning process, for the district plan.

Figure 5 Technical reports undertaken for landscape evaluation



From the public questionnaire undertaken as part of the Banks Peninsula Landscape Study (Boffa Miskell, 2007), the key features that contribute to landscape quality were:

- prominent ridgelines;
- absence of development;
- rugged landforms, especially exposed coastlines;
- a balance of farming and native vegetation;
- open ridges with uninterrupted views;
- natural (organic) vegetation patterns; and
- evidence of heritage or historic settlement.

Some of these features can be translated into landscape values, including cultural and spiritual values and use values (in the form of tourism and recreation). The Boffa Miskell/CCC (2007) report on landscape values stressed the 'multi-value' approach, where waterways and wetlands are enhanced as recreational, leisure, scenic and educational opportunities. There may be private benefits to property owners on the land with outstanding or significant natural features and landscapes, as the price of that land may appreciate, once the heritage values become capitalised at the point of sale of land. Heritage attribution of land engenders a heritage quality, which has value – and this may manifest in 'prestige' value.

These potential (private) benefits should be examined with regard to the costs of conserving coastal environments, which could potentially emerge from private landowners arguing on the opportunity cost to them if restricted by rules. The costs associated with any restrictions within these areas of Outstanding Natural Features and Landscapes, Significant Features and Landscapes and Areas of Natural Character in the Coastal Environment can be classified as the opportunity costs to landowners who may be restricted from to developing on the land.

The ecosystem services (or benefits) of protecting coastal environments include provisioning services (production of food and raw materials); provisioning of habitat and ecological community services for different sea life/biodiversity and shorebirds; sediment storage and transport; wave dissipation and associated potentially buffering against extreme weather events and storm surges; breakdown of organic materials and pollutants; water filtration; nutrient mineralisation and recycling; storage of water in dune aquifers and groundwater discharge through beaches; scenic vistas and recreational opportunities; and functional links between terrestrial and marine environments (Thrush et al., 2013).

As with the introduction of new rules, there are associated administration or transaction costs. It would be useful to have more information on any estimates of such costs to determine their significance. We note the proposed work on places of significance to Ngai Tahu, cultural landscapes, and new listings (for heritage landscapes) which are included in the proposed Heritage Protection Activity Management Plan – Long Term Plan 2015-2025[26], which should be included in the Section 32 report.

As with indigenous biodiversity, an assessment of the effectiveness of providing advice and technical guidance relating to Outstanding Natural Features and Landscapes, Significant Features and Landscapes and Areas of Natural Character in the Coastal Environment, should be undertaken. Plan changes or more complicated subdivision or land use consent applications within Outstanding Natural Landscapes or Coastal Natural Character Landscapes usually require the involvement of a landscape architect to provide specialist landscape advice and assistance with preparing the application. Such an assessment is difficult to undertake, because the effect of providing advice and technical guidance does not necessarily have a direct immediate impact on biodiversity outcomes (time lags), forms one aspect of landowner decision making (contributes to 'social learning') and may result in innovative solutions to biodiversity outcomes (ability to creatively inspire biodiversity outcomes). An assessment of effectiveness is that applications by landowners in areas with Outstanding Natural Features and Landscapes, Significant Features and Landscapes and Areas of Natural Character in the Coastal Environment are aligned with the policy direction of the District Plan, and therefore that the application process is relatively easy for potential applicants. Another indicator of success is the creation of a network of expertise (either through community groups, special interest groups), where property owners mentor each other and share information (formation of networks, and creation of social capital).

The Banks Peninsula Rural Development Guidelines 2010 are available on the Council's website and in Council service centres and provide guidance for applicants and/or landowners on development considerations in Outstanding Natural Landscapes (ONLs), Coastal Natural Character areas (CNCs), and the Rural Amenity Landscape (RAL). Such technical advice is important for social learning and for increasing heritage appreciation of landowners, both of which in theory should result in positive heritage outcomes for the district. Appendix 2 contains some evaluation criteria to assess the outcomes of such activity by Council.

[26] This was adopted by Council for public consultation, running from mid-March 2015.

4.3.3 Comments on 9.3 Historic Heritage

The values accorded to historic heritage include existence value and use value. The use-value of heritage buildings is an area that has been developed by Rypkema (2015), who focuses on the contribution of heritage buildings to the economy. This is in the form of providing specialist heritage construction/maintenance jobs (Molloy & Associates, 2015), appreciation in property values of heritage buildings at a higher rate than non-heritage buildings, retention of heritage building value over non-heritage building, heritage tourism values, heritage and 'good urbanism' (particularly in terms of walkability in heritage areas – hence links with urban design objectives) and environmental savings for reusing existing buildings over whole of life costs for construction of new buildings. More work could be undertaken (at a future date), to understand the contribution of heritage buildings to economic outcomes within Christchurch. Heritage buildings contribute to the identity of Christchurch City.

In terms of the costs or negative effects of the proposed policies in Chapter 9, the Historic Heritage Summary Data Analysis (taken from the rating database) quantifies the number of properties that could be potentially impacted by the proposed changes in historic heritage policy direction (presumably excluding heritage landscapes of Chapter 9.2; but a similar exercise could be undertaken). The Historic Heritage Summary Data Analysis also includes the transaction or administration costs and provides information on the spatial concentration of the heritage items. A specific cost which should be addressed in the Section 32 is the cost of earthquake strengthening for heritage buildings. If regulations are challenged (through a lengthy hearings process), an uncertainty exists in the rule-set which may adversely affect heritage buildings in particular.[27] This area needs to be assessed in the Section 32 in more detail, particularly the relationship between earthquake strengthening and heritage buildings.[28]

We recommend to include in the costs of the policy, the costs of implementing the non-regulatory heritage incentives which complement the regulatory approaches in the chapter. These would include Heritage Incentive Grants ($763,000 per year), Central City Landmark Heritage Grants ($1.7 million per year), Historic Places Fund ($750,000 at any one time), Specialist advice on heritage maintenance and enhancement (perhaps number of staff and staff time devoted to this), Heritage week (budget for this), Heritage Protection Activity Management Plan (could be included in one category of staff time devoted to heritage management and education). Also would be good to include any information on the costs of engagement with landowners and communities for heritage areas for the City, Akaroa and Lyttleton (e.g. updating previous work on Residential Heritage Conservation Areas for Christchurch, the Akaroa Historic Area variation work etc.), and for developing the process to deal with archaeology post 1900.

[27] See evidence from Amanda Coats (Architect) in relation to Palmerston North Plan Change 13 on Cultural and Natural Heritage. Accessed 18/03/2015 http://www.pncc.govt.nz/media/2595617/pc13_1_part_1_web.pdf

[28] See Gibson 2014 for cost benefit analysis in Seattle, and Tailrisk (2014) for NZ relevant discussion.

4.3.4 Comments on 9.4 Significant Trees

The technical report on Significant Trees (Moohan, 2015) contains the benefits of conserving and protecting significant trees. A multicriteria analysis was undertaken to this end, which can be used directly in the Section 32 report. This peer reviewed report was comprehensive, with the following values assigned: environmental/ecological, ecosystem services and social and cultural services. Significant trees also contribute to heritage and identity, particularly supporting the "Garden City" image, which has direct use value in terms of marketing and tourism. The report gives values for trees from a New York study, which could be used to illustrate the types of (economic) valuation that have been undertaken elsewhere.

Box 7. Benefits of trees, as identified through multicriteria analysis on Significant Trees

Environmental and Ecological Services: Air purifier; Carbon storage; Recycling nutrients; cooling city-scapes and waterways; Summer shade, reducing overheating of buildings and parks; stormwater and erosion management; soil stabilization especially on slopes; enhancing natural features; habitat provision and food for wildlife; encouraging biodiversity throughout the city; natural UV protection; windbreak.

Social and Cultural Services: neighbourhood amenity and character; tree lined streets calming traffic; visual buffers from busy streets, noise, unsightly buildings or activities; maintaining privacy; enrichment through change and variety with each season.

Economic Services: real estate value up-lift in mature tree lined suburbs; inviting streetscapes of benefit in retail and commercial areas; tourism business and employment posited on the brand of 'Garden City' image; energy savings; extending life of infrastructure such as paved surfaces through cooling and removing excel groundwater.

The costs of implementing the policies on significant trees are included in the criteria rating process of selecting significant trees. They included nuisance/safety effects, such as the maintenance costs to manage the trees or to prevent injury to people or property; the health impacts such as allergies to pollen, and any public concern related to risk to significant trees.

5. Conclusion

This report has reviewed the development of the natural and cultural heritage chapter within Christchurch Proposed District Plan, in the context of heritage being a particular asset or resource, which has high public benefits despite being managed on private property/land. In this context, it is appropriate to use a mix of regulation (where heritage maintenance is threatened) and non-regulation (where incentives can stimulate heritage protection) in order to maximise the provision of heritage within Christchurch while also considering the distribution of heritage effects on private land. Christchurch City Council has undertaken significant background technical work on the four strands of this chapter: 1. Indigenous biodiversity; 2. Outstanding Natural Features and Landscapes, Significant Features and Landscapes, and Areas of Natural Character in the Coastal Environment; 3.Historic Heritage; and 4. Significant Trees. The benefits of the four strands have been sufficiently articulated

through the background technical reports. We suggest developing the Heritage Benefits Matrix further, and including some of the objectives from other chapters, which the heritage policies of chapter 9 also give effect to. This is particularly the case for the economic use of heritage (e.g. for tourism), but also for the wellbeing and quality of life of Christchurch residents.

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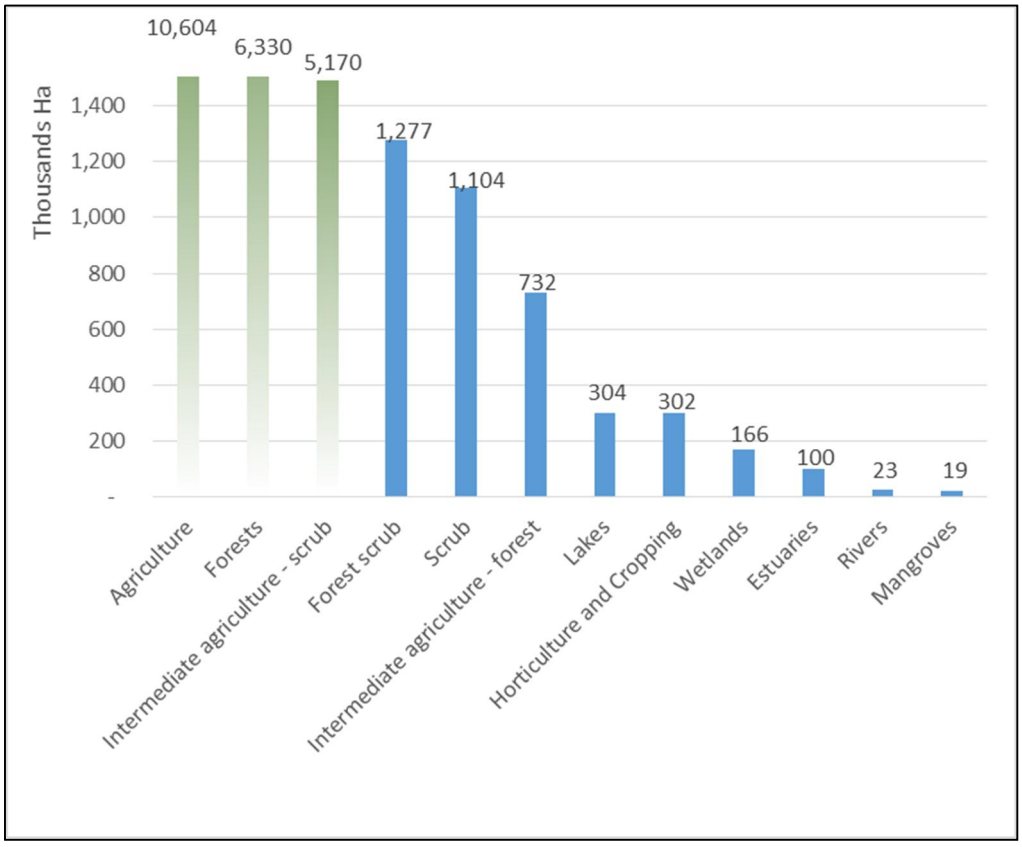
Appendix 1: Valuation of ecosystem services

Review of Total economic value of NZ's land based ecosystems and their services, with particular relevance to the relative importance of natural heritage assets.

Patterson and Cole (2013) used a rapid assessment methodology to measure the Total Economic Value of New Zealand's land based ecosystems and services. Despite cautionary caveats regarding the interpretation of the results, the indicative data is described as "being good enough in broad terms to establish which ecosystems are important in terms of their service delivery in New Zealand". The total land surface area of New Zealand is divided into 12 standard ecosystem types (Figure 6). Note that the figure is not drawn to scale, that agriculture ecosystems have the largest land surface area (over 10.5million ha), followed by forest (6.3 million ha) and intermediate agriculture – scrub (5.1 million ha). These values dwarf the combined values of the freshwater ecosystem land area, and for example the 19,000ha (or 0.019million ha) of New Zealand's mangroves.

Figure 6 New Zealand's Ecosystem Types, by land area (ha)



The study used the Millennium Ecosystem Assessment Framework (2005) to classify ecosystem services into: provisioning, regulating, cultural and supporting ecosystem services. When these are added together, they give a gross value for ecosystem services. The authors however take the supporting services out, when calculating the net value for ecosystem services, to avoid double counting (as the support service values are captured in the other services). The study measures 'flow' value or the dollar value of the services provided per year, rather than the 'stock' value of the ecosystem, due to theoretical and operational problems with the concept of stock of ecosystem. The values of the ecosystems are shown in Table 6.

Table 6 Total Economic Value of New Zealand's land based ecosystems ($million)

	Use Value				Passive Value		
	Supporting Value	Regulating Value	Provisioning & Cultural Value	Total		Gross Value	Net Value
Ecosystem type							
Horticulture and Cropping	23	3	2,265	2,291	a)	2,291	2,268
Agriculture	7,751	3,345	9,075	20,171	a)	20,171	12,420
Intermediate agriculture - scrub	1,897	1,630	1,112	4,639	a)	4,639	2,742
Scrub	609	531	5	1,144	a)	1,144	535
Intermediate agriculture - forest	402	352	218	973	a)	973	571
Forest scrub	704	614	129	1,447	a)	1,447	743
Forests	3,495	3,056	7,631	14,182	b)	14,182	10,687
Wetlands	3,599	4,103	1,020	8,722	350	9,072	5,473
Estuaries	1,026	314	109	1,449	211	1,659	634
Mangroves	-	103	-	103	41	144	144
Lakes	1,735	544	4,671	6,950	885	7,836	6,101
Rivers	1,289	404	3,470	5,164	1,434	6,597	5,309

Gross Value = Use value + Passive value

Net Value = Use value + Passive value - Supporting value

a) lack of data prevented measurement.

b) the passive value of forests were classified separately, and would be a component of the heritage value of National parks, Forest parks and Land reserves, valued in total at $9,125

Agriculture provides the highest net value of ecosystem services in total dollar terms ($12.4m), followed by forests ($10.7m). This is not surprising, given that these ecosystems have the greatest land area (Figure 6). Lakes had the third highest net annual ecosystem value ($6.1m), despite covering only 1.2 per cent of land area (Figure 7). Wetlands were fourth highest, with an annual ecosystem service value of $5.4m, with 0.6 per cent of total hectares attributed to this ecosystem type. The value of river ecosystem services was $5.3m per year, yet just under 0.1 per cent of New Zealand's total hectare cover. These figures clearly emphasise the importance of the ecosystem service values provided by freshwater ecosystems.

Calculated on a total net ecosystem service value per hectare of ecosystem type ($ per ha), New Zealand rivers had the highest annual dollar per hectare value (Figure 8). The reason this river ecosystem is so high is due to the inclusion of water provisioning services to commercial and non-commercial end-users (valued at $3,316m). This figure includes provision of water for hydroelectricity generation, irrigation, industrial and commercial use. Rivers provide waste treatment services, valued at $404 million per year. Agricultural runoff, industrial discharges, urban stormwater as well as sewage are processed by New Zealand's rivers.

Figure 7. Proportional contributions of ecosystem type (ha) to ecosystem services ($ per year)

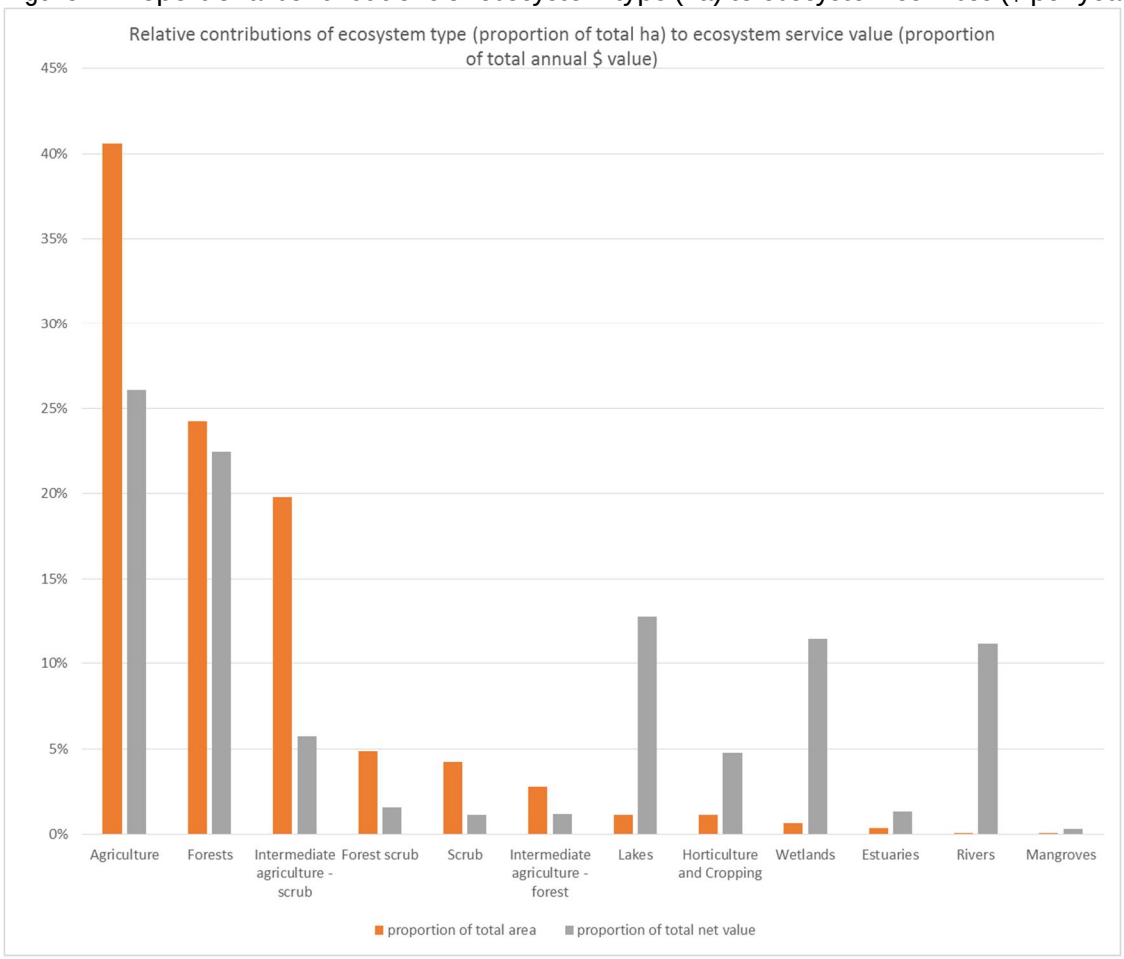
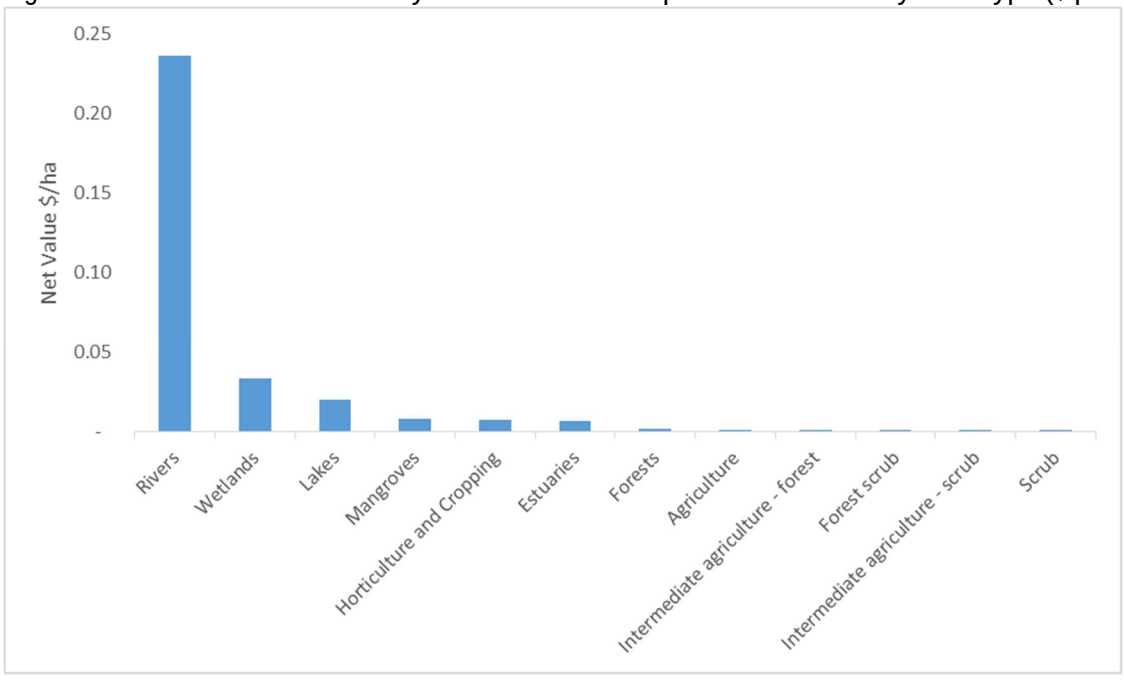


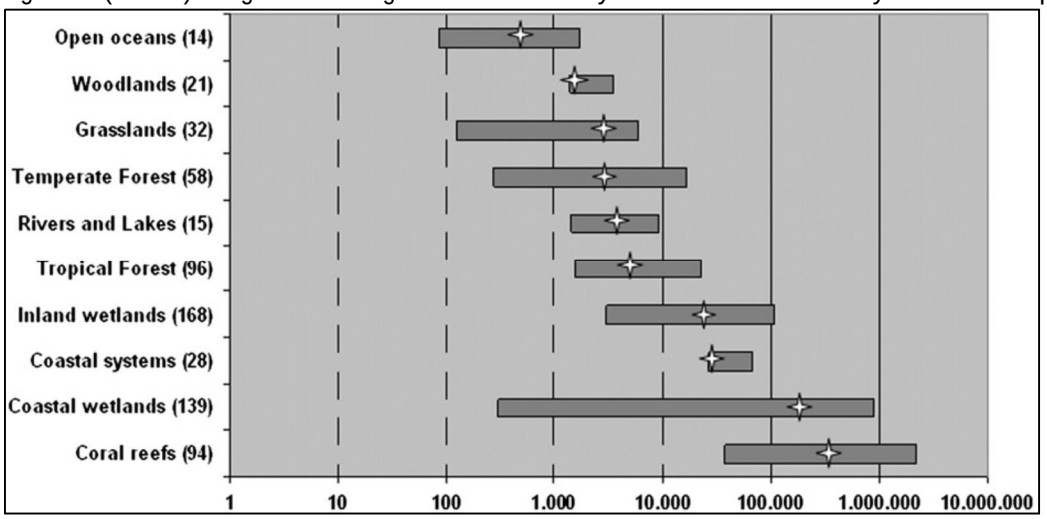
Figure 8. Net Total Economic Ecosystem Service Value per Hectare of Ecosystem Type ($ per ha)



Wetlands have the second highest ecosystem service value per hectare of ecosystem type. New Zealand wetlands have been reduced over the last 100 years from an estimated 700,000 hectares to 166,000 hectares currently. This is just under one quarter of the original estimate. Wetlands are highly productive and dynamic, providing a variety of ecosystem services. Water storage and retention is the most significant ecosystem service, valued at $3.4billion per year (based on a benefits transfer method, using Costanza's *et al*. 1997 study). Patterson and Cole noted this may be an overestimate for New Zealand, as there is a relatively abundant water supply.

Wetlands are among the world's most productive and valuable ecosystems. These services include maintaining water quality and supply, regulating atmospheric gases, sequestering carbon, protecting shorelines, sustaining unique indigenous biota, and providing cultural recreational and educational resources. From Figure 9, it can be seen that on a global average, coastal wetlands provide the greatest value to humans, of the ecosystem services from the listed biomes (Note the taxonomy of ecosystem service type in Patterson and Cole is not directly comparable to De Groot's *et al.* 2012 taxonomy). However, these global figures reflect provisioning of food, particularly fish and rice growing, which are relatively more important in other countries than in New Zealand (although traditionally Maori used wetlands as an abundant food source – see below).

Figure 9. (Global) Range and average of total monetary value of bundle of ecosystem services per biome



Source: Cited in Aussiel *et al.* 2013. Original De Groot *et al.* 2012. (in ha/year 2007 PPP-corrected)

Clarkson, Aussiel and Gerbeaux (2013) note that New Zealand wetlands are compositionally distinctive, with around 80 per cent of vascular plant species endemic, but functional processes (e.g. decomposition rates and bog development) have been shown to be similar to results found in the Northern Hemisphere. The most detailed economic evaluation of a New Zealand wetland was undertaken on Whangamarino Wetland, on the lower Waikato river (DoC, 2007). The main values recognised for the Whangamarino Wetland are: flood control, game bird hunting, recreation, commercial fishing of eels (tuna) and carbon storage. It was estimated that the wetland saved an estimated NZ $5.2 million in flood control costs during a single 1-in-100 year flood event in 1998. In New Zealand, wetlands are mahinga kai areas. Harakeke is harvested by Maori, and used for clothing, mats, kete and rope, kuta for weaving and insulation, raupo for thatching and pollen based food, dried moss for bedding, poles of manuka for palisades, and culturally important medicinal plants were

gathered in wetlands. There are significant spiritual values associated with wetlands, and they are often regarded as taonga. Wetlands have the highest carbon density among terrestrial ecosystems and contain 20-25 per cent of the world's organic soil carbon. Although they are the dominant natural source of methane emissions, they can also sequester carbon as anaerobic conditions prevent decomposition of organic matter. Van den Belt *et al.* 2009 used a rapid ecosystem service assessment (based on a benefits transfer approach) to measure the value of services provided by freshwater wetlands in the Manawatu-Wanganui region. Their total economic value was $NZ\$_{2006}43,320$, with the largest ecosystem service values being freshwater supply ($16,814) followed by moderation of extreme events ($16,017), then aesthetic values ($3,896) and waste treatment ($3,670). This waste treatment value constitutes 8.5 per cent of the total ecosystem service value for the Manawatu-Wanganui region. This is comparable to the waste treatment component in Patterson and Cole's (2013) study for New Zealand in total.

Appendix 2: Examples of criteria that can be used to assess policy in terms of process or how it gets implemented

Example of criteria, for assessing outcomes, used by Auckland Council for a multi-criteria analysis of heritage incentives, August 2014.

	Criteria	
Strategic use of best practice	· Can have a robust, transparent and accountable process · Can provide support across multiple heritage values · Relates directly to expenses for heritage work · Complementary with other incentives	
Supporting landowner behaviour	· Process is easy for potential applicants · Has the potential to foster innovative solutions · Landowner can feel their effort/actions are recognised and validated · Can inspire or motivate other landowners · Potential to promote heritage in the community · Contributes to a network of expert/property owner mentoring and information sharing	
Strategic outcomes	· Promotes sustainable/long-term heritage outcomes · Reduces barriers to successful heritage outcomes · Demonstrates long term commitment from Council · Provides for emergency work · Can be easily targeted to specific heritage types, priorities or outcomes	
Financial and economic leveraging	· Encourages the economic use of heritage · Can provide a substantial amount of funding for significant/flagship projects · Leverages support from other sources e.g. external agencies, private industry	
Administration ease	· Administration is manageable, practical and easy for Council · Can be easily monitored for effectiveness	

Appendix 3: Heritage within the legislative context

Resource Management Act 1991 (RMA)

A number of sections of the RMA provide for the recognition and protection of historic heritage. Section 6 of the RMA identifies matters of national importance which include 'the protection of historic heritage from inappropriate subdivision, use, and development' (6(f)). There is a duty to avoid, remedy or mitigate any adverse effects on the environment arising from an activity S(17), including on historic heritage. 'The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga' (6(e)) is also a matter of national significance and has significant implications for the sustainable management of cultural and historic heritage. Section S8 of the RMA requires the TLAs to take into account the Treaty of Waitangi in relation to managing the use, development, and protection of natural and physical resources. 'The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development' (6(b)) may also be relevant, as it has been used by courts in conjunction with 6(e) as a mechanism to consider cultural heritage landscapes. Historic heritage is defined by the RMA (s2) as follows: 'Historic heritage: (a) means those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, deriving from any of the following qualities: (i) archaeological (ii) architectural (iii) cultural (iv) historic (v) scientific (vii) technological, and (b) includes: (i) historic sites, structures, places, and areas, and (ii) archaeological sites, and (iii) sites of significance to Māori, including waahi tapu, and (iv) surroundings associated with the natural and physical resources.'

Heritage New Zealand Pouhere Taonga Act 2014

The Historic New Zealand Pouhere Taonga Bill 2014 replaces the Historic Places Act, 1993. Heritage New Zealand Pouhere Taonga is the same body corporate as the New Zealand Historic Places Trust (Pouhere Taonga) continued under section 38(1) of the Historic Places Act 1993.

13 Functions of Heritage New Zealand Pouhere Taonga

(1) In order to achieve the purpose of this Act, the functions of Heritage New Zealand Pouhere Taonga are—

> (a) to identify, record, investigate, assess, list, protect, and conserve historic places, historic areas, wāhi tūpuna, wāhi tapu, and wāhi tapu areas or enter such places and areas on the New Zealand Heritage List/Rārangi Kōrero, or to assist in doing those things, keeping permanent records of that work, and providing support for persons with a legal or equitable interest in such places and areas:
>
> (b) to continue and maintain the New Zealand Heritage List/Rārangi Kōrero:
>
> (c) to advocate the conservation and protection of historic places, historic areas, wāhi tūpuna, wāhi tapu, and wāhi tapu areas:
>
> (d) to foster public interest and involvement in historic places and historic areas and in identifying, recording, investigating, assessing, protecting, and conserving them, maintaining the New Zealand Heritage List/Rārangi Kōrero, and entering such places on that list:
>
> (e) to issue authorities in accordance with this Act:
>
> (f) to manage, administer, and control historic places, buildings, and other property owned or controlled by Heritage New Zealand Pouhere Taonga or vested in it to ensure their protection,

preservation, and conservation:

(g) in the event of a national or local emergency, to provide advice on heritage matters:

(h) to establish and maintain a list of places of outstanding national heritage value, to be called the National Historic Landmarks/Ngā Manawhenua o Aotearoa me ōna Kōrero Tūturu:

(i) to act as a heritage protection authority under Part 8 of the Resource Management Act 1991 for the purposes of protecting—

(i) the whole or part of a historic place, historic area, wāhi tūpuna, wāhi tapu, or wāhi tapu area; and

(ii) land surrounding the historic place, historic area, wāhi tūpuna, wāhi tapu, or wāhi tapu area that is reasonably necessary to ensure the protection and reasonable enjoyment of the historic place, historic area, wāhi tūpuna, wāhi tapu, or wāhi tapu area.

(2) In performing its function under subsection (1)(c), Heritage New Zealand Pouhere Taonga must recognise the interests of an owner, as far as those interests are known, in a particular historic place, historic area, wāhi tūpuna, wāhi tapu, or wāhi tapu area.

(3) The Minister must not give directions to Heritage New Zealand Pouhere Taonga that concern heritage matters relating to particular historic places, historic areas, wāhi tūpuna, wāhi tapu, or wāhi tapu areas.

(4) However, subsection (3) does not apply to the powers of the Minister under subpart 2 of Part 4 (which provides for the creation and maintenance of the Landmarks list).

The Conservation Act 1987

The Conservation Act is New Zealand's principal act concerning the conservation of indigenous biodiversity. The Conservation Act, and the Conservation Management Strategies and Conservation Management Plans that are created under it have the overriding principle of 'protection' This is in contrast to the overriding principle of 'sustainable management' in the Resource Management Act.

The Conservation Act also sets up a hierarchy of consideration of activities occurring on public conservation land under s6(e):

to the extent that the use of any natural or historic resource for recreation or tourism is not inconsistent with its conservation, to foster the use of natural and historic resources for recreation, and to allow their use for tourism

This hierarchy places the greatest weight on intrinsic value, followed by non-commercial recreation, and then by tourism.

The Conservation Act also sets out a number of Specially protected areas:[1]

- Conservation parks
- Wilderness areas
- Ecological areas
- Sanctuary areas
- Watercourse areas

- Amenity areas
- Wildlife management areas

The Reserves Act 1977

The Reserves Act promotes the conservation of New Zealand's natural and historic resources. The three main functions of the Reserves Act:

1) To provide for the preservation and management, for the benefit and enjoyment of the public, areas possessing some special feature or values such as recreational use, wildlife, landscape amenity or scenic value. For example, the reserve may have value for recreation, education, as wildlife habitat or as an interesting landscape.
2) To ensure, as far as practicable, the preservation of representative natural ecosystems or landscapes and the survival of indigenous species of flora and fauna, both rare and commonplace.
3) To ensure, as far as practicable, the preservation of access for the public to the coastline, islands, lakeshore and riverbanks and to encourage the protection and preservation of the natural character of these areas.

The Reserves Act provides for the acquisition of land for reserves, and the classification and management of reserves (including leases and licences). There are eight categories of reserves:

1) National Reserves (Section 13)
2) Recreation Reserves (Section 17)
3) Historic Reserves (Section 18)
4) Scenic Reserves (Section 19)
5) Nature Reserves (Section 20)
6) Scientific Reserves (Section 21)
7) Government Purpose Reserves (Section 22)
8) Local Purpose Reserves (Section 23)

Reserves or parts of reserves may be set apart as Wilderness Areas (Section 47), maintained in a natural state.

The Protected Objects Act 1975

The Protected Objects Act protects certain New Zealand objects. The purpose of the Act is to provide for the better protection of certain objects by—

(a) regulating the export of protected New Zealand objects; and
(b) prohibiting the import of unlawfully exported protected foreign objects and stolen protected foreign objects; and
(c) providing for the return of unlawfully exported protected foreign objects and stolen protected foreign objects; and
(d) providing compensation, in certain circumstances, for the return of unlawfully exported protected foreign objects; and
(e) enabling New Zealand's participation in—
(i)the UNESCO Convention; and

(ii)the UNIDROIT Convention; and

(f) establishing and recording the ownership of ngā taonga tūturu; and

(g) controlling the sale of ngā taonga tūturu within New Zealand.

National and regional policies

There are a number of national and heritage policies that should also be consulted. These include but are not limited to:

• the Policy for governments' management of historic heritage (2004), Ministry of Culture and Heritage

• the New Zealand Coastal Policy Statement (2010)

• Regional Policy Statements. Of relevance to Chapter 9 of the Proposed Christchurch Replacement District Plan is the Canterbury Regional Policy Statement 2013 which became operative on 15 January 2013 (to which changes were made on 6 December 2013 as directed from the Land Use Recovery Plan for Greater Christchurch, most notably inserting Chapter 6 "Recovery and Rebuilding of Greater Christchurch".

Supplementary resources

ICOMOS New Zealand Charter for the Conservation of Places of Cultural Heritage Value (ICOMOS NZ Charter 2010)

ICOMOS, the International Council of Monuments and Sites, is an international nongovernmental organisation of heritage professionals engaged in the conservation of places of cultural heritage value and dedicated to the conservation of the world's historic monuments and sites. The ICOMOS NZ Charter4 is a set of guidelines on cultural heritage conservation, produced by ICOMOS New Zealand. The charter constitutes a recognised benchmark for conservation standards and practice. As defined by the charter, places of cultural heritage value include sites which:

• have lasting values and can be appreciated in their own right

• inform us about the past and the cultures of those who came before us

• provide tangible evidence of the continuity between past, present and future

• underpin and reinforce community identity and relationships to ancestors and the land

• provide a measure against which the achievements of the present can be compared.