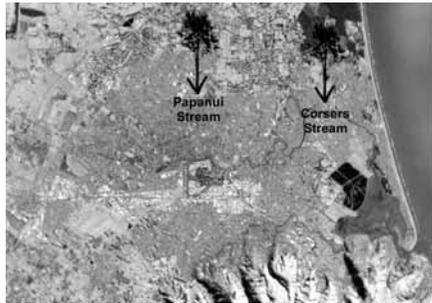


# Cues to Care or Cues not to Complain?

## The aesthetics of waterway naturalisation in Christchurch, New Zealand

Joby Barham<sup>1</sup>



**Fig. 1** Location of the case study sites in Christchurch (source: Barham, 2006).

### Preface

This is a summary of my dissertation, a three month research assignment which was part of my Master of Landscape Architecture at Lincoln University. The project was supervised by Jacky Bowring and Roy Montgomery, and this paper discusses the application of Nassauer's (1995) theory of Cues to Care in the design of waterway naturalisation in Christchurch, New Zealand. Initially the research was intended to examine how Nassauer's theory was being applied, but a lack of awareness quickly became apparent as only one of seven professionals interviewed knew of the theory. The project therefore became an analysis of how the theory could be used to inform waterway naturalisation. The research evaluated ecological restoration on public land, rather than private gardens, as Nassauer considered in 1995. Interviews of Christchurch City Council staff and maintenance contractors were conducted to examine how the process of naturalisation influenced the manifestation of 'care.' Interviewees are referred to using pseudonyms throughout the paper in order to maintain anonymity. Expert examination of two case study sites, Papanui Stream and

Corsers Stream, was undertaken to analyse manifestations of 'care' without explicit knowledge of the theory. Both sites were developed in conjunction with urban development of rural land.

### The aesthetics of urban ecological restoration

We rely on the rich biodiversity of the globe to sustain the natural environment which supplies us with clean air, water, soils and a multitude of other benefits that make our lives possible. The Millennium Ecosystem Assessment, written in 2005, argues that the biodiversity of the globe is still threatened by human development world-wide. The urban environment has become a frontier for re-establishing indigenous biodiversity in association with our cities, as the degradation of indigenous ecosystems continues and persists throughout the world.

John Lyle, writing in 1991, suggested that we can remind society of the role of nature in the protection and development of the environment by designing landscapes that include indigenous plants and fauna. However, some members of society regard the appearance of many 'natural' ecosystems as unappealing and this continues to be a challenge for landscape architects involved in ecological restoration projects. In 1995, Joan Nassauer proposed the theory of Cues to Care as a method for mitigating negative responses to landscapes that are being ecologically restored. The sometimes messy appearance of ecological restoration contravenes the desire for neatness and order of some private landowners. She suggests that cultural traditions

can be spliced with ecological restoration, to create a new aesthetic of care that is accepted by landowners.

### Landscape aesthetics

Porteous (1996) argued that "aesthetics is clearly of vital importance to the human sense of well-being. Industries catering to aesthetic satisfactions [...] are thriving economic enterprises." Somewhat cynically, Mozingo (1997, p.52) argued that "[l]andscape aesthetics prizes a static vision imposed upon the land," epitomised in the design of gardens. Bourassa (1991) contended that other writers on landscape aesthetics prefer to use a more complex definition. Porteous, writing in 1982 (cited in Bourassa 1991, p.8), argued that the definition of landscape aesthetics needs to take into account "auditory, olfactory and tactile-kinaesthetic" aspects of landscape perception.

### Waterway naturalisation in Christchurch

Waterway naturalisation (Watts et al., 1999) is a term used by the Christchurch City Council (CCC) to describe the unique type of ecological restoration that they are implementing in association with urban waterways. Typically, naturalisation is implemented when boxed or piped drains need to be replaced. In some situations, the Council will use a naturalised waterway, where feasible, to accommodate increased storm-water runoff from urban development. The naturalisation of a waterway, as opposed to piping or boxing, can be considered to be expensive in the short term, but significant cost savings can be realised over time.

<sup>1</sup> Wildland Consultants Ltd, PO Box 7137, Te Ngae, Rotorua 3042; jobybarham@gmail.com



**Fig. 2** Papanui Stream before. Boxed drains are waterways that have been confined using timber structures (source: McMurtrie and Walter, 2003).



**Fig. 3** Papanui Stream after. Naturalised waterways provide better public amenity and wildlife habitat (source: McMurtrie and Walter, 2003).

The vision for Christchurch's waterways, which was cemented in the Wetlands and Waterways Natural Asset Management Strategy in 1999, was to achieve the sustainable management of the City's waterways and wetlands "within the lifetime of the present generation." (Watts et al., 1999). A unique values-based approach was developed to implement it. Waterways are naturalised to enhance one or more of the six values that the Council have identified as important: ecology, landscape, heritage, culture, recreation, and drainage. Aesthetics is not explicitly identified in discussion of the values in the Waterways Strategy (Watts et al., 1999) but was identified by Watts and Greenaway (1999) as an aspect of 'landscape.' They defined it as "including sight, sound and smell."

**Natives vs. Exotics public debate**  
Controversy over CCC plans to plant more indigenous plants, particularly near waterways, has

sparked heated public debate over the cultural and ecological heritage of the city. Articles and letters to the editor of the local newspaper, *The Press*, express deeply felt opinions over the Council's plant choices. Colin Meurk (2000, cited in Seth, 2000, p.8), a Christchurch-based ecologist, argued that "[t]here needs to be a continuation of permanent indigenous planting until there is nearer a 50-50 split of indigenous to exotic species." Liefting (2003, p.8) supported the planting of natives, considering that "our future whanau will thank the [C]ouncil for planting native trees, just as we can thank planners of the past for Hagley Park."

Some letters to the editor at the height of the debate expressed concern about the devaluation of Christchurch's English heritage. Jones (2003, p.8) argued that we should not "despise our English heritage ... it has given us most of the benefits we now enjoy." Some concerns were site-specific. Blaxall (2003, p.8) argued that "there is a place for natives in our city but not amongst the willows along Park Terrace [...]." Some criticisms were bordering on the trivial. Bennett (2001, p.6) was concerned about "[h]ow [...] the [C]ouncil [will] dispose of the dead leaves, etc[.], from the native trees if they cannot be composted [...]." One writer (Patterson, 2002, p.10) showed contempt for native plants, arguing that "they are uninteresting, lack character, and show backward thinking."

#### **Cues to Care and waterway naturalisation**

As has been shown, ecological restoration can be beset by negative perceptions. Messy, wild places are contrary to the order and regularity of cities. Nassauer (1995, p.163) suggested that "[a] central problem in introducing greater biodiversity and heterogeneity to the urban landscape is that these characteristics tend to be mistaken for a lack of care." The appearance of 'care' can be critical to how nature is accepted as part of the urban environment.

Lynch (cited in Nassauer, 1995, p.162) argued that "[h]uman inhabited landscapes operate as ecological systems, but they also operate as communication systems." Nassauer (1995, p.161) suggested that the "intention to care for the landscape, offers a powerful vocabulary for design to improve ecological quality." Designing ecological restoration to display care can encourage public acceptance of new landscape forms. Landscape architects can realise sustainable landscapes more easily by designing with an aesthetic that the public are familiar with. Nassauer (1995, p.161) packaged her theory under the label "cues to care."<sup>2</sup> By cueing the landscape with signs of 'care,' she found that the public responded more positively to change.

In Christchurch, controversy over waterway naturalisation and ecological restoration has focused on the role of exotic and native plants in the city. The concept of Cues to Care offers a powerful vocabulary to mitigate negative responses to the design of naturalisation. However, using vernacular language may limit the creativity of landscape architects to what the public already know and enjoy. Eaton (1997, p.102) argued that use of new signs "will only be successfully done if we have a clearer understanding of the specific properties valued at each specific site." Nassauer's theory presents a useful method for informing the design process but only if rigorous research is conducted prior to the design of 'cues.'

#### **The Waterways Strategy and the aesthetics of waterways naturalisation**

Even though it is not explicitly acknowledged in the Waterways Strategy (Watts et al., 1999; Watts, 2003), aesthetics is an important part of urban waterway naturalisation in Christchurch. During interviews with planners they were asked to comment on how aesthetics might be relevant to the six values of the Waterways Strategy. "Ben" (field notes,

<sup>2</sup> Referred to as Cues to Care throughout the rest of the paper.

30 Nov., 2005) suggested that aesthetics are embodied in all of the six values. He believed that it was important to all of the values, each in a different way. "Claudia" (pers. comm., 7 Dec., 2005) expanded on this, suggesting that "perhaps we have not spelt out [aesthetics] clearly enough in our six values, but I see it as integral. It is almost the upfront value." Ratepayers' concern for the appearance of their local environment ensures that aesthetics need to be considered in waterway naturalisation.

Landscape architects are required to generate the design for a site to achieve a prescribed combination of the six values. The values to be represented are identified by planners in order to achieve the desired outcome for each site. No indication is given of suitable aesthetic values for each location. "Claudia" (pers. comm., 7 Dec., 2005) suggested "that [the CCC] could meet those different senses of aesthetics or what people think looks good, not by compromising, but by appropriate design and maintenance." Site reviews were

tendered as a possible next step to address the design issues that have arisen at Papanui Stream. However, no actions have been programmed for the aesthetic design of sites. Landscape architects appear to be required to address aesthetic issues intuitively.

The development of Cues to Care in waterway naturalisation requires explicit understanding of the type of aesthetic that is desired. Without this knowledge, the process of developing Cues to Care is intuitive or propagates the use of formats, as can be seen at the street entries to Corsers Stream and Papanui Stream. The repetitive use of the same elements (a low fence, grass and trees) in a similar manner does not create a unique identity for either waterway. The use of visual aids to elicit responses from the public is a way of gaining an understanding of what they believe an appropriate aesthetic would be for their stream. Nassauer (1995) used comparative images of different designs for her interviews with private landowners to illicit such a response. The Council

currently show stakeholders images of naturalised waterways in nearby locations, but do not use simulations of the location being consulted on.

#### Displaying nature publicly

As the Council is beginning to discover, ecologically-restored urban waterways are not always capable of supporting historic ecosystems. This may be due to high pollutant loads in the water and ongoing disturbance by human activities. As "Andrew" (pers. comm., 30 Nov., 2005), a planner, cynically suggested "it is far easier to go along with the myth that a nice looking waterway is a healthy waterway." The condition of some waterways means that only *less* ecologically-beleaguered waterways can be created in those locations. Forman (2002) argues that if a site is not ecologically-sound then it is a waste of time and money designing it for beauty. The alternative is that we create new ecosystems that can adapt to the urban environment. In some ways, this is what is happening. Experiments with different plant species at Papanui

Stream (Suren et al., 2003) are indicating what will and will not survive in the current state of the waterway.

Even if it is *not* possible to recreate robust historic ecosystems, the representation of 'nature' in the urban environment still has value. Naturalisation of waterways fulfils a social function by representing public desire to have more 'natural' infrastructure in their local landscape. The Council communicates care for waterways and associated ecology by locating projects in highly visible areas. Naturalised waterways act as



Fig. 4 Corsers Stream from New Brighton Road (source: Barham, 2006).



Fig. 5 Corsers Stream from Brooker Avenue.



Fig. 6 Corsers Stream from Belair Close.



Fig. 7 Papanui Stream from Grants Road.



Fig. 8 Papanui Stream from Erica Street (source: Barham, 2005).

a Cue to Care for the environment, indigenous ecology, waterways, and natural infrastructure.

The 'look' of waterways is critical to Christchurch's identity. The current dominant English heritage aesthetic is used as a symbol by some residents' of their heritage. "Andrew" (pers. comm., 30 Nov., 2005), a planner, believed that "Aesthetics is very, very important in Christchurch [because of] the garden city [identity]." As shown by excerpts from the aforementioned letters to the editor, some consider that the English heritage aesthetic is of vital importance to the identity of the city. As an elected body, the Council reflects the values of the majority of local residents. As waterway naturalisation is still being implemented in the face of some public opposition, it would appear that the majority of the public support the work.

#### Public/private edge

Cues to Care may become a typology for social identity. Waterways could be claimed by exclusive social groups by creating an aesthetic of care that only they identify with. It is difficult to determine who needs to be consulted in regard to the aesthetic of naturalised waterways. Even though the condition of the water and ecosystems is of public interest, the naturalisation team could not be expected to consult *all* Christchurch residents on *all* projects. If only the surrounding residents are consulted on how they would like the waterway to appear then an aesthetic that is not shared by all members of the public may be created.

Naturalised waterways are subject to the public's sense of aesthetics and standards for care because they are publicly-owned. However, it is difficult to generate an aesthetic that fits all residents' desires. Members of the public who do not live adjacent to a waterway must either complain to the CCC or attempt to participate in the consultation process. If a community begins to claim a waterway as their own, they may

dominate the type of aesthetic that is created by voluntarily altering the design. In some locations, residents plant their own 'guerrilla' exotics that maintenance contractors will not remove. This is one method that neighbouring residents can use to directly create their own aesthetic of 'care.'



**Figs. 9 & 10** Neighbouring residents influence the aesthetic of 'care' that is created (source: Barham, 2005).

The aesthetic that is created in properties adjacent to the waterway influences the aesthetic of the public areas. Bicknell and Gan (1997, p.17) found that "sections adjacent to Corsers Stream sell for almost \$NZ7,000 more than sections across the street on average. Similarly, there is a \$NZ3,472 premium for sections on the same block as the stream." Neighbours who own properties of higher value adjacent to the waterway (Bicknell and Gan, 1997) may be able to afford, for example, more plants, garden ornaments, greener grass, and higher fences. Therefore, they could be more capable of influencing the aesthetic of care. Duncan and Duncan (2004), writing in the field of human geography, argued that an affluent community in the United States is able to exclude other cultural and socio-economic groups through the planning interventions that are used to maintain the aesthetic of the suburb. At Corsers Stream, residents' influence on the aesthetic may lead to an aesthetic of

exclusion that does not include the sense of beauty or Cues to Care that is appreciated by other socio-economic groups.

#### The manifestation of Cues to Care

A landscape architect ("David", pers. comm., 2 Dec., 2005) believed that the scruffiness of some naturalisation projects is more of a maintenance issue. Communication about the standard and type of maintenance, between the public, the CCC and maintenance contractors, is crucial to the implementation of an appropriate standard of care. Removal of rubbish and dead plants may be satisfactory for most residents. Two maintenance contractors ("Fred" & "Graham", pers. comm., 7 Dec., 2005) revealed that this is largely what they do to maintain well-established sites. The level of service that the residents require in public open space is difficult to determine. Manifestation of Cues to Care may only mitigate the complaints of the vocal minority and provide little benefit for those who do not complain or are satisfied with the status quo.

Safety plays a very influential role in how Cues to Care are developed. The Safer Canterbury design guidelines (Canterbury Safety Working Party, 2004) indicate that dense vegetation adjacent to walkways does not provide a safe environment for the public.<sup>3</sup> This limits the type of habitat and aesthetic that can be created in waterway naturalisation. Designers are required to create domesticated landscapes that, for example, make the public feel safer and reduce the opportunity for 'stranger danger.' This conflict between safety and the purpose of waterway naturalisation reveals a 'functional conflict' that indicates the priority of issues in the design of a site. Like the drainage capacity of the river, which must be maintained at all times, the public's safety must also be prioritised in the design. This is seemingly done at the cost of developing indigenous biodiversity or an ecological aesthetic.

<sup>3</sup> This was also found to be the case in waterway restoration projects in Auckland by Austin (2003).



**Fig. 11** The Safer Canterbury guidelines advise against dense vegetation with limited views (source: Canterbury Safety Working Party, 2004).

Through design choices made by landscape architects and maintenance contractors, waterways naturalisation can often represent a range of different ideas about the landscape. The type and form of plants is critical to what residents believe the design represents. The meandering form of naturalised waterways, paths, and grassed edges imply natural forms. The use of curves acts as a 'cue' to nature.



**Fig. 12** Curves in the design act as a 'cue' to nature.

Due to the variety of stakeholders' opinions, the manifestation of care in public urban waterways naturalisation is more complex than the private gardens that Nassauer (1995) analysed in her research. What is a Cue to Care to one person may be messy to another. The range of different opinions, sometimes held passionately by residents, is difficult to synthesise into the initial design for a site. Reviews of the design and maintenance of a waterway are altered to fit more closely what those who complain want. Those who are not vocal about their opinions may be forgotten as the Council struggle to keep up with the many projects throughout the city.

#### Is Cues to Care useful?

The concept of Cues to Care is useful for public urban waterway naturalisation in Christchurch when projects are in an initial design



stage or residents do not like how the appearance of projects have evolved. Determining what would be appropriate 'cues' is difficult to prescribe and is probably not useful for readers. Each waterway needs to be considered as a unique setting when Cues to Care is being used as a theory to support design.

#### Cues to not complain?

The various forums for community involvement in waterways naturalisation, including letters to the newspaper, complaints to the CCC, and direct manipulations of the design, act as communication devices for those unhappy with the current aesthetic of waterways. Use of Cues to Care as a design method may play into the hands of the vocal few and ensure that they get what they want, not what the majority of the community want. On the other hand, the aesthetic, indigenous ecosystems, and "sustainable management" (Watts et al., 1999) of waterways may not be very important to most residents. The maintenance contractors' concern for efficiency, dead plants, noxious weeds, and rubbish illustrates a level of care that most residents may desire. Cues to Care that deal with more detailed or complex issues than what the majority expect of the Council may over-value the concerns of a vocal minority group.

#### Cues to Care and creativity

Nassauer (1995, p.167) argued that "[u]sing cues to care is not a means of maintaining traditional landscape forms but rather a means of adapting cultural expectations to recognise new landscape forms that include greater biodiversity." Cues to Care may limit the creativity of professionals involved in naturalisation projects. Using

the theory as a design method limits the design of a site, or at least highly visible ones, to what residents know, expect or can conceive themselves. Rosenberg (1969, cited by Nassauer 1995, p.169) argued that the artist can "participate in the common life" and "become a member of the crowd" if a vernacular language is used to communicate through art (and the landscape). As creative professionals, landscape architects are expected to bring something to a design: a sense of flair, a new idea, or a new way of seeing the landscape. Mozingo (1997, p.46) argued that "ecological landscapes must become "iconic." The theory of Cues to Care could ultimately lead to a landscape architect's ("David", pers. comm., 2 Dec., 2005) disenchantment of "not feel[ing] like a designer, just a facilitator." Expert opinion and creative ideas can be rejected by the public in favour of their views presented in their vernacular language.

#### Conclusion

The aesthetic design of naturalisation projects is integral to community acceptance of the project. Some people in Christchurch identify strongly with particular styles of planting and naturalised waterways are contrary to their desired aesthetic. Others see benefits in the naturalisation of waterways and consider that there is a place for both aesthetics in the city. Designing waterways to help those opposed to naturalisation feel more comfortable, and meet the values of the council and objectives of the community, could help to create a new style of design that is acceptable to all members of the community.

Cues to Care is a useful way of understanding how the design and maintenance of a site can affect public appreciation of ecological aesthetics. The concept is useful as a tool in a designer's palette, enabling the adoption of design details that may make a naturalisation project more acceptable in the local community. However, if used as a prescriptive design method, it could limit creativity. Designing 'cues' only

for those who raise concerns about sites may give them what they want, but ignore a less vocal majority.

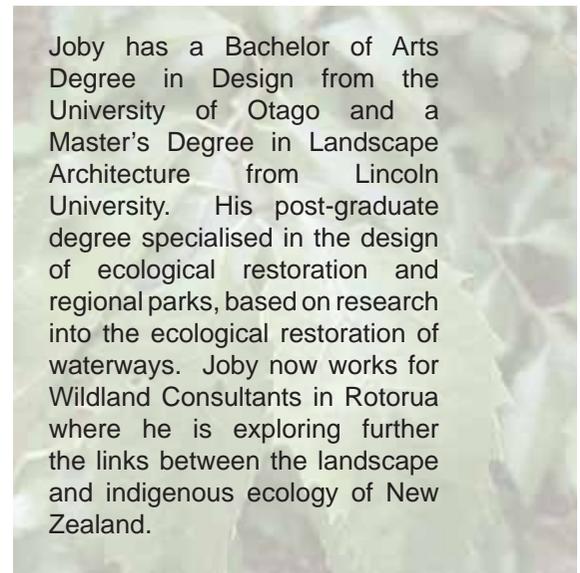
### Acknowledgements

I would like to thank Jacky Bowring and Roy Montgomery for supervising this project and providing me with the necessary direction to find my way through the issues.

I have been recently employed by Wildland Consultants and would like to acknowledge my appreciation to them for giving me the opportunity to continue to explore and apply solutions to the issues discussed, and to Willie Shaw for assisting me with this paper.

### References

- Austin, T. (2003). Restoration and revegetation projects in urban parks and community perceptions of personal safety – learning from Waitakere's Green Network. In: Dawson, M.I. (ed.). *Greening the City: bringing biodiversity back into the urban environment*. Proceedings of a Conference held by the Royal New Zealand Institute of Horticulture in Christchurch, 21–24 October 2003. Royal New Zealand Institute of Horticulture, Christchurch (pp. 71–77).
- Barham, J. (2006). *Cues to Care or Cues not to Complain? The aesthetics of waterway naturalisation in Christchurch, New Zealand*. Unpublished Master's dissertation, Lincoln University, Lincoln, New Zealand.
- Bennett, E. (2001, May 7). Native Plants. *The Press*, p.6. Retrieved January 26, 2006, from Newstext Plus database. Note: letter to the editor.
- Bicknell, K. and Gan, C. (1997). The Value of Waterway Enhancement in Christchurch: A Preliminary Analysis. *Department of Economics and Marketing Discussion Paper No.30*. Canterbury, New Zealand: Lincoln University.
- Blaxall, P. (2003, August 16). Native Planting. *The Press*, p.8. Retrieved January 26, 2006, from Newstext Plus database. Note: letter to the editor.
- Bourassa, S. (1991). *The Aesthetics of Landscape*. London: Belhaven Press.
- Canterbury Safety Working Party (2004). *Safer Canterbury, Creating Safer Communities*. Christchurch, New Zealand: [Canterbury Safety Working Party].
- Duncan, J. and Duncan, N. (2004). *Landscapes of Privilege: The Politics of the Aesthetic in an American Suburb*. New York: Routledge.
- Eaton, M. (1997). The Beauty That Requires Health. In: Nassauer; (ed.). *Placing Nature: Culture and Landscape Ecology* (pp. 86-105). Washington, DC: Island Press.
- Forman, R.T.T. (2002). The Missing Catalyst: Design and Planning with Ecological Roots. In: Hill, K. & Johnson, B. (eds.). *Ecology and Design: Frameworks for Learning* (pp. 85–109). Washington, DC: Island Press.
- Jones, M. (2003, August 16). Native Planting. *The Press*, p.8. Retrieved January 26, 2006, from Newstext Plus database. Note: letter to the editor.
- Liefting, A. (2003, August 15). Native Plantings. *The Press*, p.8. Retrieved January 26, 2006, from Newstext Plus database. Note: letter to the editor.
- Lyle, J.T. (1991). Can floating seeds make deep forms? *Landscape Journal* 10(1): 37–46.
- McMurtrie, S. and Walter, J. (eds.) (2003). *Waterways, Wetlands and Drainage Guide*. Christchurch, New Zealand: Christchurch City Council.
- Meurk, C. (2002, September 27). Native Plants. *The Press*, p.10. Retrieved January 26, 2006, from Newstext Plus database. Note: letter to the editor.
- Millennium Ecosystem Assessment (2005). *Ecosystems and Human Well-being: Synthesis*. Washington, DC: Island Press.
- Mozingo, L. (1997). The aesthetics of ecological design: seeing science as culture. *Landscape Journal* 16(1): 46–59.
- Nassauer, J. (1995). Messy Ecosystems, Orderly Frames. *Landscape Journal* 14(2): 161–170.
- Patterson, R. (2002, July 1). Native Plants. *The Press*, p.10. Retrieved January 26, 2006, from Newstext Plus database. Note: letter to the editor.
- Porteous, J.D. (1996). *Environmental Aesthetics*. London: Routledge.
- Seth, R. (2000, January 25). Call for 50-50 split of indigenous, exotic plant species. *The Press*, p.8. Retrieved January 26, 2006, from Newstext Plus database.
- Suren, A.; Larnard, S.; Flanagan, M. (2003). Aquatic macrophyte production: a novel way to improve the effectiveness of stream enhancement programs? Abstract of a poster presentation submitted to the Royal New Zealand Institute of Horticulture Conference (2003), *Greening the City: bringing biodiversity back into the urban environment*. Retrieved November 17, 2005 from <http://www.rnzih.org.nz/pages/AbstractAlastairSuren.htm>.
- Watts, R. (2003). A strategy for the protection and restoration of waterways and wetlands in Christchurch. In: Dawson, M.I. (ed.). *Greening the City: bringing biodiversity back into the urban environment*. Proceedings of a Conference held by the Royal New Zealand Institute of Horticulture in Christchurch, 21–24 October 2003. Royal New Zealand Institute of Horticulture, Christchurch (pp. 168–179).
- Watts, R.; Fourie, C.; Banks, E. (1999). *Waterways and Wetlands Natural Asset Management Strategy*. Note: Christchurch City Council internal document.
- Watts, R.A. and Greenaway, R.J. (1999). A values-based approach to sustainably managing Christchurch's waterways and wetlands. Retrieved November 2, 2005, from [http://www.greenaway.co.nz/Library/Sustainable\\_waterways\\_Watts\\_Greenaway.PDF](http://www.greenaway.co.nz/Library/Sustainable_waterways_Watts_Greenaway.PDF)



Joby has a Bachelor of Arts Degree in Design from the University of Otago and a Master's Degree in Landscape Architecture from Lincoln University. His post-graduate degree specialised in the design of ecological restoration and regional parks, based on research into the ecological restoration of waterways. Joby now works for Wildland Consultants in Rotorua where he is exploring further the links between the landscape and indigenous ecology of New Zealand.