



Submission to the Christchurch City Council on the proposed Long Term Plan

On behalf of the Greening the Red Zone

We wish to be heard

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We thank Christchurch City Council for giving us the opportunity to comment on its proposed Long Term Plan.

Like many Christchurch residents (including the Mayor, in her introduction to the plan's consultation document), we have a vision for the rebuilt Christchurch as a city of resilience and regeneration. We believe the Avon River Red Zone is central to achieving this goal.

We know the Council does not, at least for now, have control over the Avon River Red Zone's future. But like the Council we also see this as a "transformational opportunity" to "build back a better city for us all".

Our submission addresses how we should "use this vast area of land to reinvent our city and define our own future", in a way that celebrates all our unique assets and heritage.

We believe that creating a large, uninterrupted swathe of restored habitat – forest and wetland – incorporating appropriate, sensitive activities, is central to achieving this transformation. It will strengthen the health and wealth of Christchurch, be a source of civic pride for generations to come and act as a magnet in drawing visitors to our city.

We believe the city's Long Term Plan should, at every point where it touches the Avon River Red Zone, aim to make that transformation possible – if not immediately, at least by preparing the way.

There are many benefits of restoring the Avon River Red Zone to a large, continuous swathe of forest and wetland, running from city to sea. The specific benefits we wish to address are:

1. Flood mitigation, stormwater treatment, and climate change
2. Health
3. Air quality
4. Biodiversity, rebranding Christchurch as an eco city.

1. Flood mitigation and stormwater treatment

Two of the Council's priority projects are: "Restoring and renewing our water, wastewater, and stormwater networks"; and "Protecting people and property from natural hazards and the effects of climate change".

Returning the Avon River Red Zone to nature will contribute significantly to both these priorities – especially in protecting and buffering the people and properties of the eastern suburbs.

The forests and wetlands (including forested wetlands) will do more than just absorb flood and storm water – they will also cleanse that water before it discharges into the Avon. And the estuarine wetlands that would establish in Bexley would help to provide protection from storm surges.

We note the Council is considering constructing a tidal barrier at the mouth of Ihutai. We strongly oppose this, and endorse Avon- t karo Network's submission regarding this proposal. We urge the Council to instead use its resources to investigate and create estuarine wetlands, including in Bexley, to achieve a much more environmentally sustainable form of protection.

The consultation document acknowledges this potential of the Avon River Red Zone by stating: "the residential red zone has provided the opportunity to relocate stopbanks further away from the edge of the river. This would both provide more effective flood protection and provide a potential opportunity for wetland treatment of stormwater". It also asks, "The big questions are — how strong is our desire to improve the waterways that help to define our city and what are we prepared to do to achieve that?" Our answers to those two questions are "Very" and "A lot".

There are already proposals to create new wetlands for water management. We endorse those plans.

Of course, these benefits need to be seen in the context of an integrated whole-of-catchment approach to managing the Avon-Ōtākaro – from springs, to city, to sea. Complementary and timely treatment of the upper catchment is also needed.

As well as helping to protect residents from the flooding effects of climate change, restored forests and wetlands would provide a large area of carbon sequestration, reducing net greenhouse gas emissions and aligning with the Council's [Climate Smart Strategy](#).

Unlike exotic trees such as radiata pine, large New Zealand native trees are extremely long-lived, and could earn the city significant emission units (or carbon credits) under the Government's [Emissions Trading Scheme](#).

As well, [recent research by Deakin University](#) suggests wetlands could be up to 50 times more effective than forests in storing carbon, providing yet another opportunity to earn carbon credits and strengthen our city's ecological credentials.

But it will do more than that – it will increase the economic value of Christchurch's land. The [Christchurch – West Melton area](#) has lost 98% of its historical wetlands. Yet [wetlands provide significant economic benefits](#), and have an ecosystem service value of \$43,320 per hectare, compared with just \$1796 for dairy farming.

We believe returning the Avon River Red Zone to nature could provide income through selling carbon credits, while increasing the value the city gains from its land.

2. Health

A large body of research, in New Zealand and overseas, shows the health benefits of accessible green spaces.

[An Auckland study](#) shows that fewer people living within 3km of green space need treatment for anxiety and mood disorders (such as depression). It also shows that every 1% increase in green space is associated with 4% less treatment for anxiety and mood disorders.

While all green space is beneficial, accessible green space that people can freely use provides the most benefit.

[A study from Wisconsin](#) in the United States suggests that people in lower socio-economic groups are most likely to benefit psychologically from increased tree canopy cover. As the Avon River Red Zone runs through or beside many of Christchurch's lower socio-economic suburbs, there is real potential for a forested park to improve mental wellbeing for many less wealthy citizens.

Physical health will also benefit. It's been estimated that an eco-park in the Avon River Red Zone would save [\\$50.3 million a year](#) in health spending, based on 2013 costs. These savings are made up of:

- \$16.1 million from cycling
- \$32.7 million from walking
- \$1.5 million from jogging.

We believe Christchurch City Council and health authorities should work to quantify the health benefits of native forest park in the Avon River Red Zone, and make a case for significant government funding on that basis.

3. Air quality

Christchurch's winter air pollution is responsible for the [premature deaths of 150 people](#) every year. A large, native forest extending throughout the Avon River Red Zone would help to decrease winter air pollution, improve air quality, and save lives.

Trees intercept air pollutants – particularly PM10 particles, which are the major source of Christchurch's poor winter air quality – by absorbing them through their leaves. Therefore, evergreen trees and shrubs (as most natives are) are much more effective at removing winter air pollution than deciduous species (mostly exotics) are.

Indeed, [a study of air quality](#) shows the winter air quality in the centre of Riccarton Bush is significantly better than just outside the bush. The worst air quality in the study area is not just outside the bush, but near deciduous silver birch trees.

Research prepared for the Christchurch City Council by Landcare Research in 2008 (*Influence of urban trees on air quality in Christchurch: preliminary estimates*) estimates that 80% of trees in Christchurch are deciduous,

It also states: "Trees in Christchurch are estimated to remove 300 tonnes of pollutants, valued at \$19.6 million, annually. Of this, 150 tonnes is PM10, valued at \$19.2 million."

All the evidence shows [large forests remove proportionately more](#) than smaller, isolated pockets of tree cover. Imagine the savings to the whole city, and to the health system, from pollution removal if a large, continuous native forest covered the Avon River Red Zone.

We believe the Christchurch City Council should work with ECAN and health authorities to quantify those savings, and make a case for funding based on the savings to central government.

4. Biodiversity, rebranding Christchurch as an eco city.

Urbanisation and intensification are two of the main reasons for loss and fragmentation of New Zealand's natural habitats. Within Christchurch City, Riccarton Bush is the only significant stand of native floodplain forest remaining, and even that has seen a [30% decline in plant species](#) over the past 150 years. More than [80% of the large observed street trees](#) in Christchurch are exotics.

A major attraction for tourists is our clean, green image and natural environment – but our cities are putting our native species under threat.

Worldwide, 146 cities are located in or close to [biodiversity hotspots](#), where endemic species are undergoing exceptional loss of habitat. New Zealand is one of those hotspots. Christchurch is one of those cities.

Yet Christchurch still has much to preserve. The flightless crane fly, a species found only in Christchurch, has been found in Travis Wetland. Recently a spotless crake was recorded at the wetland. Since the earthquakes kotuku have been seen at Travis and Bexley wetlands and New Zealand falcons have been seen in the Avon River Red Zone suburbs.

Natural regeneration of native plant species was [already happening in Christchurch](#) before the earthquakes. In the plots of red-zoned land we now manage (where CERA is not grassing and mowing) we see significant numbers of self-seeded cabbage trees, ribbonwood, kowhai, ake ake, coprosmas, pittosporums and many others.

There is already a proposal to create an eco-sanctuary within part of the Avon River Red Zone. We endorse this proposal as a specialised secure wildlife source, feeding into our vision for the whole Avon River Red Zone.

But Christchurch can do even better. As with improving air quality, research suggests size matters: the larger the area of restored habitat, the greater the species richness. The Avon River Red Zone provides an opportunity we will never have again to return habitat and restore biodiversity, helping to bring some of our endangered native species back from the brink.

We believe Christchurch City Council should encourage and facilitate efforts to restore significant native forest and wetland through the Avon River Red Zone, to reconnect the city with its natural history and provide the people of Christchurch a real chance to interact with our indigenous flora and fauna.

Cost

We know money is tight. But also know there are cost-effective ways to achieve our goals, and have indicated above where we believe the city could seek to recover a share of the savings a regenerated Avon River Red Zone would make.

We also advocate paying for upkeep of a native urban forest park through a variety of revenue generation streams and cost-saving measures.

Possible revenue streams include events and functions, direct commercial activity (park owned and run), concessions (inviting local businesses in), corporate sponsorship, advertising, charitable donations, and forest management.

Cost-saving measures include volunteer community involvement in planting and management (which is already significant). And costs can be reduced by working with nature and allowing natural regeneration to supplement native planting.

As well as direct revenue, the native forest park will generate income indirectly through increased tourism. It will help to generate trade, jobs and training opportunities through concessions and associated business.

There is a well-established and growing body of evidence to suggest that green space can make positive impacts on both [local and regional economic regeneration](#), especially for job creation, business start-up and inward investment.

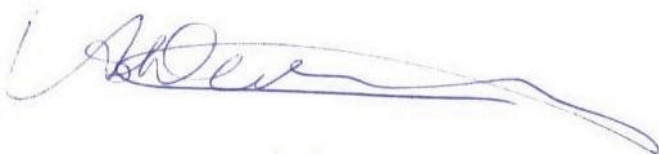
Ecosystem services are also a massive, presently unaccounted-for benefit. Eventually, however, the externalities of not bringing them into the budget will catch up on us.

We are currently working on a Master Plan and feasibility study for the Avon River Red Zone, which we expect to be ready in mid-June. We would like the opportunity to present that Master Plan to Council.

Co-operation is key

We know we will not achieve our goal alone. We also know there is significant community support and goodwill for our proposal. We see just a little of that in the efforts put in by volunteers to, where possible, regenerate the Avon River Red Zone. We see a role for Council in formally working with us and other like-minded community groups to turn our dreams into reality.

Signed

A handwritten signature in blue ink, appearing to read 'Ashley Campbell', with a long horizontal flourish extending to the right.

Ashley Campbell

Chair

Greening the Red Zone

Presented on behalf of Greening the Red Zone, April 27, 2015

Greening the Red Zone is a community organisation, made up of ecologists, students, engineers, landscape architects, former residents of the Avon River Red Zone, neighbours of the red zone and other Christchurch residents.

We have a committee of 12, a volunteer list of more than 80, and a Facebook page that reaches almost 3000 people.

We believe that returning the Avon River Red Zone to an **accessible** native forest and wetland park will provide the best outcome for Christchurch – its people, its land, its native flora and fauna.

We work within the Avon River Red Zone – with CERA, the Christchurch City Council, and other community groups – to achieve that aim, by supporting and maintaining naturally regenerating patches of native bush, and planting new native bush.