

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of application for resource consent by the Central Plains Water Trust (CPWT) and the Ashburton Community Water Trust (ACWT) and a notice of requirement for the designation of land by Central Plains Water Limited associated with the construction and operation of the Central Plains Water Scheme

STATEMENT OF EVIDENCE OF :

Dr Russel Norman, co-leader Green Party, Green Party spokesperson on Environment

and

Mojo Mathers, Aoraki Green Party provincial spokesperson on water and rural issues

ON BEHALF OF :

Green Party Aotearoa/New Zealand – Aoraki Province

AND ON BEHALF OF the following groups and individuals:

Groups

Rakaia Greens

Individuals

Susanne Bonneman, Mary Cavanagh, David Hill, Frida Inta, Mary Hamilton, Natasha Hamilton-Hart, Mary McCammon, Mojo Mathers, George Ridley, Betty Shore, Ann and Tom Taylor, Grace Taylor, Sophie Toutain, Sabine Winkler

Introduction:

1. This statement of evidence is made primarily on behalf of the Aoraki branch of the Green Party. Our members live within the Canterbury province and include many people who will be directly impacted on by the proposed CPW scheme. All of our members share a common concern about the increasing impact of human activity on the quality of our environment. Clean rivers and streams, pure uncontaminated drinking water, the unique landscape and ecological features of the Canterbury plains and its braided rivers and waterways are all highly valued by our members.
2. The Green Party's core principles recognise the need for ecological wisdom to underpin everything we do. They also stress the importance of appropriate decision making. The full statement of our core principles are found in our Green Party charter (see appendix) . For the Green Party, environmental policy is found throughout our policies, not created just as an add-on.
3. In deciding to submit on the Central Plains Water application to take water from the Rakaia and Waimakariri Rivers, use that water to intensify land use within the proposed scheme area, and dam the Waianiwi Valley for water storage, we have been guided by our core principles and relevant policies. Our water and environment policies are particularly applicable. The relevant sections of these two policies are included in the appendix to this statement.
4. As will be expanded more fully further on, we consider that the proposed CPW scheme does not satisfy basic environmental sustainability criteria and therefore we are strongly opposed to it proceeding in its current form.

Sustainability:

5. The Parliamentary Commissioner for the Environment (pce) has produced two reports that we consider are particularly relevant for assessing the environmental sustainability of the proposed CPW scheme. The first *“Creating our Future: Sustainable Development for New Zealand”* (June 2002) outlines a framework for sustainable development which explicitly recognises that in a strong sustainability model, the economy has to function as a subset of both society and the environment. The second, *“Growing for good: Intensive farming, sustainability and New Zealand's environment* (October 2004), highlights the negative environmental impacts of intensive farming and the economic brittleness of such farming systems.
6. In the 2002 pce report there is a clear explanation of the difference between **weak** sustainability and **strong** sustainability models. Weak sustainability promotes development based on recognising that we need to balance the three pillars (economic growth, social progress and ecological balance). This allows ecosystem decline provided human well-being increases. This model fails to acknowledge ecological constraints. Which means that it only slows down ecological and social degradation but does not prevent or reverse it. Much of the CPW proposal is based on trading off environmental degradation for assumed economic benefits.
7. In contrast , the pce report defines **strong** sustainability occurring when the economy is recognised as a subset of society and that both are subsets of the environment. This means that if **environmental sustainability** is not ensured, then development cannot be either socially or economically sustainable. In this model it is clear that decisions resource use must avoid making tradeoffs between environmental and economic goals where short-term economic benefits later give rise to long term / irreversible environmental impacts and associated costs to society.
8. The 2002 pce report lists 4 criteria for environmental sustainability , these are
 - **Regeneration** – do not exceed long-term rates of regeneration of renewable resources (e.g water abstraction from aquifers must not exceed recharge rates)
 - **Substitutability** – use non-renewable resources efficiently and use renewable resources where possible.
 - **Assimilation** – do not let the release of pollutants exceed the environments ability to absorb them (preventing excess nutrients entering waterways)
 - **Avoiding irreversibility** (e.g. ensuring farming does not contribute to the extinction of species)
9. From these criteria it is clear that a key indicator of strong sustainability is to apply the 'reversibility' test. If a negative impact is reversible, then the development may meet environmental sustainability criteria. If it is not , then such development cannot claim to be environmentally sustainable. The destruction of the Waianiwaniwa Valley and associated loss of local and regional biodiversity are clearly not reversible and this aspect of the CPW scheme is strongly opposed by the Green Party. Likewise degradation of water quality, especially in the aquifers, is also very difficult to fix and remedy, and means that the release of pollutants has exceeded the environment's ability to absorb them.
10. By not meeting these environmental criteria for environmental sustainability we consider the CPW scheme to be contrary to the purpose of the Resource Management Act (RMA) which is to *“promote the sustainable management of natural and physical resources”* (s5 (1)).
11. We believe that the scheme is also contrary to the following sections of the RMA
 - s5 2 (b) Safeguarding the life supporting capacity of air, water, soil, and ecosystems;*
 - s6 (a)) The preservation of the natural character of, wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development*

s7shall have particular regard to—

(a) *Kaitiakitanga*:

(aa) *The ethic of stewardship*:

(b) *The efficient use and development of natural and physical resources*:

(ba) *The efficiency of the end use of energy*:

(d) *Intrinsic values of ecosystems*:

(f) *Maintenance and enhancement of the quality of the environment*

12. We also consider that CPW have failed to take all due steps to properly consider alternatives and avoid and remedy negative impacts, as required to by Section 171 (b) of the RMA. In particular we are concerned that alternative means of storing water and drought proofing farms such as water conservation, drought proof species, on farm storage and piped water have not been integrated into the proposal. It is clear that ,despite claims by CPW to the contrary, on farm storage is an economically viable means of storing water, as there are many examples of farmers, (including dairy farmers) building them elsewhere in Canterbury, and these are viable even on flat terrain such as around Ashburton . Costs per cubic meter for these on farm storage schemes are far lower than the figures claimed by CPW which were based on invalid assumptions. An example of a successful water harvesting / on farm storage scheme is described in detail in the Northern Outlook (Saturday June 14th 2003).

13. The primary focus of CPW appears to have been on obtaining, using and storing as much water as possible in order to intensify and increase production without properly considering alternative approaches. The Green Party does appreciate and understand the importance of access to water for farm viability however we are also aware that significant increases in farm productivity and profitability can be obtained with much lower levels of water use. Lower levels of water use combined with on farm water storage would avoid the majority of negative impacts of the CPW scheme.

14. However instead of taking proper steps to avoid negative impacts, CPW relies excessively on 'adaptive management ' measures to mitigate negative impacts. While the RMA requires negative impacts to be avoided, remedied or mitigated, it is also clear that mitigation should be seen as a last resource as mitigation measures have the least satisfactory outcome. Mitigation is also often the hardest approach to monitor and enforce to acceptable standards. One example of how mitigation is unsatisfactory is the proposal to supply water to households or townships that currently rely on groundwater wells for drinking water, should nitrate levels exceed drinking water standards. Clearly avoiding polluting the drinking water sources in the first place is the only acceptable approach.

15. Furthermore we recognise that a significant number of people either already have been, or will be, negatively impacted by by the CPW scheme. We consider that the failure to properly and fairly consider alternatives, especially around the issue of water storage, means that CPW has failed to demonstrate basic respect and consideration for these people most affected. For this reason alone, and in accordance with our principle of appropriate decision making, the Green Party considers it would be a travesty of justice for the scheme to proceed in its current form.

World Commission on Dams:

16. The Green Party would also like the findings of the World Commission on Dams (WCD) to be taken into account when assessing the appropriateness of the CPW scheme. The final report of the World Commission on *Dams, Dams and Development: A new Framework for Decision-Making*, was released in November 2000. It can be read at www.dams.org

17. The WCD was set up with support from the World Bank and the World Conservation Union. Their mandate was to:

- Review the development effectiveness of large dams (see the start of our water policy in the appendix for the definition of a 'large' dam)

- Assess alternatives for water resources and energy development
- Develop internationally acceptable criteria, guidelines and standards, where appropriate, for the planning, design, construction, operation, monitoring and decommissioning of dams

18. The WCD found that while there was usually little public controversy about the structure of the dam, there were more serious problems relating to

- Right of access to water and river resources
- Whether the dam will uproot existing settlements
- Whether the dam will disrupt the culture and sources of livelihood of local communities
- Whether the dam will deplete or degrade environmental resources
- Whether the dam is the best economic investment of public funds and resources

We would like to draw attention to the fact that most of the concerns around the CPW scheme falls into one or other of these categories.

19. Proponents of dams point to the social and economic development demands that dams are supposed to meet (as CPW have done). However the WCD found many adverse impacts of dams such as:

- Debt burden
- Cost overruns
- Displacement and impoverishment of people
- Destruction of important ecosystems and fishery resources
- The inequitable sharing of costs and benefits

20. The Green Party believes that CPW scheme represents a very inequitable distribution of costs and benefits. The costs will largely be borne by the local community around the proposed dam who will bear the risks and burden of living with this scheme should it go ahead and who will have to live in the shadow of a dam they neither want nor need. Costs will also be borne by the communities downstream of the scheme area who risk pollution of their drinking water supplies. The benefits will go elsewhere; to the consultants proposing the scheme, to the dam building companies , to the suppliers of irrigation equipment, to a small number of landowners within the scheme area who will benefit from increased land prices, and so on.

21. Another highly significant finding of the WCD was that large dam projects usually incur substantial capital cost overruns – the WCD found that the average cost overrun was half as much again as the projected cost. In this context it is worth mentioning that in 2000 the total cost of CPW scheme was supposed to be around \$100 million . Understandably farmers were very excited about the getting water provided on farm for such a low cost. Since then costs have increased dramatically and the economics of the scheme are increasingly marginal (or 'brittle'). Recent rises in oil prices mean that the final cost of the scheme, should it ever be built, may well reach over \$1 billion.

22. The Commission also found that the actual numbers of long term jobs created by large scale dams for irrigation usually fall well short of the claims made by their proponents. We want to be sure that the presumed economic benefits of the scheme are not inflated to justify what amounts to forced requisitioning of land. We are also concerned that the quantity of water required to develop farming on the plains is not inflated in order to justify building this dam.

23. One of the striking features of the CPW scheme is that it appears to provide to the farming sector more water than many need, at a cost many cannot afford, unless they convert to dairying. Should the dairy payout drop in real terms then it is likely that even dairying would struggle to afford the water provided by this scheme. In other words this scheme is not cost effective

24. The WCD found that in general cheaper and more benign options for meeting water (and energy) needs exist and are often ignored. These include:

- Small-scale decentralised water supply options
- Large scale end-use efficiency

- Demand-side management options

25. We agree with the following quote from the WCD report which says that :

“Many of the controversies over dam projects have focused attention on whether a dam was the most appropriate response to a development need or objective.”(P221)

We believe that by focussing on land transformation from a low water land use to a high water land use, (rather than on low water uses and drought prevention), the CPW scheme is addressing the wrong development objective.

26. It is also worth noting that the WCD says that

“Avoidance and minimisation of social and environmental impacts must become the fundamental criteria guiding options assessment” (p223)

and

“Dam proponents have often over-confidently assumed that mitigation measures will work, rather than making them work” (p238)

Environmentally sustainable farming:

27. The 2004 pce report: *“Growing for good: intensive farming, sustainability and NZs environment ”* provides a good summary of the impacts of intensive farming. It points out that farming is becoming more intensive, with increasing use of inputs (energy, fertiliser, water) in order to produce more per ha, resulting in disturbing trends. The report identifies a number of key trends in NZ including:

- Nitrogen fertiliser use increased **160%** between 1996 and 2002
- Surface water quality is **declining** – particularly lowland streams and lakes.
- Groundwater quality, especially in Canterbury, is **declining** - with nitrate concentrations increasing in shallow aquifers underneath dairying or horticultural land.

28. The 2004 pce report concludes that our “natural capital” (natural resources and ‘ecosystem services”) will become seriously degraded if these trends continue. It identifies a number of key drivers for why farmers are intensifying production in this way. These include :

- NZ farmers compete with subsidised producers overseas , which means that they face pressure to intensify production to remain competitive . This pressure is strongest in commodities where NZ’s produce cannot be differentiated from other countries (a tonne of milk powder from NZ is not differentiated from a tonne of milk powder produced elsewhere)
- When commodities are not differentiated then buyers purchase at the lowest possible price regardless of how they are produced. This process places pressure on farmers to produce generic crops at the lowest possible price.
- There are a number of different ways to remain competitive– become more efficient, expand the size of the farm, increase production, find new uses for the product.
- Increasing land prices, enable farmers to borrow in order to fund intensification, but the resulting high levels of debt of first time farmers increases pressure to achieve high levels of productivity.
- The combined effect of all of these is to drive commodity farmers to increase their production irrespective of high or low profits (when profits are high farmers invest in more production capacity to maintain future competitiveness)

29. All of these drivers also encourage farmers to intensify production in ways that lead to long term problems: resource depletion, pollution and community decline. (farmers talk about “running in order to stand still”). When farmers intensify production in ways that damage natural capital (water pollution, soil degradation) then they are externalising cost beyond the farm and onto society. The pce report concludes that damage will continue unless certain farming activities are properly

managed / restricted or farmers are required to pay the full social and environmental costs.

30. The main driver governing decision-making in the development of the CPW scheme was clearly aimed at solving the problem of “ how can we store water for the lowest cost per cubic meter” . All other ‘costs’ (environmental, social, cultural) have largely been externalised and have not been fully factored into the overall cost of the scheme to the farmer. In the long run this will exacerbate the negative trends described in the pce report.
31. In summary it is clear from the pce reports that sustainable farming involves farming practices that respect the natural limits of the environment, and do not run down the natural 'capital' of the soil and water. Among other things that means that
- waste from farming (including bacteria, nitrates, methane, farming chemicals etc) must not exceed the environmental capacity (ie 'carrying capacity')of soils , water and air to absorb that waste without detrimental negative impacts.
 - minimising use of inputs such as water, energy and fertiliser
 - ensuring that all inputs (resources) are used effectively and efficiently
32. At the moment we have the situation where water quality is declining in rivers lowland streams and aquifers and nitrate contamination of aquifers continuing to rise across Canterbury
It is evident from the AEE that the CPW scheme will lead to resource and energy intensive agriculture – predominantly intensive irrigated dairying - and this will place more pressures on our environment.
33. Intensive irrigated dairying is widely considered to inappropriate land use for Canterbury and the negative impacts of existing levels of intensive dairying on water quality have been widely reported on. The Green party understands that intensive dairying is a particularly problematic land use in Canterbury because
- many of the soils across the scheme area are of a shallow gravel nature and have very little ability to hold nutrients before they leach into the groundwater and
 - urine patches from cows have high nitrogen concentration (twice that of sheep) and create 'hot' patches in the soil where nitrates can easily leach into the ground water
 - it involves particularly high levels of energy and water use.
 - fertiliser use in Canterbury in such farming systems is also very high– in 2004 Canterbury became the heaviest user of fertiliser in New Zealand .
 - in order to achieve high levels of production (which is necessary to justify the economic investment into conversion from dryland sheep farming to intensive irrigated dairying) these farms involve high stocking rates and this in turn places stresses on the sustainability of the farming systems.
34. We acknowledge that dairying is a permitted land use under the district plans. However allowing the use of water to intensify land use (especially dairying) will only exacerbate any associated negative environmental impacts. For these reasons we do not support any further increase of intensive irrigated dairying within Canterbury until existing problems with water quality are rectified, research into best land use management practices to protect our aquifers is completed and an equitable and fair means of water allocation for the whole region is developed. From the criteria listed above,it is clear that the CPW fails to meet key standards for sustainable farming.
35. Another essential requisite for sustainability is adequate monitoring and enforcement of consent conditions. CPW propose a system of best practice environmental standards that farmers will need to comply with. However the enforceability of these standards is very doubtful because clause 14.2 of the Memorandum of Agreement between the Trust and the Company contains a number of caveats to applying best practice environmental standards (such as “reasonable and appropriate” and “financially viable”) which means that delivery of these environmental benefits is by no means guaranteed . We consider that such a system will not be workable and will not ensure sound environmental outcomes. There is also difficulty in monitoring and enforcing best management practices in farming. It is well understood that to reduce fertiliser runoff and leaching, frequent applications of very small levels of fertiliser to match fertiliser levels to the ability of plants

to uptake the nutrients are preferable to fewer, larger applications. However frequent applications are also costly and more complex to administer so farmers are often forced into cutting corners and apply higher levels of fertiliser less frequently with consequent adverse impact on groundwater and surface water quality.

Economic risks

36. The CPW scheme will reduce economic diversity, and this will increase economic vulnerability to a range of factors. Changes to landscape and damage to rivers will have a negative impact on tourism values (including fishing) – which will reduce non- farm sources of income - a particularly important aspect of economic diversity.
37. Key aspects of economic sustainability are economic resilience and a level of self-reliance. Under the CPW scheme farms will become more energy intensive and dependant on non-renewable resources, this makes the economic viability of the scheme questionable in an increasingly resource and energy constrained world. The scheme will also make Canterbury in the longer term more reliant on, and vulnerable to, external forces such as changes in world markets. Fertilizers, for instance, are energy and/or resource intensive. This is currently reflected in the market price for fertilizers. For example Ballance recently increased the price of super 10 superphosphate to \$480 per tonne whereas the price was around \$210 per tonne about a year ago. This increased resource and energy dependence, apparently based on the scheme's erroneous assumptions of long term availability of cheap energy and resources, will make it harder for farms to cope when peak oil starts to really take effect in the near future. In the last few months we have seen the effect of steeply rising oil prices on the economy. Further increases are likely to mean that the whole economic viability of the scheme will be even more questionable than it is currently. The economics of the scheme need to be strong enough to be able to absorb the impact of rising oil and resource prices.
38. We are also concerned that the design of the scheme will become an economic trap for farmers that switch their farming systems to take up the water and that this will directly lead to unsustainable farming practices. This is because the primary purpose of the scheme is to intensify land use and increase production levels. As the scheme is very expensive and economically marginal, this means it will result in high mortgages being required by farmers to service the scheme and convert to dairying. This in turn places more pressures on farmers to push production levels to the limit of the sustainable carrying capacity of the land ('production trap'). Any change in external economic factors (such as increased oil prices or a drop in the dairy payout) mean that farmers will then be under pressure to resort to inappropriate and unsustainable land use practices as they attempt to recover costs.
39. We believe that for any economic assessment of the scheme it is helpful if the 'breakeven' point for dairy farms be identified. This is the level of dairy payout that is required for farms to break even. In 2003 (if capital repayments were excluded) then dairy farmers required (on average) a dairy payout of around \$3.31 (per kg of milksolids) in order to break even. (See *Canterbury Farming, September 2003*). Clearly if capital repayments for land, equipment and scheme servicing are included then the breakeven point will be much higher than this. Identifying the breakeven point for the scheme and plotting this on a 20 year trend in dairy payouts provides another tool for assessing the economic viability of the scheme.

Climate Change

40. We are also very concerned about the impact of the increased levels of greenhouse gas emissions that will arise from a doubling of intensive dairying within the scheme area. The intensification of farming will increase Canterbury's contribution to greenhouse gasses and climate change at a time when New Zealand is trying to meet its Kyoto commitments.
41. Another concern is that the design of the CPW scheme has been based on past weather patterns which are unlikely to hold going forwards into the future. Climate change, which is now

scientifically accepted as already happening, and is happening faster than previously predicted, will result in long term changes to weather patterns . Modelling by Niwa shows that water is likely to become even more scarce in Canterbury than it is currently as it shifts to a drier climate. This means that even with the level of storage proposed by CPW there will simply not be enough water for the kind of water intensive land uses that this scheme aims to service. A dam will not be much use for drought prevention if it sits empty year after year because there is not enough water in the rivers to fill it up. Although more flash floods and intense rainfall events are also predicted as a result of climate change, the design of the CPW scheme means that it will not be possible to take advantage of peak flows in the rivers during these times.

42. The scheme will result in a high water use land use in what is fundamentally a dry region. This will effectively mean that farmers be increasing their economic dependency on the constant availability of water. We believe that a more appropriate and sustainable use of scarce water resources within Canterbury is to support land uses that have a lower water requirement. This will also reduce vulnerability to the impact of climate change.

Environmental and ecological impacts

43. There are many significant ecological impacts that will not be able to be avoided, remedied or mitigated. Particularly concerning will be the loss of biodiversity values, including loss of biodiversity in the Waianiwaniwa valley, on the plains, in and on the braided rivers and downstream of the scheme area itself.

44. Of significant concern is the fact that damming and flooding the Waianiwaniwa valley will result in the destruction of a significant area of habitat for the endangered Canterbury mudfish . This cannot be mitigated as relocation of the mudfish is unlikely to be successful. Also of concern is the steady erosion of biodiversity that occurs with intensive irrigated farming practices .

45. Canterbury is already experiencing problems with current levels of intensification with pollution of aquifers and lowland streams. The soils in the scheme area are shallow and are not capable of absorbing the additional nutrient loads. Te Waihora/ Lake Ellesmere already suffers from high nutrient loading. We need to clean up existing pollution problems not increase them.

46. The scheme was proposed as water harvesting scheme yet it is being built to function most of the time as a run of river scheme. As a result the river flows will be 'flatlined' and it is likely that will be serious impacts on the ecological and recreational values of the rivers. Rakaia and Waimakariri are highly valued both locally and nationally and there is a real risk of the scheme irreversibly damaging these world class braided rivers and their associated ecology.

47. We understand that the reduced flow in Waimakariri is likely to reduce recharge of Christchurch's aquifers from the north of the city and increase risk of pollution of these aquifers. We also understand that increased aggregation in Waimakariri, especially near intake structures, will lead to reduced conveyance capacity and an increased risk of flooding downstream and we are concerned that this has potential for serious flood risk in downstream populated areas.

48. The risk of Didymo spreading from one river to another and then throughout the waterways downstream of the CPW scheme is greatly increased by the proposed level headrace canal linking the Rakaia and the Waimakariri rivers. We are strongly opposed to this feature of the scheme and strongly urge that CPW be required to redesign the scheme so that these two rivers are not linked.

Water quality

49. Water quality has long been recognised as a key indicator of the state of our environment. The Green Party is deeply concerned about the almost certain negative impact of increased land intensification on groundwater quality and lowland streams . How will a huge land intensification scheme, such as proposed, contribute to rectifying or maintaining water standards in lowland rivers

streams and Te Waihora? The reality is that Canterbury is already experiencing problems with current levels of intensification with pollution of aquifers and lowland streams a real and growing problem in many areas. The majority of lowland streams are classed as poor quality and nitrate levels in many ground waters are edging up. Toxic algae blooms have already occurred in Canterbury rivers and last summer a toxic algae bloom in the Ashley river resulted in the tragic death of at least two dogs .

50. Land intensification results in increased pollution of both surface waters and aquifers by fertiliser, chemical and effluent runoff .This problem is more serious in Canterbury because of shallow free draining soils mean that soils are not able to hold nutrients, so they rapidly leach into groundwater – then resurface downstream in the springfed lowland streams. Faecal and urine contamination has direct effects on water quality via bacterial loading , ammonia, nitrate and by increased pathogen levels all of which have serious health implications for users of our waterbodies and for people who rely on ground water wells for drinking water.

51. It is not only nitrate levels that are of concern; intensification of the dairy industry involves the use of many anthropogenic chemicals such as pesticides, hormones, drenches and so on. Compounds with endocrine disrupting (oestrogenic) effects are known to affect the reproduction of fish and to have a negative impact on human development. Lactating cows excrete such compounds and the impact on fish of run-off from paddocks with large numbers of lactating cows adjacent to watercourses is not known.

52. It is well known that Te Waihora/ Lake Ellesmere already suffers from high nutrient loading. There is a real risk that the CPW scheme may cause this water body to reach an ecological tipping point, with toxic algae blooms and general ecosystem collapse . This would result in the ecological death of an regionally, nationally and internationally significant lake.

53. The Green Party strongly believes that we need to clean up existing pollution problems not increase them. We believe that there should be no further intensification of farming within the scheme area until existing problems with water quality downstream are fixed and rectified.

Animal Welfare issues

54. Animal welfare is of concern. Weather extremes in the Canterbury region mean an increased need for shelter for farmed animals. The removal of shelter-belts for the centre pivot irrigators has already resulted in a significant decrease in tree coverage of the Plains, hence less protection than ever for animals against extreme weather. We consider this to be inconsistent with the Animal Welfare Act which requires all animals to have access to adequate shade and shelter.

Social impacts

55. As touched upon previously, we are deeply concerned by the patently inadequate consultation of those directly affected by the scheme. We aware of the negative effect that the proposal has already had on the local communities and on social cohesion. The Green party does not support the forced eviction of landowners and farmers from the Waianiwaniwa Valley for a scheme that is only going to directly benefit a small number of landowners on the plains.

56. We firmly believe that locating such a major construction project so close to the small rural village of Coalgate to be totally unacceptable. Not only will the community have to put up with considerable noise, dust and other effects for several years during construction, but they will also have to live with the uncomfortable and threatening presence of a large dam, just directly uphill from their homes. The risk of dam breach or a breach of associated structures such as elevated canals and water course crossings, is understandably of real concern to locals and related liability and compensation issues do not appear to be clear. It is also important to recognise the difference between 'taking risk' and 'imposing risk' on others. Voluntary risk takers and involuntary risk bearers are two very different propositions. Which is why the risk of dam breach cannot be compared to the

risk associated with activities of a voluntary nature.

57. We are also concerned by changes in land ownership patterns from family owned farms to corporate /manager holdings – which weakens the strength of rural social links in local communities.

Recreational effects:

58. Lower median flows in the Rakaia and Waimakariri will impact on sports and activities such as fishing, boating, kayaking and jet- boating. Furthermore NIWA have found that the minimum flows in the Rakaia allowed under the National Water Conservation Order do not adequately protect salmon fishing.

59. CPW have suggested that the reservoir will be a suitable recreational option. However, the variations in water level coupled with the dust problems are unlikely to make this an attractive or viable option. The Green Party strongly believes that an artificial water body cannot compensate for the loss or degradation of a natural state water body.

Conclusion

We strongly oppose the following elements of the scheme

- The high level of water abstraction from the Rakaia and the Waiamakariri rivers
- The level head race canal linking these two braided rivers
- The flooding of the Waianiwaniwa Valley for water storage
- Any increase in the extent of intensive dairying on shingle soils within the scheme area.

Should some form of the scheme proceed then we strongly urge the following conditions to ensure efficient use of water

- Mandatory water conservation measures
- **Piped supply of water**, not open canals (as there are large water losses arising from seepage and evaporation)

Appendix

A. The Green Party Charter

The charter is the founding document of The Green Party of Aotearoa New Zealand.

The Green Party of Aotearoa New Zealand accepts Te Tiriti o Waitangi as the founding document of Aotearoa New Zealand; recognises Maori as Tangata Whenua in Aotearoa New Zealand; and commits to the following four Principles:

Ecological Wisdom:

The basis of ecological wisdom is that human beings are part of the natural world. This world is finite, therefore unlimited material growth is impossible. Ecological sustainability is paramount.

Social Responsibility:

Unlimited material growth is impossible. Therefore the key to social responsibility is the just distribution of social and natural resources, both locally and globally.

Appropriate Decision-making:

For the implementation of ecological wisdom and social responsibility, decisions will be made directly at the appropriate level by those affected.

Non-Violence:

Non-violent conflict resolution is the process by which ecological wisdom, social responsibility and appropriate decision making will be implemented. This principle applies at all levels

B. Green Party Water Policy

Introduction

Our environmental, social, and economic health relies on the prudent and sustainable use of water. Some New Zealanders remember a time when rivers were clean and teeming with a diversity of life. They provided sustenance to a variety of species. New Zealanders also swam in them and drank from them without fear of sickness. The Green Party believes that New Zealand's rivers need to be clean, sustainably managed, and fairly shared with other species. Water extraction and pollution have degraded many of our rivers. As many as 95% of our lowland rivers have been deemed unsafe for swimming or drinking. A large number of our nationally important rivers are threatened by large-scale hydro or irrigation proposals. Volcanic lakes around Rotorua and Taupo are experiencing annual toxic algae blooms as a result of excessive nutrient inflows from the surrounding land. Sewage and industrial wastewater continue to pollute many rivers. Waterways and public drinking water supplies are inadequately protected from the impacts of intensive land use. Rates of infection from waterborne diseases are far too high and pose a significant public health risk.

Definitions

"**Commercial use**" refers to all extractive water usage for capital gain or profit.

"**Large scale storage schemes**" refers to water storage schemes that:

- a. Involve the construction of large dams; and/or
- b. Affect multiple properties involving a public designation process and /or the Public Works Act.

A "**large dam**" includes any dam that is 15m or more high (from the foundation) and any dam between 5-15m high that has a reservoir volume exceeding 3 million cubic meters (As defined by the International Commission on Large Dams).

Vision

The Green Party envisions an approach to our water supply in which:

- All natural water systems are fairly shared with other species and ecological processes.
- All water that is used is conserved and is not degraded by human use.
- New Zealand is renowned for its wise and sustainable management of water.

- Water that is collected, stored and distributed for use is safe and clean.
- The spiritual and recreational values of water are provided for in decisions about how we use water for other purposes.

Key Principles

1. Water is a taonga, and tangata whenua recognise each water body as having its own mauri, its own mana, values, and appropriate uses.
2. Water is a public good and everyone has the right of access to a safe and secure supply of high quality, affordable water for drinking and sanitation.
3. The public supply of domestic water must be retained or returned to public ownership. Domestic water must not be treated as a commodity to be sold for profit.
4. All water users, both domestic and commercial, must be supported and encouraged to conserve water and 'do more with less'.
5. All extraction of water will not exceed the natural rate of replenishment, and will be managed in a sustainable, ecologically responsible manner.
6. All water must be returned to the environment in a state that supports natural ecological processes, and when it is returned, it must be of a quality as good as or better than that in which it was when it was taken.
7. Water management must be on an integrated catchment basis extending from the mountains to the sea.
8. Water use in agriculture, horticulture and associated processing industries should be sustainable.

Specific Policy Points

1. Water is a public good

The Greens will ensure that:

1. Key decisions about urban water supply, assets and operations remain under the control of elected bodies. This does not prevent councils contracting out various aspects of the service when they believe this offers better value to its residents but it does mean that the elected bodies will make decisions about prices, supply contracts, investments etc.

2. Conserving water

The provision of safe, affordable water for drinking and sanitation is a basic human right. Non-essential use of water, such as filling pools and watering lawns, places stress on the public supply of water and increases the costs of providing water. In some parts of the country, high domestic and industrial use is rapidly reaching unsustainable levels and harming the environment. To encourage New Zealanders to use the minimum amount of water consistent with ensuring good health, the Green Party will:

1. Support councils to use water meters for each residence and commercial property, so that water use is monitored and recorded for educational purposes and promotion of water conservation and demand side management. This will be facilitated through the Ministry for the Environment's Sustainable Communities programme.
2. Allow councils to adopt a progressive charging system for water when deemed necessary. In such a system the first unit, which provides for commencement and continuation of water supply and reasonable personal consumption, will be funded from rating revenue and free of direct user charges, while additional units may incur progressively higher direct charges.
3. Investigate the use of the Social Security System to provide support for water charges for those in large households on low incomes.
4. Introduce a compulsory water conservation rating (similar to that used in Australia) on appliances that use water.
5. Provide finance for local authorities to encourage home owners to install technical water saving measures in existing homes.
6. Amend the building code to require installation of technical water saving measures in new houses.
7. Set a National Policy Statement under the Resource Management Act that covers extraction of water.
8. Require regional councils and unitary authorities to have integrated water catchment plans for all of their significant rivers, covering 'in stream' values, ground water, water quality, water habitats, extraction of water, and discharges to water.
9. Allow regional councils to set charges for agricultural and industrial water use (except drinking water for

stock), and use the revenue to fund their sustainable management function.

10. Work with councils to develop community education programmes to encourage water conservation by all water users.

3. Water quality

Water quality is affected by pollution and contamination from intensive farming operations and commercial operations, as well as wastewater treatment and excessive extraction. Throughout the country there are problems with the monitoring and enforcement of resource consents relating to wastewater and effluent disposal. The Green Party will:

1. Ensure regional councils carry out requirements under the RMA to monitor the impacts of, and enforce resource consent conditions for, new developments and other activities with potential effects on water quality and aquatic ecosystems.
2. Develop a National Policy Statement on water under the RMA and set a National Environmental Standard with targets and time frames for water quality.
3. Encourage councils to require land use resource consents for conversion to dairying or intensification of land use, and to set limits on nitrogen and phosphate run-off.
4. Establish a contestable dedicated fund to support sustainable land management practices on farms such as nutrient budgeting, planting of riparian margins, planting of headwaters in flood prone catchments, conversion to woodlots for sustainable management, as well as existing programmes such as Project Green. This will be funded by a levy on nitrogen and phosphate fertilisers and dollar for dollar matched funding by government.
5. Amend Section 107 of the RMA so that 'emergency' discharges into waterways only last until a clean and safe alternative is put into place so that the loophole that allows such waterway discharges to last 40 years is addressed.
6. Encourage the disposal of waste water to land where slope, soil type, and other conditions are appropriate, in preference to disposal to water.
7. Encourage local authorities to engage in collaborative investigation with local groups on developing a sustainable strategy to deal with biosolids.
8. Require local authorities to implement a programme to keep storm water and wastewater separate.
9. Encourage councils to develop initiatives for safe disposal of liquid waste that might otherwise pollute waterways via storm water drains (e.g. provide liquid waste disposal points for such items as oil or paint).
10. Reduce the impact of roading and transport on water quality by:
 - a. Establishing silt traps and appropriate filtration for water run off along state highways and major roadways.
 - b. Roadside planting in urban areas to absorb contaminants while taking into consideration road user and general safety.
11. Require all land subdivision and road building works to include surface water management and the control of sediment run-off and erosion into local water waterways
12. Support initiatives to manage exotic waterfowl populations to decrease water pollution.
13. Establish guidelines for industry on-site treatment of wastewater and heightened standards for trade waste that is deposited in ordinary sewers.

4. Commercial use of water

At the moment the rapid increase in the commercial use of water is placing immense pressure on ground and surface water ecosystems. Technological solutions to water shortages (e.g. storage dams) also have serious ecological and social implications. With scarcity of water a looming issue, there is increasing demand for more efficient ways of allocating water for commercial use, and this has put pressure for measures such as water trading mechanisms to be adopted which will result in further commodification of water. Because of the importance of water to public and environmental well being, the Green Party believes it is critical that the management and regulation of water (whether used by public or private bodies and when in natural or artificial water bodies) must remain under public control. This can be via central government and/or via regional/unitary or local councils, or via another public body set up by these bodies. This means that even when a council delegates authority for the management of a private or community water users group scheme they must still maintain control through the resource consent process.

The Green Party will:

1. Ensure that water, itself, remains under public control and is managed through appropriate local, regional and national government mechanisms, even though the infrastructure for the provision of

- water may be privately or community owned.
2. Introduce mandatory metering on all water takes for commercial use.
 3. Support regional councils/unitary authorities placing a 'resource use levy' on commercial users for all water used on a volume basis. Such a levy should reflect all direct and indirect costs of water management and monitoring and be structured in a way that encourages efficient use of water.
 4. Support the establishment of 'catchment water user groups', allowing for the management of allocated water, including groundwater and surface water allocations, within defined catchments, including limited transfer arrangements between users.
 5. Ensure regional councils and unitary authorities implement integrated catchment management plans which provide for environmental flows sustaining the ecological, hydrological and geomorphological functioning of the ecosystem, preservation of the mauri of the water body, provision for domestic and stock water use and fire fighting purposes prior to allowing an allocation for other extractive uses.
 6. Ensure review clauses in integrated catchment management plans and resource consent applications provide for the opportunity to review water allocation if natural flow regimes change over time.
 7. Support joint management initiatives for integrated catchment management on water bodies of importance to iwi.
 8. Support initiatives for small scale out-of-river and on-farm water storage, after ensuring robust provision for environmental flows. This includes the creation of healthy wetland ecosystems as a water storage option.
 9. Encourage the use of drought tolerant species or low water use options to reduce water use by farms in low rainfall areas.
 10. Ensure large-scale storage schemes are in public or community ownership and management, and that such large-scale storage schemes are not developed just to permit high water uses in water short regions.

C. Green Party Environment Policy (relevant extracts)

Vision

The Green Party envisions a future in which:

- Our human economy will be sustainable because it is in harmony with ecological processes.
- Resources will be used no faster than the rate at which they can be replenished and wastes will not exceed the ability of the environment to absorb them safely.
- People will understand the implications for the environment of their way of living and will be involved in decision making about sustainable development.
- Aotearoa/New Zealand will be an international advocate for ways of life that respect the natural environment and other living creatures.

Key Principles

1. All human activity takes place within the limits of a finite planet.
2. All renewable resources must be used only at the rate they can be replenished.
3. Non-renewable resources must be used efficiently, recycled to the maximum degree possible and plans made for their eventual replacement.
4. We should not create waste unless it can be converted back into harmless substances.
5. People must be helped to understand how they depend on, and how they influence, natural processes so they can live sustainably and participate in sustainable development.

Specific Policy Points

1. Sustainable Development

Sustainable Development means improving overall wellbeing and quality of life in ways that can be sustained indefinitely because they do not push nature beyond its limits. The Green Party will:

1. Develop and implement a National Strategy on Sustainable Development that will link all policies, building on Agenda 21 and compatible with international reporting frameworks.
2. Ensure that sustainable development will take priority over growth in GDP as a national goal.

Education for Sustainability

Education is critical to achieving a shift of attitudes towards respect and care rather than exploitation. Understanding of the value of ecosystem services is essential if they are to be protected. The Green Party will:

1. Ensure that education for sustainability forms part of the cross-curricula themes and key competencies promoted by the Ministry of Education.
2. Build on the resources negotiated by the Green Party in the 2002/3 Budget to enhance capacity in colleges of education and schools so that environmental education can be delivered in all schools in accordance with the National Environmental Education Strategy and Guidelines.
3. Resource the development of cross-curricula achievement standards, and provide for Maori perspectives in sustainability education.
4. Provide support for enviro-schools to extend their work with the community.
5. Emphasise the understanding of ecosystem function and human impact on this function through direct experience as well as classroom learning.
6. Increase funding for local environment centres to support community environmental education.

Water Quality and Use

Water quality in lakes and lowland rivers has seriously deteriorated in recent years. While point sources have been largely addressed, nutrient run-off from farmland and pollution from urban stormwater have increased and in many places sewage is still not adequately treated. Water must be returned to the environment in a state as good or better than when it was extracted. The Green Party supports:

1. Requiring regional councils and unitary authorities to have integrated water catchment plans for all of their significant rivers, including "in stream" values, ground water, water quality, water habitats, extraction of water, and discharges to water.
2. Developing a National Policy Statement on water under the RMA and Setting a National Environmental Standard with targets and time frames for water quality. Key objectives would be to control the intensification of land use, including dairying, on sensitive soils and prevent further loss of wetland habitat.
3. Encouraging councils to require land use resource consents for conversion to dairying or intensification of land use, and to set limits on nitrogen and phosphate run off.
4. Establishing a contestable dedicated fund to support sustainable land management practices on farms, such as nutrient budgeting, planting of riparian margins, planting of headwaters in flood prone catchments, conversion to woodlots for sustainable management, energy and water saving equipment and the restoration or protection of biodiversity. This will be funded by a levy on nitrogen and phosphate fertilisers and dollar for dollar matched funding by Government.
5. Providing for regional councils to set charges for agricultural and industrial water use (except drinking water for stock), and use the revenue to fund their sustainable management function.
6. Legislation to keep water under the domain of public authorities to prevent the privatisation of water.
7. Universal access to high quality drinking water for all.
8. Ensuring that the public supply of household water is provided as a public, non-profit service.
9. Developing strategies to assist and encourage urban users of water to decrease their demand for water through rainwater collection, grey water recycling and other conservation measures, including setting standards for water conservation in publicly owned buildings.
10. Ensuring that those who use water for recreational purposes respect its ecological and spiritual values.
11. Requiring that as a minimum, all water bodies be maintained to the contact recreational standard.

Climate Change

Perhaps the biggest challenge facing humankind is that posed by rapid climate change, resulting from human-induced increases in the concentration of "greenhouse" gases in the atmosphere. These emissions must be stabilised and then decreased by reducing our reliance on fossil fuels and controlling emissions from livestock. In particular, the Greens will:

1. Ensure that New Zealand supports the implementation of the Kyoto Protocol, because this is the only international agreement that we presently have that works towards reducing emissions.
2. Set the liability for carbon emissions at points in the economy, as outlined in our climate change policy, so that ordinary consumers and most businesses do not have to engage directly with international trading
3. Continue to work for the development of a transportation system that reduces the emissions of greenhouse gases by moving freight from trucks to rail and coastal shipping where possible, and personal transport from cars to public transport, cycling, car pooling and walking.
4. Introduce, and progressively increase, fuel efficiency standards for motor vehicles entering the country.
5. Oppose any additional use of coal.

6. Support the establishment of permanent forests to absorb and store carbon dioxide already in the atmosphere.

Resource Management Act

The RMA is our key environmental law and has been repeatedly weakened to smooth the path of developers. The Green Party will:

1. Uphold the original principles of the RMA— environmental protection and public participation.
2. Increase environmental legal aid, first established by a Green Party Budget bid in 2000, so that citizens' groups can take part in RMA cases with good legal, planning and scientific advice.
3. Develop National Policy Statements and National Environmental Standards, to set environmental bottom lines with councils able to set higher standards where appropriate.
4. Encourage councils to enforce consent conditions to protect the environment.

Environmental Reporting and Information

The Green Party will:

1. Complete the development of sustainability indicators, make these widely available to the public, and use these to measure progress towards sustainability, at national and regional levels.
2. Require all Government departments to complete sustainability reports and promote the use of this methodology by local government, businesses and NGO's
3. To develop a public information system which collates data concerning soil, air and water quality.