



**NZRCA evidence;
Board of Inquiry into the National Policy Statement for Renewable Electricity
Generation.**

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1 About the New Zealand Recreational Canoeing Association.

- 1.1 Formed in 1957, NZRCA (the New Zealand Recreational Canoeing Association) is the national representative organisation of canoe clubs and recreational kayakers throughout New Zealand. NZRCA is a voluntary, non-profit, incorporated society and is affiliated to the NZ Canoe Federation. NZCF is in turn affiliated to the International Canoe Federation. NZRCA has delegated authority to represent NZCF and all its member disciplines on advocacy issues.
- 1.2 NZRCA was known as the New Zealand Canoe Association until 1995/6. At this time the competitive canoeing disciplines were spun off into their own associations, the new umbrella body the NZ Canoe Federation was formed, and NZCA renamed itself to the NZ Recreational Canoeing Association to reflect its non-competitive advocacy role.
- 1.3 NZRCA represents both club and individual members and further affiliated clubs. Currently there are 30 member or affiliated Clubs with a combined membership of around 2,500 kayakers plus another 65 individual members. The figure of 2,565 in no way adequately represents the sum total of kayakers in New Zealand, as there are many who do not belong to clubs, and who have not joined NZRCA as individuals
- 1.4 My name is Anthony (Tony) Ohau Ward-Holmes. I have been a member of the executive of the NZ Recreational Canoeing Association since 2002. I have held the offices of editor, vice-president, and now conservation officer. I have been kayaking approximately 25 years, mostly in New Zealand but also in the UK, Nepal, Australia, China and Tibet.

2 Scope of evidence.

- 2.1 As stated in the original NZRCA submission, the NZRCA believes that the cost to New Zealand's river systems due to hydro electricity generation has already been very high. 80% of NZ's hydro potential has already been developed. With demand growing unchecked, the pressure on individual river systems is likely to get significantly greater in the future. The NZRCA also notes that in general, recent policy changes have had the overall effect of making further development of rivers more likely.
- 2.2 The NZRCA opposes the NPS as it currently stands believing that it is likely to result in many of our finest rivers, and New Zealand's internationally recognised and valued whitewater resource being destroyed.
- 2.3 The NZRCA's position on individual policies within the NPS are as follows:
Objective: Conditional support (in part)
Policy One: Oppose
Policy Two: Oppose
Policy Three: Support
Policy Four: Oppose
Policy Five: Conditional support (in part)
- 2.4 In this evidence today I would like to illustrate and elaborate on just a few key points from the NZRCA's submission, using examples of rivers or generation projects in order to illustrate the impact of the policy statement. These points are:
- There is a need for a national, strategic and consultative approach to be taken to the management of New Zealand's river systems, including hydro generation (e.g. Forest and Bird NZ, p7)
 - It is highly questionable whether all "renewable" generation, of whatever scale, is nationally significant (Forest and Bird NZ, p5, Fish and Game NZ, para 17, 39-40)
 - NZRCA strongly opposes Policy Two which appears to give undue weight to matters which would enable a consent authority to overlook actual or potential adverse effects of a proposal where "avoiding, remedying or mitigating adverse effects would be impractical" (Fish and Game NZ, para 41, Forest and Bird NZ, p5)
 - The full cost of a hydro electricity scheme must be considered in any decision making, including the cost of dam removal and environmental remediation (e.g. Ecologic, p6)

3 The need for a national, strategic and consultative approach

- 3.1 The current system is adversarial and not strategic. Decisions are made on river sections on a piecemeal basis and in isolation in time and place. There is no mechanism for a consultative process to occur where decisions can be made on a national basis or for cumulative effects to be considered. There is no mechanism to decide whether further developing one highly modified and already dammed river with a substantial hydro generation facility is preferable to developing a large number of smaller, wild and scenic rivers. There is no mechanism or incentives for a collective consensus to be reached on which rivers, if any, should be saved or developed and if so, how.
- 3.2 For example the potential Tuapeka Dam (300 MW) on the Clutha River would probably generate more power than dams on the Kaituna (13.5 MW), Mokihinui (65-85), Matiri (4.6 MW), Matakītaki (estimated at 30 MW), Taipo (est. 33 MW), Toaroha (est. 14 MW), Kakapotahi (est. 17 MW), Waitaha (est. 60 MW) and Nevis (est. 45 MW), all combined. This is not a random list of rivers, it is a list of wild rivers which all have projects in progress or under consideration. However there is no mechanism to prioritise the Tuapeka Dam ahead of this long list of wild, scenic and almost completely unmodified rivers.
- 3.3 Forest and Bird make this point (p7), which we support: “Central government has shown a lack of action in proactively providing for national networking in the establishment and management of renewable generation, leaving it to the vagaries of a competing market”.
- 3.4 In order to illustrate the effect of not having a national, strategic approach, I would like to talk about the Mokihinui River.

{Show Mokihinui movie. Director: Dave Kwant. Producer: Bill Parks. Running time: 9:36}

- 3.5 This is a highly contradictory project. Consider these points:
- The Mokihinui Dam is being proposed by Meridian Energy, a State owned enterprise and thus a government entity.
 - Another government entity, the Department of Conservation, has invested significant funds opposing it.
 - It would be highly damaging to the environment. The Mokihinui River ranks 7th of all NZ rivers in terms of natural heritage, according to a report by Landcare Research which was commissioned by Meridian themselves. If the dam went ahead it would be the biggest inundation of conservation estate in NZ's history.
 - Yet Meridian is aware that there are other local alternatives which are less damaging. The Arnold HEP and the Stockton Plateau HEP combined would supply more power than the Mokihinui and at far less environmental cost. Stockton Plateau arguably even benefits the environment, and was supported by the NZRCA, Forest and Bird, the Green Party and many other submitters. The Arnold was supported by all local MPs, both district and regional councils, and also by the NZRCA after we negotiated mitigation.
 - On the other hand Meridian combined with Orion and the Electricity Commission to sponsor a project to replace incandescent lights with ecobulbs. This aimed to place 200,000 Ecobulbs in Canterbury homes, and thereby reduce peak electricity demand by 15 MW.
 - But Meridian at the same time runs a research programme to increase electricity demand. According to recent (4/3/09) article in The Dominion, Project Hillary is “a research programme the company ran to identify new customer experiences for its core product, electricity”
 - The ecobulb promotion could be scaled up to replace 1,000 GWh of annual consumption (of NZ's 40,000 GWh total) across the country. In terms of power savings the 1,000 GWh is the equivalent of about 3 Mokihinui Dams or one Tuapeka Dam, however in reality it is better than that as there is reduced rather than increased load on NZ's distribution network.
 - Ignoring these obvious economic and environmental advantages, the Government recently cancelled legislation which would have banned incandescent bulbs. This is despite many other developed countries banning incandescent bulbs, including our economic competitors.
 - These contradictions reveal a highly schizophrenic national energy strategy. There is no mechanism to determine the least damaging alternatives or prioritise them. Essentially, the

strategy is that there will be no strategy. This merely results in a lolly-scramble for power companies to make a buck at the expense of the environment and future generations.

- 3.6 The NZRCA is well aware the threats to NZ's whitewater amenity are not limited just to the rivers mentioned above. Here is a list of rivers valuable to kayakers that have been mentioned in hydro studies undertaken by the Electricity Commission or power companies in the last few years.

North Island

Wangaehu
Kaituna – “lower level”, “upper level” and Okere Falls
Whakapapanui
Papamanuka
Wangaehu
Tarawera – at lake outlet, Falls and Te Matae Rd
Mohaka – lower (as early as 2010)
Rangitaiki
Ruakituri
Pohangina – (Palmeston North favourite)
Mangawhero

South Island

Mokihinui
Waitaha
Matiri
Matakitaki
Clarence (possible diversion to Waiau)
Arahura
Taipo
Toaroha (potentially by 2011)
Kakapotahi (potentially by 2012)
Nevis
Wairau

- 3.7 It seems obvious that rather than the wholesale exploitation of our national river treasures, any national strategy should prioritise electricity supply to come from the least-damaging sources first.
- Energy savings.. ie “Negawatts”
 - Geothermal, Tide and Wave power
 - Wind power
 - Hydro development of catchments that are already heavily modified.
 - If further hydro development is required then limited run of the river schemes, i.e. that are easily reversible or mitigated.

4 Whether the benefits of renewable electrical generation at any scale are nationally significant.

- 4.1 Bay of Plenty Electricity intends to place a 13.5 MW hydro scheme on the Kaituna River near Rotorua. The Department of Conservation recently granted a concession to inundate part of the Kaituna Reserve. This decision was taken by the Director-General of DOC, against the strong advice of the Conservator who they had tasked with writing a report analysing the application.

{Show Kaituna / Awesome Gorge movie. Courtesy Blisstick Kayaks.}

- 4.2 I ask the members of the board to think back to one month ago. Was your quality of life significantly different a month ago? Were your energy needs or consumption significantly different? I ask you to consider this because the proposed Kaituna project would generate just 13.5 MW. 13.5 MW is merely one month's growth in NZ's energy demand. The Kaituna is a nationally significant whitewater amenity, but the NZRCA does not consider that 13.5 MW is a nationally significant scale of electricity supply.
- 4.3 What would be nationally significant is some policies for controlling NZ's growth in energy demand, such as banning incandescent lightbulbs, and to invest in promising future alternatives such as tidal energy. There are only so many rivers left that can be dammed, after which the question would become, where to next? The NZRCA would rather this question is asked now, while we still have some rivers left.
- 4.4 The NZRCA opposes the draft NPS Policy 1 because it disagrees with the statement that all renewable electricity possibilities, at any scale, are of national significance.

5 Policy Two appears to give undue weight to matters which would enable a consent authority to overlook actual or potential adverse effects of a proposal

- 5.1 The Matakītiki River is currently under investigation by Network Tasman for a complex hydro scheme which may consist of up to 5 dams or run-of-the-river power plants.

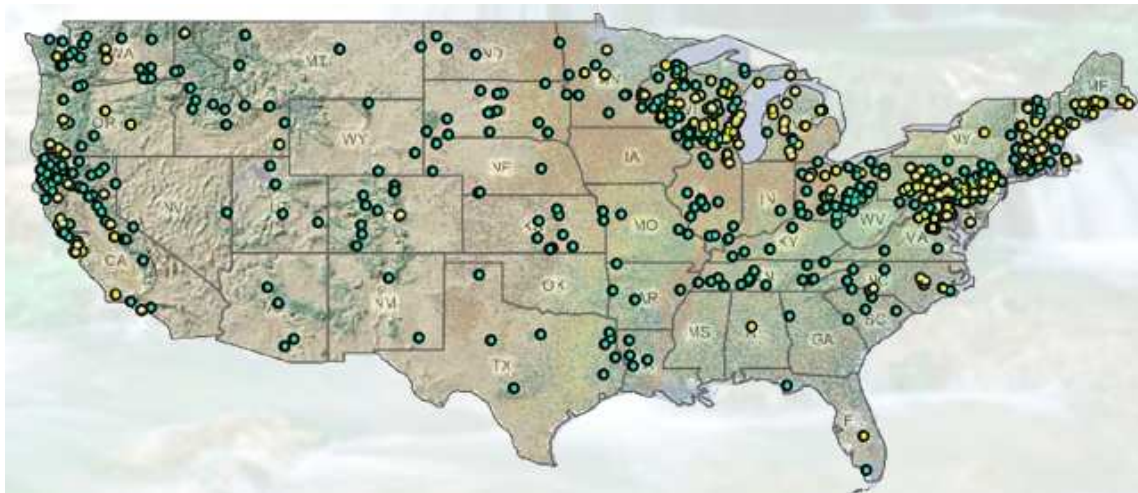
{Show Matakītiki movie. Director / Producer: Bill Parks. }

- 5.2 The Matakītiki is an integral part of Murchison's whitewater amenity and tourist economy. The significance of the amenity is well known to the Tasman District Council, e.g. then Harbourmaster Graham Caradus wrote the following in an internal TDC report in 2005:
"Murchison is the white water kayaking capital of New Zealand; a reputation that is recognised both nationally and internationally. Whilst the West Coast has a greater number of testing rivers for the expert paddlers, it does not have the number and diversity of runs that are generally within half an hours drive from Murchison Township. The area is well known throughout the New Zealand white water kayaking fraternity, and large numbers of kayakers can be found there at any time of the year, and in virtually any weather conditions."
- 5.3 Policy 2 appears to allow a developer to argue that if mitigation is too hard, then it can be disregarded. This is not appropriate, there are many factors important to NZ's economy other than energy, as well the issues of the environment and our legacy to future generations. All these need to be considered without undue weight being given to just one factor in a decision which can wreck a river for generations.

6 The full cost of a renewable electricity scheme must be considered in any decision making, including the cost of dam removal and environmental remediation

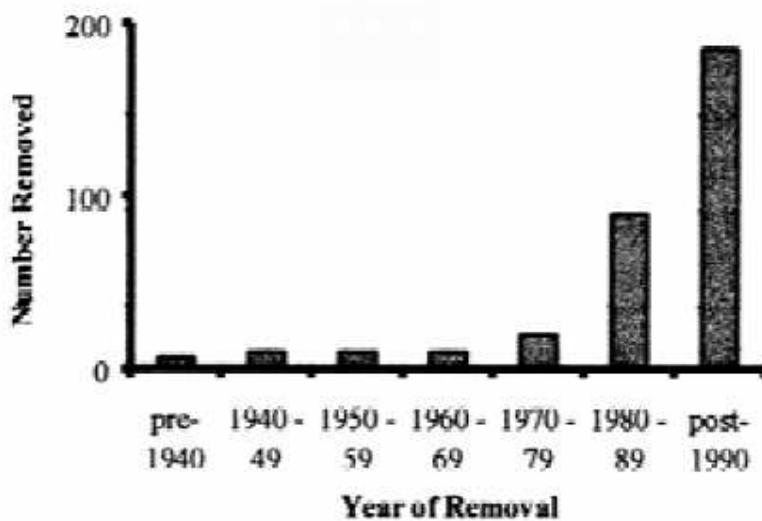
6.1 The most mature country in the world in terms of Hydro-electric development is the USA. It was always known that dams do not last forever; reservoir siltation and the natural lifespan of construction materials ensure this. On many rivers there are also long-term side-effects never considered by dam designers which contribute to a dam becoming economically unviable. In the USA increasing numbers of dams have reached the end of their useful life and so decommissioning is becoming a significant issue.

“Since 1998, the decommissioning rate for large dams has overtaken the rate of construction in the United States” (World Commission on Dams, 2000).



Location of decommissioned dams

6.2 The following graph shows the number of dams decommissioned in the USA by decade. Note the increasing pace and that the current decade is not shown but will almost certainly be correspondingly higher.



6.3 Example of the removal of a dam: Marmot Dam, Sandy River, Oregon.





Cutting a breach in the temporary earth dam in the background of the previous two photos.



- 6.4 Decommissioning a dam is not a trivial process. There are costs of deconstruction, costs of sediment management, potential decrease in some real estate value, and channel restoration costs. These are never accounted for by the original builders. If they had been, some projects would never have been viable in the first place. In the USA some dam operators have gone into bankruptcy rather than paying for decommissioning costs. Other operators have been divesting their older dams to subsidiary, limited-liability companies, to avoid potential future costs.



Remnant of the dismantled Hales Bar dam, Tennessee River.

- 6.5 NZ is not immune to any laws of physics or principles of civil engineering. It is inevitable that in the next few decades these same issues will become significant in NZ also.
- 6.6 To quote from the NZRCA draft Conservation Policy (see Appendix of NZRCA's "Further submission.."): "NZRCA seeks that the long-term and often irreversible environmental effects of hydro electricity generation or irrigation developments¹, the loss of option value² and the true whole of life cost (including decommissioning and rehabilitation) are fully recognised and given serious weight in any decision-making and/or management processes involving a river section or catchment."
- 6.7 This observation we believe should be the basis of Policy 3. Ecologic (p6) points out that if the NPS required the lodging of a bond for removing structures and restoring affected resources to a state approximately their original state at the end of the consent term, this would clarify that many projects, particularly hydro are not reversible in practical terms and therefore not sustainable. We support this proposition.

¹ Effects can be long-lasting or largely irreversible either because the environmental damage itself is long-lasting or largely irreversible or because the cost of mitigation or true whole of life cost (including decommissioning and rehabilitation at the end of the scheme's life) is not fully accounted or provided for.

² Option value is based on an economic concept which recognises that value can be lost if future uses of a resource are foreclosed by decisions made today. For instance, skills and equipment are continuing to change and so do the rivers paddled. Twenty years ago the Kaituna River was not paddled. Now the Kaituna River is one of the most commonly paddled (both recreationally and commercially) rivers in New Zealand.

7 Conclusion

- 7.1.1 The NZRCA respectfully requests a re-think. The MFE needs to go back to the drawing board in terms of the problem statement, objectives and options. The NPS in its present form will fail to reduce NZ's greenhouse gas emissions or to guarantee electricity security. The use of a NPS is not necessarily the best tool. If a NPS is to be used however, it needs to provide a range of conservation options rather than funnelling decision makers into narrow-minded renewable developments that serve to increase confusion and litigation with regard to proposals on rivers that are priceless in terms of their recreation, cultural and ecological values. New Zealand's white water resources are internationally significant and therefore express protection of the remaining white water resources must also be a priority before further hydro-dam projects are brought forward.

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8 Appendix

- 8.1 None of the points here are new, and rational renewable energy policies do not need to be re-invented. Here is an example of guiding principles from the Hydropower Reform Coalition, a coalition of USA river associations.

Guiding Principles for Renewable Energy Development

1. Greenhouse gas (GHG) emissions are driving climate change, which in turn harms the environment and the rivers that our organizations are committed to protecting. We therefore must act quickly to reduce our dependence on fossil fuels.
2. We should not, in the name of renewable energy development, destroy the very resources we are trying to protect from the effects of climate change.
3. Our country's first priority should be conservation and efficiency. Cutting consumption is the cheapest and most effective way to cut the use of fossil fuels.
4. Our second priority should be to require that fossil fuel generation either be restricted or forced to pay the full costs associated with their use (i.e. a carbon cap or a carbon tax)
5. Our third priority should be to encourage the use of new renewable energy technologies.
6. We must understand that renewable energy technologies are not a panacea. All energy generation technologies consume resources. The siting of energy projects can cause significant environmental damage.
7. Renewable energy policies should encourage energy development that minimizes harm to local ecosystems and promotes energy conservation.
8. We must recognize that climate change is also exacerbated by other anthropogenic activities such as deforestation that destroy carbon sinks.

The Coalition is also supportive of providing incentives for new renewable energy sources through new and/or improved public policies. However such policies should be guided by two important premises.

Guiding Principles for Renewable Energy Policies

1. Renewable energy policy should focus on encouraging innovation – supporting development of new, low-impact sources of energy, not on rewarding existing development.
2. Renewable energy policies should not allow utilities to use existing energy generation to avoid investing in more renewables or energy conservation measures.