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Feedback to Network Tasman re the proposed Matakītiki Hydro Scheme.

By Tony Ward-Holmes, on behalf of Whitewater New Zealand.
July 2009.



Middle Matakītiki gorge

About Whitewater New Zealand

1. Formed in 1957, Whitewater NZ is the national representative organisation of canoe clubs and recreational kayakers throughout New Zealand. Whitewater NZ is a voluntary, non-profit, incorporated society and is affiliated to the NZ Canoe Federation. The NZCF is in turn affiliated to the International Canoe Federation. Whitewater NZ has delegated authority to represent the NZCF and all its member disciplines on advocacy issues.
2. Whitewater NZ was known as the New Zealand Recreational Canoeing Association until July 2009, and before that 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 the NZCA renamed itself to the NZ Recreational Canoeing Association to reflect its non-competitive advocacy role.
3. Whitewater NZ represents both club and individual members and further associated clubs. At time of writing there are 24 full member clubs with a combined membership of around 1000 kayakers, the largest of which is Whitewater Canoe Club with approximately 200 members. There are also 90 members who have joined individually. Another 30 organisations representing over 1200 kayakers are associate members. Associate members generally choose to support Whitewater NZ on specific issues; e.g. the largest, Arawa Canoe Club with 430 members, paid all of Whitewater NZ's legal costs during the Central Plains Water hearing.
4. The combined total of around 2,300 full and associate member kayakers 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 Whitewater NZ as individuals

Scope of this document

5. On June 21, Network Tasman conducted an information and consultation weekend in Murchison. Feedback from kayakers and other stakeholders was sought. A wealth of information has been provided as feedback by kayaking organisations and individual kayakers. This is not an attempt to summarise all the points in that feedback, the reader is asked to refer to that feedback directly.
6. This document covers the following:
 - The importance of the Matakītiki to kayaking and the local community
 - Potential effects on the amenity of the Lower Matakītiki section
 - Feedback from kayakers after the Murchison consultation weekend
 - Selected issues raised in the Murchison consultation weekend
 - Conclusion

Importance of the Matakītiki to kayaking and to the local community

7. Rivers are an extremely important and unique feature of the Murchison community and economy. River recreationalists provide business to both hotels, both campgrounds, all six cafes or tearooms, the petrol station, supermarket and other shops, backpackers, and of course to the NZ Kayak School and to Ultimate Descents rafting. Additionally of course, the employees of all of these businesses provide more business for each other.
8. Murchison is one of, if not the most important area to kayaking in New Zealand. This is well known even outside of kayaking circles, e.g. then Harbourmaster Graham Caradus wrote the following in an internal Tasman Direct Council 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.”

9. The Matakītiki is highly valued by kayakers, in its own right but especially as part of the group of rivers that together provide the Murchison kayaking amenity. Whitewater NZ conducted a River Use Survey in 1991, however it has not had the resources to repeat the exercise more recently. The results in 1991 show that the Matakītiki was the river paddled by the 9th greatest number of kayakers; 159 out of 600 respondents nationally. This is solidly into the realm of national significance.

A	B	C	D	E	F	G
Rank	Dist	Riv	Rivname	Reach	N	Vis
1	12	1212	Waikato	Nga Awapurua	226	2885
2	15	1518	Otaki	Gorge	197	2719
3	21	2116	Buller	Lyell	190	2160
4	12	1213	Waikato	Reids Farm	181	2225
5	21	2115	Buller	Murchison	180	1009
6	21	2114	Buller	Owen River	176	1442
7	14	1436	Tongariro	Boulder Rch	170	1774
8	14	1430	Rangitikei	Mangaweka	160	1834
9	21	2121	Matakītiki		159	737
10	25	2524	Waimakariri		156	808

10. It is unknown what proportion of all kayakers responded to the 1991 River Use Survey. An informed estimate from kayak sales at the time was that the respondents numbered about 8% of the estimated kayaking population at that time. The survey authors noted that the limited rate of return was obvious from some of the omissions, since they were personally aware of descents of the Nevis, Godley and Broken rivers, each by teams of several people, however none of these rivers were reported at all in the survey.
11. It is also unknown whether the relative usage of the Matakītiki is the same as in the 1991 survey, however there are good grounds to propose that it has grown. At the time the survey was done, the Lower Matakītiki section was an intermediate/advanced section. These days with increased skill levels and better equipment it is very much regarded as mainstream intermediate, with a consequently greater level of usage. Another change from 1991 is the greatly increased use of formal instruction, rather than the old sink-or-swim approach with a bunch of friends. This instruction is mostly from NZ Kayak School, kayak clubs, and Polytechnics; all of which make heavy use of the Middle Matakītiki.
12. A log-book was placed at the Middle Matakītiki section at the start of the 2008/9 season. It records 1423 runs from early October to mid April. This does not record every descent, e.g. when I was there at New Years, none of my party knew about the log-book, nobody investigated the stand (which looks similar to DOC information boards at many track-ends), and nobody signed it. The true usage could be considerably higher. The usage of the Lower Matakītiki would be higher again.
13. It is the opinion of Whitewater NZ that the Lower Matakītiki is now the most kayaked river section in Murchison, i.e. more frequently than the three Buller sections ranked above it in 1991: the Buller /Lyall section (now more commonly known as “Buller Earthquake”, or “Lyell Creek”), or Buller / Murchison (“Doctor’s Creek” section of the Buller), or Buller /Owen River (“Granity” section of the Buller).
14. It is the opinion of Whitewater NZ that the Middle Matakītiki is now the most kayaked grade 2 river section in Murchison, i.e. more frequently than Buller / Murchison (“Doctor’s Creek” section of the Buller).
15. Anecdotal evidence on the value of the Matakītiki to kayakers is also provided by the description in the kayaking guidebook “New Zealand Whitewater” (Graham Charles, 4th edition 2006).

Middle Matakītiki:

“An excellent teaching/beginner section with a special treat for the teacher – a consistently good play hole that will put a smile on the dial of even the most critical holemeister. It’s one of those places to spend hours playing, hanging out and enjoying others paying their dues in the hole. Don’t miss it.”

Lower Matakītiki:

Here’s another quality short run made possible by the 1929 earthquake that sent a huge slip into the river and dammed it. Technical manoeuvring through the boulder gardens at the start of the run creates a slightly different run than many others in the region. When faced with numerous possible channels at the beginning of the run most go for the far right. Midway down, another channel joins up and this seam provides some of the best tail pivots in the area. A little further down all the channels join up for the final run down the main rapid-an exciting rollercoaster ride finishing in large standing waves

If you like your action dished up BIG, wait for one of the legendary Buller floods to hit the area. Get yourself to the put-in and run this section a couple of times. I once did the five runs in a row when the river had around 180 cumecs thundering down. I was smiling for a week! ”

16. The Matakītiki, providing the best and most commonly paddled grade 2 and grade 3+ sections in the region, as well as the closest and most convenient section to Murchison itself, is a critically important piece of the entire Murchison kayaking amenity. By extension, the Matakītiki is of high

value to the local community. Any degradation in the Matakītaki kayaking amenity is a degradation of the Murchison kayaking amenity. This in turn is a blow to the local community.

17. The Murchison District basically has only two lines of business: farming and tourism. An informal survey of Murchison tourism operators gave a ballpark value of \$23 million per annum for the Murchison tourism industry. According to Nelson Tasman Tourism, the value of the Tasman region's tourism industry is about \$300 million per annum, which validates the ballpark figure for Murchison. Murchison's tourism industry is largely dependent on its rivers. Given that the Matakītaki River is a critical part of the river amenity, it is hard to understand why a community-owned power company is proposing to dam it.
18. It is especially ironic that Network Tasman seems bent on unilaterally setting a course to sacrifice the Murchison community at a time when Tasman District Council is releasing their ten-year plan which prioritises making local communities more sustainable.



Potential effects on the amenity of the Lower Matakītaki

19. The Lower Matakītaki section is the single most popular kayaking section in the Murchison District, and one of the most popular in the country. The effect of a dam at Blue Rock on the Middle Matakītaki is obvious, it will be inundated. The effect on the Lower Matakītaki is not so obvious, hence this analysis was undertaken.
20. Irrespective of how many dams are built, flows will be changed in the lower river. At least two questions on this topic were asked at the consultation weekend, e.g. these questions and the answers from Network Tasman, as recorded in the notes by Barbara Grave of LawlessEdge:
“(Q) How would the Conservation Order be affected by any change the flow rates on the Matakītaki?”
“(A) Would look to have the ability for peak clipping – change would be relatively low. Have to comply with requirements of the Conservation Order.”
And:
“(Q) How would upper dams affect the river flows?”
“(A) The difference will be negligible and very similar to those currently flowing.”
21. The Buller WCO says this in relation to the Matakītaki:

REG : Water Conservation (Buller River) Order 2001
PART : Order

8 Restrictions on alterations of river flows and form

(3) Despite anything in subclause (1),---

(b) any change in flow permitted in that part of the Buller River specified in item 3 of Schedule 2 must not be greater than 15% of the naturally occurring instantaneous flow:

and

Schedule 2 cl 6
Protected waters

Item	Waters	Outstanding characteristics or features	Restrictions and prohibitions
3	Buller River from map reference M29 537 350 to Maruia confluence	Trout fishery Canoeing Rafting Wild and scenic	cls 7, 8(1)(a), 8(2), 8(4), 10, and 11

22. The map reference M29 537 350 given in item 3 of Schedule 2 above is that of the Buller River at its closest approach to Murchison. The Matakītaki confluence is between Murchison and the Maruia confluence, and so is included in item 3 of Schedule 2. Thus the restriction in the WCO is that the flow of the Buller at the confluence must not change by more than 15%.
23. The Matakītaki River is approximately 20% of the catchment of the Buller at the confluence. It carries a greater proportion of the Buller flow in times of westerly rain as its catchment is further west, and conversely carries less at drier times due to the lack of large moderating lakes in its headwaters. Using 20% as an approximation, if the flow was reduced in the Matakītaki by 75%, the flow of the Buller below the confluence would be reduced by 20% of that, which would be 15%.
24. Thus the WCO would allow up to about a 75% reduction in flow in the Matakītaki. Whitewater NZ, and kayakers in general, do not regard a 75% reduction as any of “*relatively low*”, or “*negligible*”, or “*similar to those currently flowing*”. From a kayaking point of view, “*catastrophic*” would be a more appropriate description.
25. At times of low flow when most of the Buller flow is from Lakes Rotoiti and Rotoroa, conceivably 100% of the flow of the Matakītaki could be impounded and still be within the Buller WCO restriction of no more than a 15% change in the Buller mainstem below the confluence.

Feedback from kayakers as a response to the Network Tasman Pre-feasibility Study

26. As identified earlier, the Matakītaki is a critical part of the Murchison kayaking amenity, and this proposed hydro-scheme is of great concern to kayakers.
27. Whitewater NZ organised a submission process to provide feedback to LawlessEdge. Over 200 submissions were received, at only two weeks notice, at this very early stage of scheme proposal.
28. Submissions were received not only from Murchison, Nelson and Christchurch, but also from many further parts of New Zealand from Dunedin to Te Awamutu to Auckland. Many submissions were received from all around the rest of the world as well, I have seen some from Western Australia, the UK, USA, Germany, Austria and even Uganda. Submitters come from all walks of life and in age from school children to retirees.
29. The potentially major effects on the flow of the Lower Matakītaki were not known to the kayaking community at the time that feedback was made to the LawlessEdge. The Lower Matakītaki is probably now the single most commonly paddled river section in the Buller region. The Lower Matakītaki is essentially unpaddable at only 25% of its median flow. If this potential loss of amenity had been known to the kayaking community, even more feedback would have been received.
30. The take-away message from this feedback for Network Tasman, is that this proposed scheme is unacceptable to kayakers. In terms of amenity lost for generation gained, it would be the single most damaging hydro-scheme ever proposed in this country.
31. Kayakers in general, and Whitewater NZ in particular will oppose any development of the Matakītaki River to the fullest extent possible and via all avenues available.

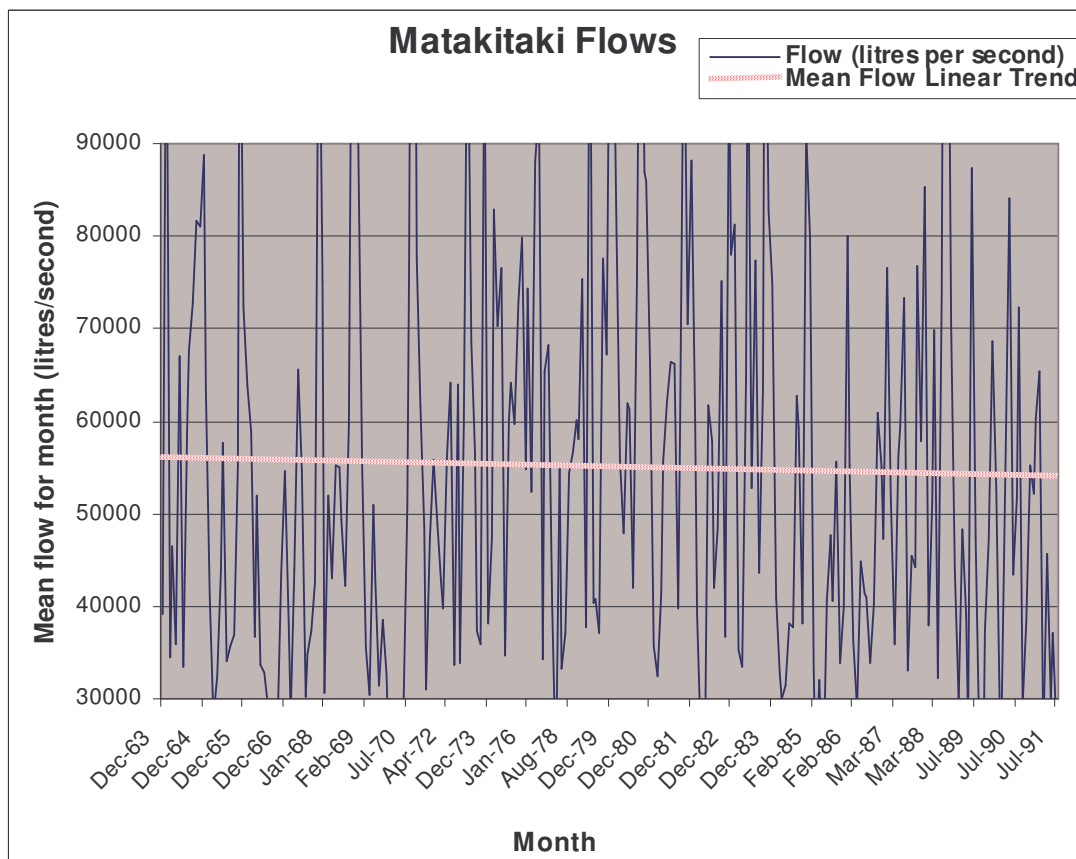
Selected issues raised in the Murchison consultation weekend

32. The following are replies to some other points made in the Murchison consultation weekend.
Quotes in italics are as recorded in the notes by Barbara Grave of LawlessEdge.

Climate Change

33. At the Murchison consultation weekend, some comments were made by local river users that river flows weren't what they used to be.
"River flows are a lot less than they were and the figures used for the pre-feasibility study were based on Mud Lake measuring station and are not recent figures. They are for a 30 year period but over 10 years old. Need to look at more recent flow data."

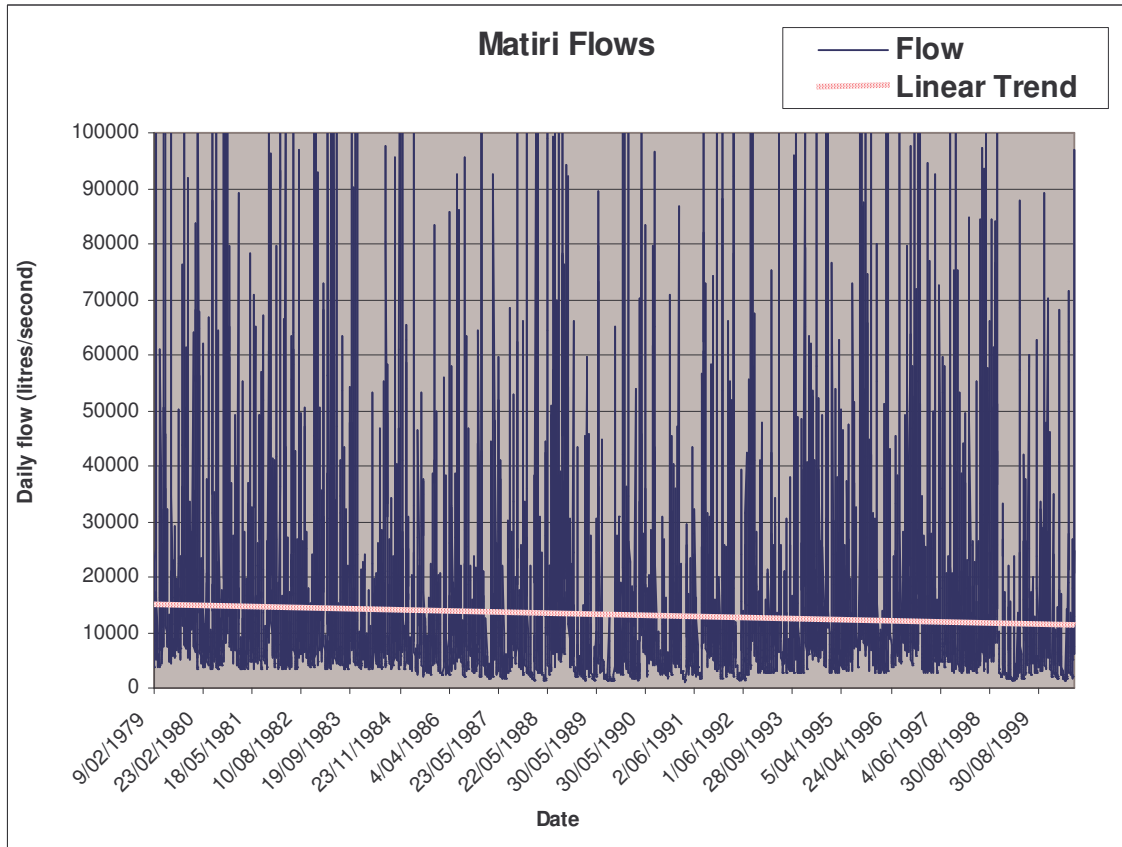
34. The following graph shows mean monthly river flows from the Matakītaki in the period provided by Network Tasman: 1963 - 1971.



35. A linear trend line has been applied to the data, and this indeed shows there is a downward trend.
- Note that the mean monthly flows shown are not a representative measure of the amount of water in the river. Mean flows are skewed upwards by occasional flood flows, which if drawn in would be 5 times the height of the graph. Median flows, i.e. the middle measurement for each month, is a much better visual representation of river flows. The normal flow of the Matakītaki is NOT about 55 cumecs as implied in this graph.
 - Also note that there is no point attempting to forecast current flows from the angle of the linear trend line. The effects of climate change have accelerated in recent years and it is likely that current flows are lower than indicated by this graph. The point of this graph is only to show

that the local river users are indeed correct in their claim that flows are not what they used to be.

36. As a further check, the following graph shows daily river flows (which are more representative than mean monthly flows) from the nearby Matiri River in the period 1979-2000.



37. A linear trend was also applied this data, and again it shows a trend of reducing flows. This confirms that the effect of climate change in the Buller region is for a reduction in river flows. This effect is likely to have intensified in recent years, in line with increasing CO₂ concentration and the increase in almost all resulting effects observed around the world.
38. To be certain of the viability of the proposed Matakaitaki hydro scheme, and of the impact on existing users and ecology, a lengthy period of further measurement would be required.

Solar Water Heating

39. Network Tasman claimed that solar water heating is not an option for reducing demand as it actually causes an increase in peak demand due to solar water heater's booster heating coils not being subject to ripple control:

"Solar hot water panels do not cut down demand for electricity, in fact they increase demand at times of bad weather."

40. This is a very lazy reason to build a dam that would destroy a nationally significant kayaking amenity and hurt the economy of some of Network Tasman's community and owners. Other regions in the country such as Canterbury simply require that any hot water cylinder, irrespective of being conventional or as part of a solar water heater, is attached to the network via ripple control.

Solar Photovoltaic generation

41. Network Tasman claimed that solar photovoltaic generation was not an option.

*“(Q) What effect would having solar panels in Nelson have? Would this scheme be needed?
(A) Solar is not yet competitive compared to gas, wind or hydro generated electricity.”*

42. Solar photovoltaic generation is indeed not competitive at this time. This situation is expected to change in the near future however. The following quote is from the executive summary of the Ministry of Economic Development’s “Solar Photovoltaic Energy” paper, 2009:

“The residential household PV market is one which can reach grid parity sooner than other markets, because of higher retail electricity prices. Even though costs per kilowatt can remain higher than for larger systems because of the system size, economies of scale can be achieved by volumes of systems installed, particularly if standardisation can be achieved. In the short term, PV installations in this market are likely to be dominated by modules on roofs. In the longer term, PV roofing products are likely to dominate and bring costs down, especially for new homes. At current projections of retail electricity price rises, PV is expected to begin to become cost effective in this market in New Zealand from 2020, after which time the market could expand rapidly.”

43. The Tasman District has some of the highest insolation levels in the country. The level of uptake in this technology will depend on modularisation, ease of installation, building codes, support, education, subsidies or loans, and the ability to sell surplus power back into the network. Network Tasman could be planning to invest in these options to maximise future uptake and stimulate local industry, rather than spending shareholder money on a scheme that will harm the Murchison community and destroy an amenity for future generations.

Flood flows

44. Another issue raised was that of handling floods and sedimentation. The lower Buller is infamous for its huge floods, and for how much sedimentation it can carry in flood. Much of this comes from the Matakaitaki. Sedimentation build-up in the reservoir could cut short the life of the dam. Some of the world’s worst dam failures have been as a result of massive floods combined with sediment build-up that blocked sluice gates. In the case of Banquiao, the domino effect of one dam failing caused the ultimate failure of 61 more dams, with 170,000 casualties and 6 million buildings destroyed. Murchison residents are very unhappy with the prospect of 3 dams upstream of town in a highly earthquake-prone area.

*“(Q) Very high water levels have been seen in the lower Matakaitaki, would this cause an issue?
(A) Network Tasman is aware of the very high flood flows on the river and that these could be managed.*

(Q)What about the issue of sediment?

(A) Sediment management is an issue which would be addressed in detail in the feasibility study stage.”



45. The picture above shows the Lower Matakaitaki in flood, from the last bend of the road before the kayaker's take-out. The flow is in the range of 300-500 cumecs. Whitewater NZ believes the expense required to design and build for these floods would further reduce the economic benefit of any scheme on the Matakaitaki. Any scheme would inevitably be dangerous to low-lying properties in Murchison.



The Teton Dam failing, USA.

Conclusion

46. The Network Tasman pre-feasibility study appeared to have no awareness of, or scope for investigating, the intrinsic values of the Matakītaki River. Whitewater NZ is aware that the consultation part of the process was an unplanned add-on due to vocal opposition at the Network Tasman Trust meeting.
47. Whitewater NZ believes that Network Tasman has greatly underestimated the values and use of the Matakītaki River, both to the local community and nationally.
48. This underestimation perhaps may be due to the Matakītaki River not being included in the Buller Water Conservation Order. Let us be clear:
 - Whitewater NZ believes the commission erred in not including the Matakītaki in the Buller WCO.
 - Kayaking has a predominantly young, anarchistic spirit that is resistant to central organisation. It is difficult to mobilise resources to advocate for legislation, policy, or precautionary protection. It will not be difficult to mobilise for a direct threat on kayaking habitat however. Far more resources will be used to defend the Matakītaki than were ever available to advocate for the Buller WCO.
 - Whitewater NZ will oppose any development of the Matakītaki River to the fullest extent possible and via all avenues available.
49. In narrow terms of mere project viability,
 - We believe that Network Tasman is underestimating the cost of the consent process, which would be strenuously contested by kayakers and other parties. The Matakītaki is a nationally significant kayaking amenity and is also of significance ecologically and to anglers and other user groups. There is a considerable likelihood that that the project would not be consented at all.
 - Conversely, we believe Network Tasman is overestimating the benefits of the project. Climate change has reduced flows in the Matakītaki from what Network Tasman has measured, and will continue to reduce those flows. Should the project be consented there will be significant operating constraints as conditions of any consents. Many of Network Tasman's assumptions seem to rest on the status quo of current technology, electricity industry regulation and demand forecasts, all of which will be subject to change.
50. In wider terms of sustainability, Tasman District community and commercial interests, recreational amenity and the environment, Network Tasman Network Tasman has been flying completely blind while spending their shareholder's money with no appreciation of the risk that there will be no return. The Pre-Feasibility Study should not have studied just selected issues from a possible later Feasibility Study, it should have addressed all aspects but from a higher-level view than in a Feasibility Study.
51. Whitewater NZ requests that Network Tasman not proceed with the Matakītaki Hydro-scheme Feasibility Study.
52. Whitewater NZ further requests that Network Tasman not on-sell its current investment in land and the Pre-Feasibility Report to another generating company. Network Tasman should instead investigate the addition of the Matakītaki River to the Buller Water Conservation Order, for the benefit of the Murchison and Tasman community.
53. If Network Tasman Directors elect to proceed further, they should at least complete and consider the missing aspects of the Pre-Feasibility study, before deciding whether to commit further shareholder money to a Feasibility Study.

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July 2009