

UNDER the Resource Management Act 1991
(the RMA)

IN THE MATTER OF various applications to take and use
water for the purpose of irrigation in the
Upper Waitaki catchment

AND

IN THE MATTER OF a submission by Te Rūnanga o Ngāi
Tahu

STATEMENT OF EVIDENCE OF PAUL HORGAN

Introduction

1. My name is Paul David Horgan and I have qualifications in both law and resource management. I have had several years experience in environmental law, policy analysis and planning related matters. I have been employed by Te Rūnanga o Ngāi Tahu (Te Rūnanga) as an Environmental Advisor for the past 3 and half years. A Key function of my role for Te Rūnanga is to assist Ngāi Tahu to advocate for the appropriate recognition and provision of Ngāi Tahu values in resource consent and plan development processes.
2. I have been involved in the Upper Waitaki consent applications since I commenced working for Te Rūnanga. During 2006, I attended workshops convened by the Upper Waitaki Water Quality Trust and in 2007 consultation meetings and site visits with aspirant irrigators. During the course of 2009, I have been involved in extensive consultation with many of the consent applicants. At all times, I have worked closely with the three kaitiaki rūnanga, so as to ensure a coordinated Ngāi Tahu response to the applications.

Scope of Evidence

3. In my evidence, I will discuss:

- A. The approach that Ngāi Tahu has taken to assessing the cultural implications of the Upper Waitaki consent applications, including a description of the essence of the Ngāi Tahu concerns;
- B. The concerns Ngāi Tahu has about the significant uncertainties surrounding both the state of the existing environment and the effects that will result from irrigation;
- C. The problems surrounding the application of an adaptive management approach to these consents;
- D. Relevant provisions of the Ahuriri Water Conservation Order; and
- E. Relevant case law discussing the application of the tangata whenua provisions of the Resource Management Act 1991 (the RMA).

The Ngāi Tahu Approach

4. Because of the long standing and deep seated relationship that Ngāi Tahu Whānui have with the Upper Waitaki catchment (as described in the evidence of David Higgins and Mandy Waaka-Home), Ngāi Tahu has invested a considerable amount of time, money and energy into the assessment of the various irrigation consent applications. Ngāi Tahu is most concerned to ensure that the conversion of up to 27,000 hectares to intensive agriculture does not in any way displace its relationship with the Mackenzie Basin (Te Manahuna).
5. The Ngāi Tahu involvement with the Upper Waitaki consent applications dates back to the early 2000s. The following timeline outlines the points (highlighted in green) at which Ngāi Tahu has become involved in this suite of applications.

2002 - 2004	Original consent applications lodged and notified
2002 – 2004	Te Rūnanga o Ngāi Tahu lodged submissions on original applications
2003	Minister calls in all consent applications affecting the Waitaki
2004 – 2005	Waitaki Catchment Water Allocation Regional

	Plan developed
2006 – 2007	Ngāi Tahu representatives attended Upper Waitaki Water Quality Trust workshop and meetings
Mid 2007	Upper Waitaki consent applications re-notified
September 2007	Te Rūnanga o Ngāi Tahu lodged submissions on all re-notified applications
January 2009	Combined Papatipu Rūnanga hīkoi – 3 days in the Upper Waitaki catchment.
February 2009	Cultural Impact Assessment prepared
May 2009	Draft Mackenzie Water Research Limited Water Quality Study released
August 2009	Ngāi Tahu hīkoi to Lilybank, Godley Peaks, Glenmore, Ohau Downs, Glen Eyrie Downs, Shelton Downs and Killermont Stations
September 2009	Farm Environmental Management Plans for Southdown, Fiver Rivers and Killermont released
September 2009	Hearing commences
October – November 2009	Two Ngāi Tahu hīkoi to Simons Hill and Simons Pass Stations
November 2009	Southdown, Five Rivers and Williamson effluent discharge consents notified
December 2009	Te Rūnanga o Ngāi Tahu lodges submission on each of the effluent discharge applications
25 January 2010	Ngāi Tahu presents its evidence at the hearing

6. It is evident from this table that, despite being a party to the original applications dating back as far as 2002, the applicants did not seek to actively engage with us until late in 2008 and during 2009; and mainly in the second half of last year. It is also apparent that the Cultural Impact Assessment (CIA) was prepared without the benefit of much of the relevant technical information such as the Water Quality Study. If such information had been available, then it is possible the CIA would have been able to provide a more detailed evaluation of the application-specific

cultural effects. The result of this is that the extent to which Ngāi Tahu has been able to provide input into the shape and design of the irrigation proposals has been limited. It has also meant that we have been forced to expend a considerable amount of time over recent months getting up to speed with the cultural implications of the proposals.

7. As identified in the table, the first step towards a detailed consideration of the cultural effects of the applications was the preparation by Tipa and Associates of the CIA. The CIA identified a host of potential cultural impacts resulting from land use intensification, ranging from the degradation of smaller aquatic resources to the loss of suitable habitats for mahinga kai species. Under impact 8, (changing land use as a result of irrigation) the CIA states:

“Ngāi Tahu supports water being made available to provide security of supply for landowners but is concerned at the possible conversion to dairying. Almost without exception, the conversion over recent years of dry land farms to dairying has brought with it a host of adverse environmental effects and has resulted in the significant degradation in the quality of our rivers, lakes, streams and wetlands. This has impacted seriously on the cultural health of our waterways and has resulted in the further loss of access by tangata whenua to mahinga kai sites and resources. Needless to say, Ngāi Tahu is strongly opposed to any repetition of this situation in the upper Waitaki/Mackenzie Basin. In these circumstances, the default position of Ngāi Tahu is to vigorously oppose all consent applications to take, divert, discharge and use water so as to enable conversion to dairy farming. Before Ngāi Tahu will be prepared to depart from this position, it will need to be convinced that suitable measures can be implemented at both the on-farm and catchment level that will be capable of avoiding and/or mitigating the site-specific and cumulative adverse effects that will arise as a result of conversion to dairying.” (page 50)

8. Following the preparation of the CIA, Ngāi Tahu has been involved in an intensive process of consultation with many of the consent applicants. Because of the number of applicants and applications and the particularly technical nature of many of the assessments, this has been a time consuming and onerous exercise.
9. Over the past few months, Ngāi Tahu visited as many of the high country stations seeking consent as possible, including Lillybank, Godley Peaks, Glenmore, Ohau

Downs, Glen Eyrie Downs, Killermont, Simons Hill and Simons Pass. Altogether, during the second half of 2009, members of Te Rūnanga and the three kaitiaki Rūnanga have been on three separate hīkoi to the Mackenzie Basin (Te Manahuna). I personally attended 2 of these hīkoi.

10. At all times, Ngāi Tahu has approached its assessment with an open mind and has sought to resist the temptation to simply oppose all applications in their entirety. More particularly, Ngāi Tahu has generally placed its emphasis upon the new (rather than replacement) consent applications and those that will result in large scale land use intensification, rather than the taking of water so as to provide security of supply for existing farming operations.
11. In this context, provided the smaller applicants, such as Godley Peaks (Lone Star Farms) and Lilybank carry out appropriate riparian planting and fencing and undertake not to significantly increase the intensity of their farming operations, then Ngāi Tahu does not oppose the grant of consent. Similarly, we are also not opposed to the Glenmore application, which will simply enable the continuation of a comparatively small scale irrigation operation.
12. By contrast, the sheer scale of some of the other applications such as the Five Rivers, Southdown, Killermont, Simons Hill, Simons Pass, Rosehip Orchards and High Country Rosehip applications raised significant concerns for Ngāi Tahu. While Ngāi Tahu appreciates the degraded and unproductive nature of the vast areas of land that these applicants are seeking to irrigate, we are at a loss to understand how the effects of doing so can be appropriately internalised.
13. The approach that Ngāi Tahu has adopted is to identify 2 cultural focal points against which to assess the applications. As identified in Impact 21 (loss of opportunities) of the CIA (page 59), Ngāi Tahu has previously identified the Ahuriri Delta and the Haldon Arm of Lake Benmore as sites for enhancement of mahinga kai. The CIA states:

“As a priority, Ngāi Tahu does not want to see new irrigation proposed for these areas degrade existing habitats and deny opportunities to undertake enhancements”.

14. In addition to being focal points for Ngāi Tahu, the Ahuriri Delta and the Haldon Arm will also be two of the most acute receiving environments for the additional nitrates and phosphorus that will be discharged as a result of the proposed irrigation schemes. Ngāi Tahu considers that these two sites will receive the sum total of nitrates and phosphorous discharged from the surrounding sub-catchments. This is acknowledged in the Mackenzie Water Research Limited (MWRL) Summary Report prepared by GHD, which states that the approach the applicants are proposing;

“...will not ensure protection of other unstudied receiving environments such as springs, small streams, nor does it ensure that all parts of the lake receiving environments will be maintained at or below an Oligotrophic state. Small creeks and inlets to the lakes margins may still be at risk of nutrient enrichment while the body of the lake remains at or below target trophic state.” (page 46 – my emphasis)

15. The sensitivity of the Ahuriri Delta to increased nitrogen and phosphorous concentrations is also evidenced by the impacts that existing irrigation activities are having. Once again this is acknowledged in the MWRL Summary Report, which states:

“Based on the current reduction of in-stream habitat quality in the lower reaches of the... Ahuriri River and Omarama Stream, which is attributed to land use effects in the upstream catchment, any further development of irrigation areas has the potential to reduce in stream habitat quality at these sites.” (page 26)

16. In order to assist us to assess the nature and extent of the impacts upon the Ahuriri Delta and Haldon Arm, Te Rūnanga engaged Di Robertson from Boffa Miskell to undertake an ecological assessment of the respective proposals. The findings of this assessment will be presented to you as evidence by Di Robertson. The cultural implications of these findings will be discussed by Mandy Waaka-Home.

17. During its consideration of the various large scale consent applications, Ngāi Tahu has also investigated the issue as to whether the adverse cultural effects

(especially those in relation to mahinga kai) could be offset or compensated via restoration initiatives. This was a possibility that was alluded to in the CIA (pages 39 and 46). Unfortunately as a result of these investigations, Ngāi Tahu formed the view that, because of the level of uncertainty surrounding the effects and the potential scale of the cultural impacts, it was unable to support any cultural compensation proposal. We do, however, wish to acknowledge the good faith with which the Simons Hill consultants (Peter Glasson and Kelvin Reid) and farmer (Dennis Fastier) approached these discussions.

18. In this context, the Ngāi Tahu position is as follows:

- A. We are opposed to the Southdown Holdings Limited, Five Rivers Limited and Killermont Station Limited applications including those applications recently lodged to store and discharge effluent, (which Ngāi Tahu has lodged a separate submission on) because of the potential for these proposals to significantly degrade the Ahuriri Delta, an area that Ngāi Tahu is seeking to restore for mahinga kai purposes; and
- B. We are opposed to the Simons Hill Station Limited, Simons Pass Station Limited, High Country Rosehip Orchards Limited, Rosehip Orchards NZ Limited, Classis Properties Limited and Haldon Station Limited applications because of the potential for these proposals to significantly degrade the Lower Takapo River and the Haldon Arm of Lake Benmore, which are important locations from which to trap migratory Longfin Eel as a part of the Trap and Transfer Programme.

19. Beyond these specific concerns, Ngāi Tahu is also extremely concerned about the broader impacts of the irrigation proposals upon the iconic Ngāi Tahu cultural landscape of the Mackenzie Basin (Te Manahuna). A particular feature of this concern, as identified in the CIA (impact 9, page 50), is the unspecified impact that the irrigation proposals will have upon the small aquatic habitats such as wetlands, tarns, lagoons and small streams. We are unclear from the assessments provided by the applicants whether (and if so, in what ways) the network of small aquatic habitats dotted throughout the Upper Waitaki catchment will be affected by irrigation. For example, will they suffer from too much/too little water, and will they become nutrient enriched? These are important issues for Ngāi Tahu as it is from

these habitats that mahinga kai was traditionally gathered. Ngāi Tahu is concerned that the health of these small aquatic resources has been neglected in the past.

Uncertainty

20. As already mentioned, the Ngāi Tahu experience with large scale land use intensification has, almost without exception, been negative. From our perspective, there is an unequivocal link between irrigation related activities and waterway degradation, and in turn, further loss of access to mahinga kai resources. In this context, it is our view that these consents should only be granted if you are satisfied that there is a high level of certainty that the package of mitigation measures proposed by the applicants (in particular the Farm Environmental Management Plans) will ensure that sustainable water quality outcomes are achieved. In the absence of such certainty, then we submit that you must adopt a precautionary approach and decline the consents.

21. To the best of its ability, Ngāi Tahu has sought to digest the content of the numerous technical assessments relating to the applications, including those presented by both the applicants, Meridian and the independent consultants appointed pursuant to section 41C of the RMA. As mentioned, we engaged Di Robertson to assist us with this task and to help interpret the complex material. Having completed this exercise, we are left with the overwhelming sense that there is an unacceptably high level of uncertainty surrounding the potential impacts of the irrigations proposals. This is compounded by the potentially severe and irreversible environmental and cultural consequences should the applicants predictions prove to be inaccurate or unachievable.

22. Ngāi Tahu considers that the applicants have failed to take advantage of the lengthy time it has taken for their applications to proceed to a hearing by undertaking ongoing annual monitoring of the current state of the water quality at identified ecological sampling nodes. Despite many of the applications being lodged up to 8 years ago, the applicants have only measured water quality in the two arms of Lake Benmore once in January 2008 and again in April 2008. Ngāi Tahu does not consider this sufficient to gain a clear appreciation of baseline

conditions. Ngāi Tahu considers that there has been an inappropriate reliance placed upon speculative modeling.

23. Ngāi Tahu also has concerns about the accuracy of the sampling that has been undertaken by the applicants. Of particular concern is the failure of the applicants to locate a node and carry out sampling at the Ahuriri Delta itself. It is our understanding that the only sampling that was carried out in the Ahuriri River was 5 kilometres upstream of the Delta. Such an approach fails to recognise the cultural significance of the Delta to Ngāi Tahu and also fails to ensure that the impacts of established irrigation occurring downstream of the applicants Ahuriri sampling node are taken into account. Ngāi Tahu considers that the result of this is likely to be that the applicants have underestimated the total nutrient and phosphorous loads presently entering Lake Benmore.

24. Additional and unresolved concerns about the applicants sampling techniques are discussed in the Meridian evidence. A number of the issues that the Meridian scientists have identified have the potential to impact upon Ngāi Tahu values. These include:

- The failure to sample water below a depth of 6.7 metres in the Ahuriri Arm and 5 metres in the Haldon Arm;
- The failure to measure *chlorophyll a*;
- The failure to consider the implications for *didymo* and *lagarosiphon* growth of increased nutrient loads;
- The failure to factor in the increase in in-lake nutrient concentrations that will be caused by existing irrigation, but which have not yet passed through the groundwater system to the Lake;
- The failure to assess the nature and extent of the hydro-dynamic connection between the Ahuriri and Haldon Arms of Lake Benmore; and
- The failure to consider the impacts of increased nitrate and phosphorous concentrations in Lake Benmore upon the Lower Waitaki catchment. In relation to this point, it is important to be aware of the Ngāi Tahu catchment based philosophy of Ki Uta Ki Tai, which means from the mountains to the sea. The concept of Ki Uta Ki Tai starts from the premise that all parts of the environment

are interconnected and that an impact on one part will affect all other parts.

25. Ngāi Tahu also takes issue with the appropriateness of the applicants' proposed 25% increase in periphyton biomass threshold. The applicants claim that, because a 25% increase in periphyton biomass will not be observable to the "...casual observer of a watercourse..." any increase up to this level will not be significant. Not only does Ngāi Tahu consider such a threshold to be entirely arbitrary, but also completely at odds with the cultural health of our waterways. Whether or not periphyton is able to be detected by a "casual observer" does not necessarily correspond with the cultural health of a waterbody. The process for calculating the cultural health of a stream or wetland is multi-faceted and involves examining a range of different parameters including the number of mahinga kai species present, the state of riparian vegetation including the proportion of indigenous species present, the level of sedimentation, riverbed condition, water quality including the presence of pollution, odour and discolouration, and the rate of flow. From a cultural perspective, it is simplistic and arbitrary to assume that a 25% increase in periphyton is sustainable. If the periphyton biomass increases disproportionately, then this is likely to degrade water and habitat quality and impact on biodiversity and mahinga kai values.

26. In addition to this, Ngāi Tahu is of the view that the applicants have done little to assist us to understand the behaviour and function of the Upper Waitaki groundwater system. We believe that there is a paucity of data about the temporal and spatial nature of the Mackenzie Basin groundwater system, especially in respect of the points at which groundwater re-emerges into surface water bodies. It is also apparent from the Meridian evidence that the applicants have failed to take account of the drainage of phosphorous into groundwater and have placed an unreasonable reliance upon denitrification processes. The uncertainties and assumptions surrounding groundwater are not reflected in the applicants' evidence.

27. Little or no mention has been made in any of the evidence about the capacity of the Mackenzie Basin soils to support intensive agricultural activities. It appears that there has been an assumption by the applicants that, because there is plenty of flat land available and a plentiful supply of water, that irrigation should be considered a

viable land use option. Such an approach, however, overlooks the fact that the soils in the Upper Waitaki catchment have a rapid permeability and will be likely to act much like a sieve whenever water, fertiliser or effluent is applied.¹ Ngāi Tahu has a policy that:

“The kinds of land use activities (e.g. type of farming) that occur in a given area must match land capability (e.g. elevation, slope, soil type).”²

28. Ngāi Tahu is concerned that there has been nothing in the form of a land use capability study undertaken, which would assess factors such as rock type, soil type, slope, vegetation and erosion degree and type in order to gain a clearer understanding of suitable land use options.

29. The collective effect of these uncertainties and gaps is to cast serious doubt upon the quality of the assessments provided by the applicants. In our view, there is no room for such doubt when dealing with such large scale and potentially invasive proposals. The consequences are simply too great. The consequences include such catastrophic events as the occurrence of toxic algal blooms at important mahinga kai gathering sites such as the Ahuriri Delta, the Lower Takapo River and the Haldon Arm of Lake Benmore. Ngāi Tahu understands that there is also the potential for Lake Benmore to flip from a macrophyte dominated system to a phytoplankton dominated system. Outcomes such as these would be intolerable from a cultural perspective.

Adaptive management

30. In order to manage the uncertainty surrounding the effects resulting from the discharge of nitrogen and phosphorous, the applicants are proposing that an adaptive management regime be implemented. Mr Whata in his opening submissions for MWRL states that the adaptive management regime will consist of the following two components:

¹ Addison, V., *Water Allocation and the Sustainability of Dairying in the Upper Waitaki River Basin* (a thesis submitted to Victoria University, 2009)

² Te Poha o Tohu Raumati, Te Rūnanga o Kaikōura Environmental Management Plan, page 113

- A. A comprehensive monitoring system is required by the conditions of consent which requires monitoring at both a subcatchment and farm level.
- B. If monitoring detects an increase in nutrients above the WQS thresholds, effective mitigation measures can be put in place to ensure that the effects are appropriately addressed.” [paragraph 13.5]

31. Ngāi Tahu is unconvinced that such an approach will be effective in the present circumstances. Ngāi Tahu has identified a number of problems and challenges associated with the application of adaptive management that do not appear to have been taken into account by the applicants.

32. An essential prerequisite for any adaptive management regime is that there is a clear understanding of the state of the existing environment. In the absence of such knowledge, there will be no clearly defined baseline against which to measure change. As already discussed, Ngāi Tahu does not consider that there has been sufficient monitoring undertaken by the applicants in order to get an accurate gauge of existing conditions. Nor is there any proposal by the applicants to carry out any further sampling prior to the commissioning of the irrigation schemes.

33. Our review of the relevant case law presented by Mr Whata in support of the use of adaptive management reveals that a common characteristic of successful adaptive management is that the proposed development proceed in a staged manner. In this way, it is possible to test the applicant’s hypotheses regarding the management of potential adverse effects in a controlled, yet progressive, manner. By way of illustration, I refer to relevant passages from the following Environment Court decisions:

a) *Clifford Bay Marine Farms Limited v Marlborough DC (C131/03)*

“In the circumstances the rational way to make progress is cautiously to test the waters of Clifford Bay, by permitting a marine farm to be established but on conditions that allow hypotheses to be tested in a scientific way with controls to check for false positives.” [paragraph 147]

“In these proceedings we find it is appropriate adaptive resource management if a small farm is set up after a short (2 years) preliminary survey and intensive ongoing research

and monitoring into all factors affecting Hector's dolphin in this area (and in two remote control sites)." [paragraph 151]

b) *Kuku Mara Partnership (Admiralty Bay West) v Marlborough DC (W37/05)*

"We have given the [adaptive management] process considerable thought, and have come to the conclusion that while it has superficial attraction, it must, like almost all else, be evaluated against the particular facts in question. In our view, if that is done here, it will not provide the solution contended for it. Ms Sarah Dawson is the Council's consultant planner and, as it happens, was the consultant for the applicant in the *Clifford Bay* application. We found the distinctions she drew between that case and this one to be compelling. In *Clifford Bay* the applicant asked for staged development, with 10% of the projected total being the first stage. The evidence was clear that for that 10% there would be no relevant adverse effects. So consent was given to the whole project... but with carefully staged implementation dependent on an evolving knowledge of, and management of effects." [paragraph 39]

c) *Biomarine Limited v Auckland Regional Council (A14/07)*

"However, generally within blocks 1, 2 and 3 there is less risk which can properly be addressed by an adaptive management regime coupled with monitoring, review and staging of development. That approach, in our view, would be based on a different approach to that suggested by the applicant, namely that block 1 be developed with adequate monitoring for two years. If such monitoring showed no scientifically significant adverse effect the next stage could be commenced....

Each of those stages would be a minimum of two years and adequate monitoring would need to establish that there was no adverse impact ...of significance. In practical terms this would mean that it would be ten years before that area would be fully developed, assuming there were no adverse effects."

34. Ngāi Tahu considers that an essential ingredient of best practice adaptive management is the staging of the proposed development. Unfortunately, in the present circumstances, there appear to be 2 significant obstacles facing such an approach. The first relates to economic considerations. Due to the significant infrastructure costs associated with the establishment of the irrigation schemes (including intake structures, canals, dairy sheds, effluent ponds and centre pivots), there appears to be a desire by the applicants to move into full production as

quickly as possible. Having said this, I do note that I am aware of a tentative proposal by Simons Hill and Simons Pass to implement a staged development. I am yet, however, to see any details of this.

35. The second challenge facing the staging of development relates to the slow rate at which groundwater takes to re-emerge into surface waterbodies. I refer in this respect to the evidence of Peter Callander for Meridian who estimates that it could take up to 10–20 years to see the full migration of nutrients through the system. This means that any staging of development would need to be conducted over a comparatively long timeframe so as to ensure there is sufficient time to detect if the initial stages are having an adverse impact upon the quality of surface waterbodies.
36. Beyond this, Ngāi Tahu also has reservations about the ability of the applicants' proposed monitoring regime to detect the occurrence of unsustainable levels of nutrients and to establish what is causing this. Monitoring in the Upper Waitaki catchment will be hampered by both the lack of robust baseline data and the natural variability that inherently exists in the rate at which nutrient loads arrive at the lake. The potential exists for natural variability in the system to mask the occurrence of adverse impacts. This potential is exacerbated by the fact that lakes respond in a non-linear manner to increased nutrient loads. While there may only be gradual increases in nutrient loads entering the lake, changes in trophic status can occur rapidly at some tipping point (refer Donna Sutherland's evidence presented on behalf of Meridian). This means that, unless considerable emphasis is placed by the applicants upon monitoring the biological response to increased nutrient loads (rather than just the loads themselves), then the potential exists for adverse impacts to be overlooked until it is too late.
37. Establishing a chain of causation between an increase in nutrient loads and irrigation related activities is also likely to be problematic. There is likely to be a tendency for consent holders to try and limit their exposure to the potentially significant costs associated with reducing nutrient loads. It is also likely to be difficult to pinpoint which irrigator is causing the increase and, for that matter, whether such an increase is in fact being caused by irrigation related activities at all. The reluctance of the UWAG group of applicants to endorse the nitrogen

allocation mechanism proposed in the MWRL Water Quality Study illustrates this potential. Ngāi Tahu considers that, in the event consents are granted, there must be a requirement for at least all of the large scale consent holders to contractually accept joint and several responsibility for the costs of restoring degraded water quality attributable to irrigation.

38. A further component of best practice adaptive management is the establishment of an independent peer review body. In order for the community to have confidence in the monitoring regime and the reports prepared as a result of monitoring, it is vital that there be rigorous and independent scrutiny. An independent peer review body should include effective tangata whenua representation and should be charged with designing the monitoring regime, which the consent holders must be bound to implement.

39. Perhaps the most significant challenge facing the applicants' adaptive management regime is the ability to implement effective remedial action in the event that unsustainable nutrient loads are detected. Simply reducing the annual allocation of water for the subsequent irrigation season (as proposed in the evidence of John Kyle for Southdown, Williamson Holdings, Five Rivers and Killermont Station) will not necessarily be sufficient to address degraded water quality. The occurrence of the lag effect will mean that, by the time a problem is detected, the groundwater system will already contain an elevated nutrient loading. Any on-farm mitigation measures will be unable to prevent the re-emergence of these nutrients into surface waterbodies. Nor will any remedial action be able to overcome the fact that internal nutrient loadings will continuously replenish nutrient supplies to the water column for extended periods (refer paragraph 104 of Donna Sutherland's evidence). The effect of this is that it will be likely to take many years for degraded aquatic habitats to recover, if they ever do.

40. The final concern Ngāi Tahu has about adaptive management is the poor track record that dairy farmers have of complying with consent conditions. The Canterbury Region Dairy Report for the 2008/09 season found that out of 851 farms, only 368 (43.2%) were graded fully compliant. A total of 164 farms (19.3%) were graded as significantly or majorly non-compliant. Figures such as this fail to

instill any confidence that the Upper Waitaki consent applicants will comply with their consent conditions or Farm Environmental Management Plans.

The Ahuriri Water Conservation Order

41. Ngāi Tahu consider that the various applications by Southdown, Five Rivers and Killermont Station to take and use water for irrigation and to discharge diluted dairy effluent (which will be produced at the rate of 1.7 million litres per day) will result in non-point source discharges of nutrients entering the Ahuriri River, which may contravene clause 8(2) of the National Water Conservation Order (Ahuriri River) Order 1990, which states:

A water right shall not be so granted and a general authorisation shall not be so made for any discharge into the protected waters if the effect of the discharge on the protected waters would be to breach the following provisions and standards:

(a) ...

(b) After allowing for reasonable mixing of the discharge with the receiving water:

(i) The waters shall not be tainted so as to make them unpalatable, nor shall they contain toxic substances to the extent that they are unsafe for consumption by humans or farm animals, nor shall they emit objectionable odours;

(ii) There shall not be any destruction of natural aquatic life by reason of a concentration of toxic substances.

42. As I mentioned at paragraphs 14 and 15 of my evidence, the applicants own Water Quality Study acknowledged that "...further development of irrigation areas has the potential to reduce in stream habitat quality..." in the Ahuriri River. Notwithstanding this, the applicants appear not to have provided an assessment of the water quality clause of the Ahuriri Water Conservation Order (WCO). It would be helpful if they could do so in their right of reply.

43. Although the language of clause 8(2) is somewhat antiquated and although the clause appears to relate to point source discharges, it is evident that the drafters of the WCO intended that the water quality in the Ahuriri River be maintained at a drinking water standard. Ngāi Tahu doubts that such a standard would be able to

be maintained should the Southdown, Five Rivers and Killermont applications be granted.

Relevant Case Law

44. The leading case on the application of the tangata whenua provisions of the RMA is the Privy Council decision of *McGuire v Hastings District Council* (2002) 2 NZLR 577. In that case Lord Cooke said:

“Section 5(1) of the RMA declares that the purpose of the Act is to promote the sustainable management of natural and physical resources. But this does not mean that the Act is concerned only with economic considerations. Far from that, it contains many provisions about the protection of the environment, social and cultural wellbeing, heritage sites and similar matters. The Act has a single broad purpose. Nonetheless, in achieving it, all the authorities concerned are bound by certain requirements and these include particular sensitivity to Maori issues. By section 6, in achieving the purpose of the Act, all persons exercising functions and powers under it, in relation to managing the use, development and protection of natural and physical resources, shall recognise and provide for various matters of national importance, including “(e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu (sacred places) and other taonga (treasures)”. By section 7, particular regard is to be had to a list of environmental factors, beginning with (a) Kaitiakitanga [a defined term which may be summarised as guardianship of resources by the Maori people of the area]”. By section 8, the principles of the Treaty of Waitangi are to be taken into account. These are strong directions to be borne in mind at every stage of the planning process. The Treaty of Waitangi guaranteed Maori the full exclusive and undisturbed possession of their lands and estates, forests, fisheries and other properties which they desired to retain. While as already mentioned, this cannot exclude compulsory acquisition (with proper compensation) for necessary public purposes, it and the other statutory provisions quoted do mean that special regard to Maori interests and values is required...” [My emphasis]

45. Also relevant is the following passage from the recent Environment Court decision in *Unison Networks Limited v Hastings District Council* (W011/09):

“We hasten to observe that matters under s 6, while nationally important, are not to be interpreted as though they were veto provisions. Nevertheless, in some cases the Māori dimension may be of a strength and nature as to, in effect, prevail in arriving at an ultimate

judgment in the circumstances of the particular case that accords with the RMA's single purpose under s 5." [paragraph 151]

46. The final decision I wish to refer you to is the decision in *Ngāi Hokopu v Whakatane DC* (C168/02), in which the Environment Court discussed the essence of the duty under section 6(e). The Court said:

"...section 6(e) is not concerned with Maori's ancestral lands, water, sites, waahi tapu and other taonga in themselves, but with the relationship of Maori and their culture and traditions with those things. The Maori word for relationship is "whanaungatanga". So the use of the word "relationship" in section 6(e) is very important for:

"Of all of the values of tikanga Maori, whanaungatanga is the most pervasive. It denotes the fact that in traditional Maori thinking relationships are everything – between people; between people and the physical world; and between people and the atua (spiritual entities). The glue that holds the Maori world together is whakapapa identifying the nature of relationships between all things." [paragraph 39]

47. I am confident that, upon listening to our evidence today, you will have a clear insight into the strength and depth of the Ngāi Tahu relationship with the Upper Waitaki. In applying section 6(e), it will be important for you to assess the nature and extent to which the proposed irrigation schemes may or will affect the Ngāi Tahu relationship with the Upper Waitaki. From our perspective, we envisage that the proposals are capable of having a profound effect upon the relationship, to the extent that Ngāi Tahu may be effectively prevented from continuing its mahinga kai restoration initiatives.

48. Ngāi Tahu considers that, in determining these applications, it will be necessary to place significant weight upon sections 6(e), 7(a) and 8. In considering whether to grant consent, you must be careful to ensure that the irrigation proposals will not weaken the strong Ngāi Tahu relationship with the Mackenzie Basin (Te Manahuna) or curtail the clearly defined aspiration of Ngāi Tahu to restore the area's mahinga kai resources, in particular Longfin Eel.

Conclusion

49. In contrast to some of the other submitters who have opposed these applications, Ngāi Tahu has adopted a balanced approach and, as far as possible, has assessed the cultural effects of each individual proposal on its own merits. In light of this assessment, Ngāi Tahu has decided that many of the smaller scale proposals and those for renewal consents do not pose a risk to cultural values. By contrast, however, Ngāi Tahu has been alarmed about the scale and intensity of the larger proposals such as the Southdown, Five Rivers, Killermont, Simons Hill, Simons Pass and the two Rosehip applications.

50. Ngāi Tahu considers that the science presented in support of the proposals is patchy and that there is a raft of uncertainties surrounding the actual and potential effects, especially those upon cultural values. Unfortunately, we are led to the view that what the applicants are seeking is that a suck-it-and-see approach be adopted. For Ngāi Tahu, its enduring relationship with the Upper Waitaki is too sacred for such a cavalier approach to be justified. To the contrary, we believe that because of the special nature of the Ngāi Tahu relationship, a precautionary approach must be adopted.