

**IN THE MATTER OF
AND
IN THE MATTER OF**

the Resource Management Act 1991

61 consent applications to take, use
divert and dam water and 51
associated discharge and land
use consent applications in the
Upper Waitaki Catchment

**Memorandum in response to Commissioners 26th Minute on behalf of Central South Island Fish
and Game Council**

1. Fish and Game has not provided comment on each individual set of consent conditions however, we have provided objectives and certain conditions that we consider appropriate to adopt. This feedback addresses Fish and Game's general concerns in respect of conditions, but is given on the basis that Fish and Game is still of the view that despite these conditions the effects of the various applications will still impact on water quality and fisheries habitat in the Waitaki. Fish and Game's comments on conditions should not be taken as an indication that Fish and Game supports the applications on the basis of the conditions.

Fish screening

2. The conditions should require that adult and juvenile fish are to be prevented from entering intakes, or being harmed by the intake structures. To ensure fish screening is a workable and appropriate mitigation the conditions should require that screen design and operation shall be consistent with the Fish Screening: good practice guidelines for Canterbury, NIWA Client Report: CHC2007. 092. October 2007 Fish screening conditions sought:

X. Fish screens meeting the standards set out below shall be installed at each point of take. Fish screens shall be designed to achieve the exclusion of adult and juvenile fish from the intake and to prevent the harm or entrainment of fish at the area of take and diversion:

- (a) The fish screen across the entire intake shall have a maximum mesh width and height of 3 millimetres or maximum slot width and height of 2mm;*
- (b) The fish screen shall be positioned to ensure that there is unimpeded fish passage to and from the waterway and to avoid the entrapment of fish at the*

point of abstraction, and to minimise the risk of fish being damaged by contact with the screen face; and

- (c) The fish screen shall be designed and installed in general accordance with Fish Screening: good practice guidelines for Canterbury, NIWA Client Report: CHC2007. 092. October 2007 in particular section 4.1 – key factors in screen design and will ensure that:
 - (i) The maximum approach water velocity shall be no more than 0.12m/s*
 - (ii) The majority of the screen surface shall be oriented parallel to the direction of water flow to ensure that at all times sweep velocity exceeds approach velocity.*
 - (iii) Where practicable, the screen is positioned in the water column a minimum of 300 millimetres above the bed of the waterway and a minimum of one screen radius above the surface of the water.**
- (d) The fish screen shall be designed by a suitably qualified person who shall ensure that the objective specified in Condition X and the design criteria specified in Condition X(a)-(c) of this consent are achieved. Prior to the installation of the fish screen, a report containing final design plans and illustrating how the fish screen will meet the objectives and design criteria, and an operation and maintenance plan for the fish screen shall be provided to Environment Canterbury, Attention: RMA Compliance and Enforcement Manager for certification that it meets the requirements of the consent.*
- (e) The fish screen shall be maintained and cleaned to ensure that at all times under normal operating conditions the screen complies with the guidelines.*
- (f) A certificate shall be provided to Environment Canterbury by the designer or supplier of the fish screen to certify that the fish screen has been installed in accordance with the details provided to Environment Canterbury in accordance with Condition 5 and 5(c) of this consent;.*
- (g) Records shall be kept of all inspections and maintenance, and those records shall be provided to Environment Canterbury upon request.*

Efficiency

3. Applicants have an obligation to achieve a high level of technical and allocative efficiency. Metering is essential in managing water efficiently. The uptake of water needs to vary with environmental conditions and soil moisture levels, therefore metering the water take is crucial in

ensuring water is managed so that only the precise amount of water necessary, as derived from environmental conditions and soil moisture levels, is abstracted.

4. Water metering data provided to ECan assists in determining whether the land owner is keeping track of and making efficient use of allocated water, in line with consent conditions.

Water Metering

- (a) *The consent holder shall, prior to exercising this consent, install a water meter measuring device in a location that will enable the determination of the continuous rate of flow and volume of water being diverted to within an accuracy of 10 percent.*
- (b) *The measuring device shall, as far as is practicable, be installed at a site likely to retain a stable relationship between flow and water level. The measuring device shall be installed in accordance with the manufacturer's instructions.*
- (c) *The consent holder shall install a tamper-proof electronic recording device such as a data logger(s) that shall time stamp a pulse from the flow meter at least once every 15 minutes, and have the capacity to hold at least one season's data of water taken as specified in clauses (d)(i) and (d)(ii), and which is telemetered, as specified in clause (d)(iii).*
- (d) *The recording device(s) shall:*
 - (i) *be set to wrap the data from the measuring device such that the oldest data will be automatically overwritten by the newest data (i.e. cyclic recording); and*
 - (ii) *store the entire season's data in each 12 month period from 1 July to 30 June in the following year, which the consent holder shall then download and store and provide to the Canterbury Regional Council in a format and standard specified in the Canterbury Regional Councils form for Water Metering Data Collection; and be readily accessible to be downloaded by the Canterbury Regional Council or by a person authorized by the Canterbury Regional Council: RMA Compliance and Enforcement Manager; and*
 - (iii) *shall be connected to a telemetry system which collects and stores all of the data continuously with an independent network provider who will make that data available in a commonly used format at all times to the Canterbury Regional Council and the consent holder.*

- (e) *The measuring and recording devices described in clauses (a) and (c) shall be available for inspection at all times by the Canterbury Regional Council, including access to the data recorded in accordance with clause (d).*
- (f) *All data from the recording device described in clause (c), and the corresponding relationship between the water level and flow (b), shall be provided to the Canterbury Regional Council annually in the month of June, and shall be accessible and available for downloading at all times by the Canterbury Regional Council.*
- (g) *The water meter installed in accordance with Condition <70> shall be an electromagnetic or ultrasonic meter; or*
- (h) *The consent holder shall, before first exercise of this consent install or make available an easily accessible straight pipe(s) at a location where the total water take is passing through, with no fittings or obstructions that may create turbulent flow conditions, of a length at least 15 times the diameter of the pipe, as part of the pump outlet plumbing or within the mainline distribution system, to allow the Canterbury Regional Council to conduct independent measurements.*
- (i) *Within one month of the installation of the measuring or recording device(s), specified in conditions <7> or any subsequent replacement measuring or recording device(s), or at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, attention: RMA Compliance and Enforcement Manager, signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:*
 - (i) *the measuring and recording device(s) is installed in accordance with the manufacturers specifications; and*
 - (ii) *data from the recording device(s) can be readily accessed and/or retrieved in accordance with clauses (b) and (c) of condition <7>.*
- (j) *At five yearly intervals or at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, attention: RMA Compliance and Enforcement Manager, signed by a suitably qualified person certifying that:*
 - (i) *the water meter(s) is measuring the rate of water taken as specified in condition <7> and*
 - (ii) *the tamper-proof electronic recording device is operating as specified in condition <7>*

Water Use

5. Fish and Game do not consider it appropriate to deal with efficiency of water use solely through a FEMP. There should be clear obligation via conditions. The efficiency objectives of the FEMP should also be included in the conditions. I have provided below conditions that Fish and Game consider appropriate, relating to efficiency of use.

The consent holder shall take all practicable steps to:

- (a) Ensure that the volume of water used for irrigation does not exceed that required for the soil to reach field capacity; and*
- (b) Avoid leakage from pipes and structures; and*
- (c) Avoid the use of water onto non-productive land such as impermeable surfaces and river or stream riparian strips,*
- (d) Ensure environmental conditions are taken into account when applying water to land.*

Irrigation Infrastructure

6. The state of infrastructure on the proposed farms will determine how efficiently the water is used. Equipment should be designed and monitored to aid management of water distribution to achieve high technical efficiency. Old infrastructure is associated with lower control over water application and distribution and greater losses through leaks in conveyance. Conditions need to ensure water wastage is avoided through the use of appropriate infrastructure. Conditions sought:

- (a) The consent holder shall ensure that all new (not on the property at the time of commencement of this consent) irrigation infrastructure is designed and certified by a suitably qualified independent expert, and installed in accordance with the certified design.*
- (b) Copies of certified design documents shall be provided to the Canterbury Regional Council upon request.*
- (c) All irrigation infrastructure shall be tested within 12 months of the first exercise of this consent and afterwards every five years in accordance with the 'Irrigation Code of*

Practice and Irrigation Design Standards, Irrigation NZ, March 2007' (code of practice) by a suitably qualified independent expert.

- (d) The expert shall prepare a report within two months of the testing, outlining their findings and shall identify any changes needed to comply with the code of practice.*
- (e) Any changes needed to comply with this code of practice shall be implemented within five years from the date of the report. A copy of the report shall be provided to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager, within three months of the report being completed.*
- (f) If existing irrigation infrastructure is being used, the consent holder shall obtain an evaluation report prepared by a suitably qualified person, on the following terms:*
- (g) The evaluation shall determine the system's current performance in accordance with the Code of Practice for Irrigation Evaluation.*
- (h) This report shall be obtained within three months of the first exercise of the consent.*
- (i) Any recommendations identified in the report shall be implemented within five years from the date of receipt of the report.*
- (j) A copy of the report shall be forwarded to the Canterbury Regional Council within 3 months of the report being completed.*

Water Quality Management

7. Considering the potential effects on Lake Benmore, and the importance of maintaining the lake in an oligotrophic state, water quality conditions need to be as robust as possible. Fish and Game support the conditions adopted in the Hakataramea River Catchment. The conservative water quality conditions applied in the Hakataramea were adopted because of current water quality issues in the catchment and the consensus that any further degradation should not occur. The water quality in the Upper Waitaki Catchment is of very high quality (MfE 2006) and the water from the entire catchment drains into Lake Benmore. The importance of maintaining water quality in Benmore has been thoroughly discussed throughout the hearing process and there is general agreement that a reoccurrence of the effects seen in other NZ must be avoided to save large expenses further down the track. Therefore in this situation, the most conservative, preventative conditions need to be set in place.

8. Fish and Game does not support allowing a 25% increase in periphyton growth as suggested in many of the applicant's conditions. This approach is inconsistent with the purposes of the RMA. Dr Freeman has discussed the use of other water quality guidelines such as the ANZACC and MfE guidelines in his Second Addendum Report (February 2010). These guidelines should be considered. Otherwise, Fish and Game are of the view that the water quality outcomes recently incorporated into the NRRP are the most appropriate in this instance. The recommendations involve the most recent and comprehensive understandings of Canterbury's water quality, put into a planning context.
9. It is important that decisions made are correct in terms of sustainable management. Any conditions imposed need to lead to good outcomes including appropriate protection of aquatic values through maintenance of water quality and quantity.
10. In most of the applications there are no conditions to monitor the effects on ecosystems including salmonid habitat and populations. There has also been minimal assessment on the current ecosystems that may potentially be affected. Not all properties have conditions excluding stock access.
11. The following conditions have been taken from the Hakataramea consent conditions to provide a model of what Fish and Game consider appropriate to apply to consents in the Upper Waitaki. The conditions have been amended to set a quantitative nutrient limit. To my knowledge none of the water quality conditions on the Hakataramea were appealed. Fish and Game request similar conditions are adopted in the Upper Waitaki. This precautionary approach would ensure that nutrients are managed to ensure no change of trophic levels in receiving water bodies.

Hakataramea water quality management

1. Nutrient Budget

- (a) *A nutrient budget shall be set, designed to advice the objective of managing nutrient application to ensure water bodies in the Upper Waitaki are retained their current trophic state. Management of nutrients shall be controlled to avoid cumulative downstream effects.*
- (b) *A nutrient budget shall be prepared and implemented annually that includes the nutrients generated from all farming activities for this property. The conditions need to be certain and enforceable and be able to achieve the stated objectives which are to retain the current trophic*

state of water bodies in the Waitaki and that currently the conditions do not provide any certainty that that objective will be achieved.

- (c) *The nutrient budget will ensure that the property's maximum nutrient loading, will not exceed the MWRL/GHD maximum nutrient loading for [enter catchment relevant to consent] necessary to maintain Lake Benmore in an oligotrophic state taking into account nutrient loads from all other properties in the catchment. Prior to implementation of the nutrient budget through fertiliser application the nutrient budget shall be provided to the Canterbury Regional Council. Attention RMA Compliance and Enforcement Manager by 30th January of each year for certification.*

2. Nitrates – Nitrogen

- (a) *With the exception of the first period ending 30 June during which this consent is first exercised, for each succeeding 12 month period ending 30 June:*
- (i) *An approved method shall be used to model the nitrate-nitrogen concentration in the soil drainage water below the plant root zone and to prepare a nutrient budget for the subject land for that prior 12 month period.*
 - (ii) *Records shall be maintained throughout the year of the farm management practices and associated data that will be used as input to the approved method.*
 - (iii) *Predictions shall be made of the farm management practices that will be used for the following 12 month period to provide input data to the approved method taking regard of the need to reduce nitrate leaching below the plant root zone where possible.*
- (b) *A record of the predicted and measured input data, the calculations undertaken and the calculated nitrate-nitrogen concentration in the soil drainage water below the plant root zone in accordance with clause (a) shall be:*
- (i) *Prepared by 31 August each year.*
 - (ii) *Certified as an accurate record by a suitably qualified person.*
 - (iii) *Maintained for the property for the duration of the consent; and*
 - (iv) *Provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, by 30 September each year, or upon request.*
- (c) *For the purposes of this condition an approved method is:*
- (i) *'Overseer' (AgResearch).*
 - (ii) *The Soil Plant Atmosphere Model (SPASMO -HortResearch.)*

- (iii) *Any other method approved by the Canterbury Regional Council.*
- (d) *For the purposes of this condition, the subject land means the area that is irrigated between 1 July and 30 June of the following year.*
- (e) *Between the 1st September and 30 November of each year a groundwater sample ('the Sample') will be taken from the shallowest bore on the property to which this consent applies; and*
- (f) *The Sample shall be analysed by a laboratory that is certified for that method of analysis for nitrate-nitrogen; and*
- (g) *The results of this analysis shall be provided to the Canterbury Regional Council, Attention RMA Compliance and Enforcement Manager by the 30th January of each year.*

3. Fertiliser

- (a) *Fertiliser shall be applied in accordance with a nationally recognized quality assurance program for fertiliser application.*
- (b) *For the purposes of this condition a quality assurance program is:*
 - (i) *The New Zealand Fertiliser Manufacturers' Research Association Code of Practice for Fertiliser Use.*
 - (ii) *The Code of Practice for Nutrient Management (With Emphasis on Fertiliser Use) NZFMRA 07.*
 - (iii) *Any other method approved by the Canterbury Regional Council.*

4. Baseline and On-going monitoring

4.1 Objective and purpose of the Lake Bemore Monitoring plan

- a. *The objective and survey of all monitoring programmes shall be to obtain a definitive and representative assessment of any effects of the use of water authorised by this consent on the state of the environment of the Benmore Catchment.*
- b. *Without limiting this objective, the purpose of the monitoring plan is to provide information which may be used to determine whether the exercise of this consent is a cause of contributing cause to changes in:*
 - (a) *Periphyton in the Ahuriri River.*
 - (b) *Macro-invertebrates species in the surface water bodies.*
 - (c) *Native fish and salmonids, and*

(d) *Physical and chemical groundwater and surface water quality.*

c. *This is a catchment wide survey. : It is anticipated that all consent holders subject to this condition would coordinate and cooperate together to ensure that the lake water quality monitoring is undertaken and the costs of that monitoring is shared between those consent holders. The Canterbury Regional Council will provide resources to facilitate that coordination and the costs of that facilitation will be recoverable from the relevant resource consent holders as a cost of supervising and administering the resource consents.*

Any non-compliance with water quality monitoring requirements would be a matter for all relevant consent holders.

d. *PROVIDED THAT compliance by this consent holder with one or more parts of this condition shall be deemed to be compliance by the following consent holders (Lake Benmore Water Quality Group) of the same parts:*

[Enter properties involved with the monitoring]

e. *PROVIDED ALSO THAT compliance by the Group representing all the consent holders who are subject of this condition shall be deemed to be compliance by the consent holder.*

5 Baseline surveys to be undertaken prior to taking of water for irrigation purposes

a. *Subject to sub clause 12.6 before the first exercise of this consent the consent holder shall provide to the Regional Council a copy of the baseline survey plan prepared in accordance with the sampling design specified in Schedule A.*

b. *The baseline survey shall be undertaken over a period of one year and completed within a period of two years from the date the consent is granted.*

c. *The baseline survey plan shall be designed and carried out using standard scientifically accepted methods by suitably qualified personnel with appropriate (recognised) experience in the matters being surveyed.*

d. *Timeframes specified in the Surface Water Baseline Study, Groundwater Baseline Study and the Land Baseline Study shall be coordinated by the personnel engaged.*

- e. *The surveys may include any matters which the personnel engaged to design and carry out the baseline surveys consider necessary or more desirable and which are in addition to, or instead of, the provisions on Schedule A.*
- f. *The consent holder may take water under the terms of this consent from the date that consent is granted. However, taking must cease if after two years from the grant of consent the baseline survey has not been completed in accordance with this condition. Taking water may only resume once the baseline survey has been completed.*

6. On – Going Monitoring

- a. *Within three months of the completion of all of the baseline survey the results of each of baseline survey's shall be assessed to determine the location, sampling and frequency of on-going monitoring throughout the exercise of this consent and any analysis that will be undertaken on the basis of the proposed monitoring information in Schedule A.*
- b. *The consent holder shall provide in advance of implementation to the Regional Council a copy of the annual monitoring plan prepared in accordance with this condition.*
- c. *All monitoring programmes shall be designed and carried out using standard scientifically accepted methods by suitably qualified personnel with appropriate (recognised) experience in the matters being monitored.*
- d. *On-going monitoring time intervals shall be re-evaluated and modified as appropriate.*
- e. *Schedule A shall be reviewed annually and changed as necessary on the recommendation of the personnel engaged to design and carry out the monitoring programme following monitoring results.*
- f. *At least once every five years for the duration of the consent the consent holder shall undertake an audit of landuse changes in accordance with the Landuse Inventory in Schedule A identifying gross changes.*

7. Reporting of the Baseline Surveys and Annual Monitoring

- a. *The consent holder shall provide the Canterbury Regional Council with an annual report no later than 31 July in each year during the term of this consent. The report shall include a summary of the analyses and records collected in accordance with the conditions of this consent and as a minimum shall also:*

- (i) Summarise all the data collected as required under the conditions of this consent (including graphical presentation and statistical summations of monitoring data) and analyse the information in terms of compliance of this consent.
 - (ii) Highlight and discuss any important environmental trends in the results.
 - (iii) Compare results obtained over the reporting period with the results obtained from previous reporting periods.
 - (iv) Audit compliance by consent holders and water users with the provisions of their Farm Management Plans in accordance with condition 15(d)
 - (v) Report and discuss any operational difficulties, changes or improvements to the Farm Management Plan which would result in a notable variation of water quality.
 - (vi) List any maintenance works needed, proposed or undertaken to ensure compliance with the conditions of the consent.
 - (vii) Report detailing any remedial steps to be incorporated by amendment to the Farm Management Plan in response to the results of the baseline survey and monitoring program.
 - (viii) Report detailing any changes to Schedule A.
- b. Within 3 months of completion of each of the surveys or monitoring reports the consent holder shall provide copies of survey and monitoring reports and results to, the Director-General of the Department of Conservation. Te Runanga o Ngai Tahu and Central South Island Fish and Game Council.

8. Fencing

Within the irrigated area:

- (a) Permanent fencing shall be erected at a minimum setback distance of 12 metres from the edge of any natural, permanently flowing, surface water feature.
- (b) Where practicable, riparian planting shall be carried out within fenced areas.
- (c) Temporary fencing will be erected when stock are grazing areas of the property where there is access to other waterways, excluded from condition 16.(a) above.
- (d) All fencing will be maintained in a good state of repair.

17. Shelter Belts

- (a) Within 12 months of the commencement of this consent, shelter belts will be planted on the northern side of irrigated land within the consent holder's property, except where this will result in shading of a road causing treacherous conditions.

(b) *Shelter belts will be maintained in a good state of repair.*

Farm Environmental Management Plans

- 10 Fish and Game are supportive of properties having a requirement for management plans, however are concerned about the level of certainty these FEMP provide. Changes can be made to FEMPs and therefore anything in the plan does not tie the applicant in to serious commitment. The more taken out of management plans and placed into consent conditions, the more certainty and enforceability can occur.
- 11 Fish and Game understand that changing aspects of the FEMPs to consent conditions, does remove flexibility. Some flexibility is desirable as it allows the best approaches to managing effects to be employed rather than being strictly bound by conditions.
- 12 Therefore conditions should set out the objectives and outcomes that the management plan is going to achieve. Those objectives and outcomes are aspects that the consent authority can first assess the management plan against prior to certifying it, then monitor and enforce. Most of the applicants have endeavoured to do this, however the uncertainty lies with whether the stated outcomes are suitable or achievable through the FEMP.
- 13 Future amendments to the FEMP provide uncertainty for affected parties. To provide more certainty to affected parties, the amendment process must be spelt out in a condition. In this situation there should be a requirement for the consent holder to consult with affected parties with the requirement to use best endeavours to reach agreement. This should be incorporated into the FEMP. This would ensure affected parties have a meaningful involvement and provide the opportunity for discussion on the changes to be made.
- 14 In addition to the above, a consent condition should require that the plan or any amendment to it be certified by a suitably qualified person on behalf of the consent authority so that in theory stakeholders can be satisfied that the management plan is dealing effectively with the issues it needs to.
- 15 Fish and Game have provided the conditions relating to Farm Management Plans in the Hakataramea as an appropriate starting point to base conditions on, they have been provided below:

1. Farm Management Plan

- (a) *Prior to exercise of this consent, the consent holder shall prepare and submit to the Canterbury Regional Council a Farm Management Plan.*
- (b) *The Farm Management Plan shall provide details of the practices and procedures to be put into place manage the environmental effects arising from the use of the water within the irrigated area, in order to ensure compliance with the conditions of consent and to minimise the potential for adverse effects on the environment arising from the exercise of this consent.*
- (c) *A Farm Management Plan shall be prepared and shall address the following objectives:*
- (i) *To achieve technically efficient use of water, minimising runoff and drainage.*
 - (ii) *To minimise contamination of groundwater and surface water, particularly in terms of faecal contamination, nitrogen and phosphorus.*
 - (iii) *To minimise nutrient losses to water while managing soil fertility to optimise pasture and crop productivity.*
 - (iv) *To minimise adverse effects on groundwater and surface water levels.*
 - (v) *To maintain the soil in good physical condition.*
 - (vi) *To minimise adverse effects on water bodies and riparian areas through healthy riparian margins.*
 - (vii) *To safeguard significant indigenous biodiversity and ecosystem values within the Scheme area.*
 - (viii) *To provide information to the consent holder including land use, area irrigated, stock numbers, and fertiliser use.*
 - (ix) *Procedures to ensure the preparation, implementation, regular review, updating of the Farm Management Plan.*
- (d) *An audit shall be undertaken by an appropriately qualified person to determine compliance by the consent holder with the provisions of the Farm Management Plan. The audit shall take place each year for the first 3 years after taking of water commences under this consent and thereafter at least once every 5 years. A copy of the audit shall be provided to the Canterbury Regional Council: attention the RMA Compliance and Enforcement Manager.*

The use of Adaptive Management in FEMP

- 16 At the North Bank Tunnel hearings, Camilla Owen gave Fish and Game's perspective on adaptive management. When discussing Meridian's proposal Ms Owen stated that "the adaptive management is not true adaptive management in that there can be no iterative process, resulting

if necessary in a "clawback" of the consent in whole or in part." While this is a different situation, in my opinion the same principle still applies. Once the consent is granted there is limited reversibility of adverse effects that occur.

- 17 In order for adaptive management to work, there needs to be sufficient tools in place to choose from when mitigation is needed. The "suite of tools" should be extensive, providing the panel with confidence that at least one of the options will be a guaranteed success. The tools and the method of implementing the activity should also, as stated above, ensure reversibility. I note that the monitoring and auditing approaches have been amended in the FEMPs and the panel needs to be satisfied that a sufficient suite of tools and reversible outcome is offered.
- 18 If dealing with a proposal that does not realistically have the ability to reverse effects, by either using various tools, or ultimately removing all or some of the development, then the proposal is not adaptive management.
- 19 Conditions that apply adaptive management are necessary. The objective and purpose of these conditions should be to ensure that if an effect on the environment does occur there are adequate methods or tools in place that will be used reverse the effects on the environment. The decision making authority needs to be certain that the methods or tools will be capable of reversing effects.

Review Clause

- 20 The review conditions should be robust and dependable to ensure adequate opportunity is provided to address environmental adverse effects that do occur and to ensure on farm management is appropriate. The current conditions proposed to not achieve this therefore the review conditions need to be expanded. The following condition was used in the Hakataramea Catchment consent conditions, Fish and Game consider it appropriate to use in the Upper Waitaki Catchment also.

Review

The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, or within a period of three months from receipt of any report referred to in these conditions serve notice of its intention to review the conditions of this consent for the purpose of:

- (a) *Dealing with any adverse effect on water quality.*
- (b) *Dealing with any adverse effect on target native fish and salmonid.*

- (c) *Reviewing the appropriateness of monitoring regimes and monitoring frequencies in Schedule A.*
- (d) *Dealing with any adverse effects on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage: or*
- (e) *To require the consent holder to adopt the best practicable option to mitigate any adverse effect upon the environment.*

Works in Waterways

21 The conditions for consents to carry out works in waterways do not sufficiently protect the habitat and populations of trout and salmon. The conditions should achieve the following objectives:

- No works carried out in water during the spawning period April to September inclusive.
- No works shall result in the loss of fish habitat, the waterway shall be returned to a natural state maintaining connectedness.
- Works shall not affect the passage of fish or result in fish being stranded in pools.
- Vehicles and machinery as far as practicable do not enter river channels containing flowing water.



Devon Christensen
Resource Officer
Central South Island Fish and Game

20th December 2010