

OHAU DOWNS – WATER TAKE AND USE

WATER TAKE CONDITIONS

CRC061154

1. Consent is granted for a term expiring on the 30th of April 2025.
2. Water shall only be taken and / or diverted from Lake Ohau at or about map reference NZMS 260 H38:6563-5352 at the property referred to as Ohau Downs.
3. Water for irrigation shall only be taken between 1 September and the following 30 April and only in accordance with the maximum rate, daily volume (being from 12.01am to 11.59pm) and annual volume (measured between 1 July and the following 30 June) set out in Table A.

Table A – Maximum Rates & Volumes

Year	Maximum rate of abstraction (litres / second)	Maximum Daily Volume (cubic metres / day)	Maximum Annual Volume (cubic metres / year)
1 September 2009 to 30 April 2010	0 l/s	0 m ³ /day	0 m ³ /annum
1 September 2010 to 30 April 2011	950 l/s	81,590 m ³ /day	366,500 m ³ /annum
1 September 2011 to 30 April 2012	950 l/s	81,590 m ³ /day	3,366,500 m ³ /annum
1 September 2012 to 30 April 2013	950 l/s	81,590 m ³ /day	6,366,500 m ³ /annum
1 September 2013 to 30 April 2014 and every year thereafter	950 l/s	81,590 m ³ /day	8,835,500 m ³ /annum

4. Water allocated in Table A of Condition (3) shall be used only for the spray irrigation of pasture and crops to irrigate 1,493 hectares within a command area of 3,800 hectares on the area of land shown on attached Plan A at or about H39:658-500.
- 4a. Water for stockwater supply shall be taken between 1 July and the following 30 June and only in accordance with a maximum rate of 27 litres per second, maximum daily volume of 490 cubic metres per day (being from 12.01am to 11.59pm), and a maximum annual volume of 122,500 cubic metres per annum (measured between 1 July and the following 30 June).
5. The taking of water in terms of this consent shall cease for a period required by the owner and/or operator of the Waitaki Power Scheme, where the owner and/or operator considers it necessary to undertake maintenance on, to ensure

the structural integrity and safety of, or to avoid risk or compromise to the operation of, the Waitaki Power Scheme.

Advice Note:

Any transfer or variation of this consent or its conditions that alters the volume or location of the take (or any replacement application) is likely to require the approval from the holder of the consents to operate the Waitaki Power Scheme.

Advice Note:

The Waitaki Power Scheme means the works including hydraulic control structures, dams, canals, water diversions, penstocks, spill weirs, spill gates, bypass valves, sluice gates, power stations and generating plant, associated ancillary land and structures and resource consents and other rights held by Meridian Energy to utilise the waters and tributary inflows of Lakes Tekapo, George Scott, Pukaki, Ohau, Ruataniwha, Benmore, Aviemore and Waitaki to generate electricity.

Lake Level

6. Abstraction shall cease whenever the lake level is below 519.45 metres above mean sea level.

Metering

7. The consent holder shall, before the first exercise of this consent:
 - a. (i) install a water meter(s) that has an international accreditation or an equivalent New Zealand calibration endorsement suitable for use with an electronic recording device, from which the rate and the volume of water taken can be determined to within an accuracy of plus or minus five percent at a location(s) that will ensure the total take of water from Lake Ohau is measured; and
 - (ii) install a tamper-proof electronic recording device such as a data logger that shall record (or log) the flow totals every 15 minutes and have the capacity to hold at least one season's (as specified in conditions (3) and (4(a))) data of water taken as specified in clause (b) (i), or which is telemetered, as specified in clause (b)(ii).
 - b. The water meter and recording device(s) shall be set to wrap the data from the measuring device(s) such that the oldest data will be automatically overwritten by the newest data (i.e. cyclic recording); and shall:
 - (i) store the entire season's data in each 12 month period from 1 July to 30 June in the following year, which shall be downloaded and stored in a commonly used format and provided to the Canterbury Regional Council upon request in a form and to a standard specified in writing by the Canterbury Regional Council; or
 - (ii) 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. No data in the recording device(s) shall be deliberately changed or deleted.

- c. The measuring device shall be installed at a site likely to retain a stable rating (i.e. a man-made channel, concrete, steel or fibreglass pipe). Installation shall be in accordance with ISO 1100/1-1981 or equivalent and be undertaken by a suitably qualified person.
8. The water meter and recording device(s) shall be accessible to the Canterbury Regional Council at all times for inspection and/or data retrieval.
9. The water meter and recording device(s) shall be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.
10. All practicable measures shall be taken to ensure that the water meter and recording device(s) are at all times fully functional and have an accuracy standard of $\pm 5\%$.
11. The consent holder shall, within one month of any water meter and recording device(s) being installed, or within one month of any water meter and/or recording device(s) being replaced, and at five-yearly intervals thereafter, and at any time when requested by the Canterbury Regional Council, 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:
 - a. the water meter and recording device(s) has been installed in accordance with the manufacturers specifications; and
 - b. data from the recording device can be readily accessed and/or retrieved in accordance with conditions 7 and 8.
12. The water allocated for irrigation and stockwater in conditions 4 and 4a will be metered, recorded and reported separately to the Canterbury Regional Council in accordance with conditions 7, 8, 9, 10 and 11.
13. The Canterbury Regional Council (Attention: RMA Compliance and Enforcement Manager) shall be informed immediately on first exercise of this consent by the consent holder.

WATER USE
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1. Water for irrigation shall only be used on or applied to land that is subject to a memorandum of encumbrance that complies with the requirements of the agreement entitled "*Agreement in Relation to the Allocation of Water for Irrigation*" between Meridian Energy Limited and the Mackenzie Irrigation Company Limited dated the 31st of October 2006.
2. The consent holder shall, six months prior to this consent being exercised, provide to the Canterbury Regional Council a certificate from the Consent Holder's solicitor certifying that the memorandum of encumbrance provided for in Condition 1 is registered on the computer registers for the land shown on Plan x, and any other evidence of registration as the Canterbury Regional Council may require (if any).
3. 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) If the irrigation system used to distribute water taken in terms of this permit is used to distribute effluent, fertiliser or any other added contaminant, a backflow preventer manufactured in accordance with AS 2845.1 (1998) or the American Society of Sanitary Engineers standards shall be installed within the pump outlet plumbing or within the mainline, to prevent the backflow of water into the bore.
 - (e) The backflow preventer shall be tested to the standard set out in AS 2845.3 (1993) or an equivalent method within one month of its installation and annually thereafter by a suitably qualified person. A test report shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, within two weeks of each inspection.

Farm Management Standards

4. The Nutrient Discharge Allowance for Ohau Downs shall be:

Node Point	Total N Discharge from this Farm (kg/year)	Total P Discharge from this farm (kg/year)
Wairepo groundwater	57,594	4,493
Ohau groundwater	55,594	5,893
Wairepo Creek surface water	86,954	3,893
Northern Arm of Lake Benmore	69,454	3,793

Nutrient losses from the farm shall be monitored at each node point by the consent holder in accordance with condition 5, to verify that nutrient losses remain below the specified allowance.

5. Monitoring of compliance with the Nutrient Discharge Allowance at each node identified in condition 4 shall be undertaken by the consent holder by:
 - (a) annual use of OVERSEER, or an approved equivalent, with relevant details from the farm management diary, to estimate annual nutrient losses; and
 - (b) continuous monitoring of nutrient losses using approved monitoring methods and annual analysis of the data to calculate the annual nutrient loss at farm scale.
6. The consent holder shall prepare a nutrient budget annually for Ohau Downs. A nutrient budgeting tool will be used to determine fertiliser requirements and inputs from non-fertiliser sources of nutrients. Records shall be maintained throughout the year (including farm management practices and associated data) that will be used as input to the approved method of nutrient budgeting.
7. The consent holder shall ensure that fertiliser is applied in accordance with 'The Code of Practice for Nutrient Management (With Emphasis on Fertiliser Use) NZFMRA 07'. Fertiliser spreaders shall be tested and calibrated by the consent holder at least annually, and every 5 years by an independent and appropriately qualified auditor
8. The consent holder shall ensure that all new irrigation infrastructure shall be designed and accredited by a qualified professional, and installed in accordance with the accredited design. The design shall take into account the specific requirements of Ohau Downs soil types.
9. If existing irrigation infrastructure is being used, the consent holder shall obtain an evaluation report prepared by a certified irrigation evaluator. The evaluation shall determine the system's current performance in accordance with the Code of Practice for Irrigation Evaluation 2005. This report shall be obtained within three months of the first exercise of the consent. Any recommendations identified in the report shall be implemented within 12 months from the date of receipt of the report. A copy of the report shall be given to the Canterbury Regional Council: attention the Compliance and Enforcement Manager.
10. The consent holder shall ensure that all irrigation infrastructure shall be tested and calibrated by the consent holder once during the first year and then every 5 years in accordance with the Code of Practice for Irrigation Evaluation 2005 by a certified irrigation auditor. The independent certified auditor shall prepare a report outlining its findings and recommendations. Any recommendations identified shall be implemented within 12 months from the date of receipt of the report. A copy of the report shall be given to the Canterbury Regional Council: attention the Compliance and Enforcement Manager.
11. The consent holder shall maintain records for Ohau Downs in relation to the type of crop, cultivation methods, nutrient inputs and yields. Such records are to be used as inputs to the OVERSEER model.

12. The consent holder shall ensure that no outdoor stock grazing occurs between 1 April – 31 October in any year and during that period all stock shall be housed in barn/cubicle systems with feed supplied.
13. The consent holder shall ensure that nitrogen fertiliser is not be applied to land between 31st May and 1st September in any year.
14. The consent holder shall ensure that once every three years soil testing is undertaken to account for all sources of nutrients, including applied effluents and soil reservoirs and shall achieve the following standards:
 - (a) Representative average soil concentrations of Olsen P shall not exceed 30 mg phosphorous per kilogram of soil (dry weight).
15. The consent holder shall ensure that all fertiliser brought onto the property and stored in a covered area that incorporates all practicable measures to avoid accidental spillages of fertiliser entering waterways.
16. The consent holder shall identify within the property a fertiliser filling area, the identified fertiliser area shall be at least 50m from a watercourse, spring or bore and will have no drains that discharge to clean water or that can discharge straight to ground.
17. If liquid fertilisers are used, the consent holder shall ensure that the fertiliser is stored in a bunded tank to avoid any discharge to surface or groundwater and such that it is also protected from vehicle movements.
18. The consent holder shall ensure that a no grazing riparian margin of at least 5 metres shall be maintain adjacent to all surface water bodies on the property.
19. The consent holder shall ensure that stock are excluded from entering all surface water bodies on the property by fencing and or other effective means.
20. The consent holder shall ensure that all riparian margins identified in condition 18 are planted with appropriate plant species to achieve nutrient stripping requirements. The planting shall consist of, but not limited to:
 - (a) Trees and shrubs along the outer zone of the riparian planted area; and
 - (b) Sedges, flaxes, indigenous grasses along the stream margin.
- 20(a) To achieve the obligations set out in condition 20 a planting plan shall be prepared by the consent holder, having taken advice from an appropriately qualified ecologist in order to assist in the preparation of this Plan. This plan shall be submitted to the Canterbury Regional Council for certification prior to giving effect to this consent.
21. The consent holder shall implement a monitoring and maintenance programme to ensure the planting undertaken in condition 20 is successful. The monitoring and maintenance programme shall consist of:
 - (a) Three monthly monitoring for mortality of any plants during the first year post implementation of the farm system, and then six monthly for a period of two years. Any gaps in the vegetation cover will be replaced.

- (b) Six monthly monitoring for visible woody weeds (eg gorse, broom, pines). Any woody weeds detected within the riparian buffer zone shall be removed. Once full vegetation cover required by condition 20 has been achieved monitoring for woody weeds can be reduced to annually.
- (c) Monitoring specified in (a) and (b) shall continue until 90% vegetation cover has been achieved.

Farm Environmental Management Plan (FEMP)

- 22. The consent holder shall prepare for the approval of the Canterbury Regional Council a FEMP as is required to give effect to this consent. The objectives of the FEMP are to:
 - (a) ensure the proposed farm system for Ohau Downs can meet the nutrient requirements set out in condition 4 above, and
 - (b) identify and mitigate other farm specific environmental risks that are unique to Ohau Downs and the farm management system that is proposed for this property.
- 23. The FEMP shall set out the approach to farm management, monitoring and mitigation that will be implemented by the consent holder to address the actual and potential effects on water quality arising from nutrient runoff.
- 24. The FEMP shall include use of OVERSEER or an alternative industry standard to model current and proposed (without additional mitigation) farming systems on Ohau Downs to determine the nutrient reduction required, and changes to farm management practices or farm systems.
- 25. The FEMP shall include a Farm Environmental Risk Assessment (FERA) for the identification and mitigation of site specific environmental risks and triggers unique to Ohau Downs.
- 26. The FEMP for Ohau Downs shall include an on-farm monitoring plan describing the location, frequency and parameters to be monitored and the 'triggers' if applicable to require a specific mitigation task to be adopted. On farm monitoring and mitigation by the consent holder shall be in general accordance with Table 1 below.

Table 1: On-Farm Monitoring

On-farm	Parameter	Location	Frequency	Measured parameters to be included	Triggers	Management and Mitigation
Soil	Soil nutrient testing	All blocks in rotation	1 in 3 years	Standard suite of soil nutrients, pH, C, N and organic matter	Olsen P of 30	Reduce or stop addition of P fertiliser to area and monitor.
Soil	Soil compaction survey	All hydrologically connected blocks (and arable blocks under the alternative system)	Annually	Surface and subsoil compaction	Compaction, surface capping	Remove compaction with appropriate tool
Soil	Wet weather survey	All blocks	Annually	Runoff from tracks and centre pivot tracks	Runoff occurring	Immediately review current runoff mitigation options for pivot tracks. Introduce further runoff removal infrastructure
Effluent	Irrigated effluent nutrient testing	All blocks receiving effluent	Regularly throughout spreading season	Total N, nitrate, ammonia, dissolved reactive phosphorus, BOD		
Effluent	Cumulative effluent application	All blocks receiving effluent	Record each time effluent is applied	Application depth	200kg/ha effluent N including solid fraction	Store solid fraction until exportation can be arranged. Export enough of solid fraction to maintain application at less than 200kg
Water	Groundwater quality	Any farm bores	Annually at mid depth of aquifer	Total Nitrogen, nitrate, ammonia, total Kjeldahl nitrogen, total phosphorous, dissolved reactive phosphorous	>2mg/l nitrate/N	If comparative groundwater analysis from upstream and downstream indicates an exceedance of 2mg/l due to on farm activities, the N application to land should be reduced or stock held withheld for longer until a root cause analysis can be conducted.

Water	Surface water quality	Entry and exit of Six Mile Creek and Wairepo Creek on property boundaries.	Monthly for first two years to establish patterns.	Total Nitrogen, nitrate, ammonia, total Kjeldahl nitrogen, total phosphorous, dissolved reactive phosphorus, suspended solids.	No significant decrease in water quality.	If comparative surface water analysis indicates a decrease in surface water quality, the degraded determinands should be identified as these will indicate the likely cause of the contamination, while a full root cause analysis is undertaken. If the determinands suggest effluent, then effluent irrigation should cease on the implicated pivots. If the analyses indicate stock encroachment, the stock should be withheld from the connected paddocks.
Water	Irrigation application		Annually by the consent holder and 1 in 5 years by an independent.	Application uniformity	>80%	Optimisation of the irrigator performance will be performed at the time of testing.
Fertiliser	Fertiliser application		Annually by the consent holder and 1 in 5 years by an independent.	Application uniformity		Optimisation of the spreader performance will be performed at the time of testing.
Pasture	Ground cover	All blocks	2 x per year until full cover is reached.	% Ground cover	>80%	Soil nutrient and compaction testing should be performed to identify possible causes.

27. The consent holder shall engage an expert Environmental Scientist to review the FEMP for Ohau Downs prior to its approval by the Canterbury Regional Council. The expert reviewer shall be nominated and appointed by agreement between the consent holder and the Canterbury Regional Council. The expert reviewer shall prepare a report detailing their finding, and this report shall be part of the documentation submitted to the Canterbury Regional Council.
28. The FEMP for Ohau Downs shall be prepared, reviewed and submitted to the Canterbury Regional Council six months prior to giving effect to this consent.
29. The consent holder may without changing the objectives of a FEMP seek the approval of the Canterbury Regional Council for any necessary amendment to such a plan on the following terms:
 - (a) The review shall be undertaken in consultation with and be approved by the Canterbury Regional Council.
 - (b) Such review is necessary to give effect to the purpose of the FEMP for Ohau Downs.
30. The consent holder shall pay all actual and reasonable costs of the Canterbury Regional Council in connection with the review of the FEMP for Ohau Downs prior to its approval.

Advice Note:

Council approval will be forthcoming to be within 90 working days of receipt of the Farm Environmental Management plan or plans.

31. The FEMP shall apply to Ohau Downs and to any subsequent landholdings resulting from the subdivision of that property so long as that landholding relies on this consent.
32. The consent holder shall implement the FEMP from the date on which water is abstracted to give effect to this consent and adhere to the requirements of the FEMP required by condition 22 for the duration of this consent.
33. The FEMP for Ohau Downs shall include an annual independent auditing process with inputs from the farm operator and other interested parties, such as: the Department of Conservation, Ngai Tahu and New Zealand Fish and Game, to demonstrate that the management practices and mitigation measures planned for the farm are being implemented. The annual auditing process shall include (where appropriate) the following measures:
 - (a) Check the storage of silage for visible signs of discharge and destination of silage liquor
 - (b) Check fertiliser storage and filling area
 - (c) Audit of farm OVERSEER nutrient budget and submission of compliance with thresholds
 - (d) Fertiliser spreader and irrigation testing and calibration 1 in 5 years
 - (e) Reconciliation of fertiliser, effluent and soil records with nutrient budget and fertiliser recommendations/
 - (f) Submission and brief interpretation of soil, water quality, supplement and machinery calibration tests, including trigger exceedances.

- (g) Submission of example irrigation schedules.
 - (h) Annual quadrat testing for % ground cover, submission broad findings.
 - (i) Annual soil compaction survey, submission broad findings and remedials.
 - (j) Annual wet weather survey, submission broad findings and remedials.
 - (k) Annual fertiliser spreader and irrigation testing and calibration.
 - (l) Self certification for application of fertiliser according to code of practice
 - (m) Submission of proof of "approved handler" status.
34. The annual auditing process shall include the preparation of a report to be submitted to the Canterbury Regional Council. The consent holder shall engage an expert Environmental Scientist to review the report prior to its submission to the Canterbury Regional Council. The review documentation shall be submitted to Canterbury Regional Council as part of the annual audit report.

Sub-catchment Monitoring and Mitigation

35. Prior to the exercise of this consent the consent holder shall prepare a sub catchment monitoring plan with respect to the necessary off farm monitoring as outlined in the Table 2 below. This plan may be prepared in collaboration with other consent holders in the sub catchment in order to better achieve integrated management. The plan shall specify any pre-implementation monitoring required confirming baseline conditions, and the required frequency of post implementation monitoring. It shall specify an appropriate methodology for conducting all off farm monitoring. This monitoring plan shall be reviewed and confirmed as being appropriate to meet its purpose by an appropriately qualified Environmental Scientist, prior to being submitted to Canterbury Regional Council for certification. Once certified, the consent holder shall implement this plan and shall continue the monitoring for the duration of the consent.

Table 2 – Sub Catchment Monitoring

	Monitoring Type	Parameter to be measured	Sites to be monitored	Frequency of monitoring
Groundwater	Quality	Total nitrogen, nitrate, ammonia, total Kjeldahl nitrogen, total phosphorous, dissolved reactive phosphorous	All groundwater monitoring bores at mid aquifer depth.	Quarterly. If after 2 years there is consistency between the quarterly samples this can be reduced to twice a year.
Surface water	Quality	Total nitrogen, nitrate, ammonia, total Kjeldahl nitrogen, total phosphorous, dissolved reactive phosphorous, suspended solids, pH, and temperature.	All sub catchment nodes	Monthly
	Quantity	Flow assessed when water quality sampling occurs.	All sub catchment nodes	Monthly with water quality sampling.
	Clarify FRE3	Flow	Stony River, Wairepo Creek, Tekapo River, Greys River	Continuous until FRE3 has been clarified
	Establish that FRE3 is sufficient to remove nuisance algal growths	Periphyton biomass before and after a FRE3 flow event	All sub catchment nodes	One off
	Ecology	Benthic invertebrates, periphyton, macrophytes, and fish. Canada geese (if deemed required in consultation with Fish and Game) and mammalian predators (if deemed required in consultation with Department of Conservation)	All major watercourses on farms.	Annually for macroinvertebrates, macrophytes, fish. Monthly from November – April for periphyton. Birds in consultation with Fish and Game. Mammalian predators in consultation with Department of Conservation.

36. The consent holder shall be levied on an annual basis in order to meet the costs inherent in conducting the Upper Waitaki Catchment monitoring outlined in Table 3. This monitoring may be carried out (i) on a collective basis by a suitable body appointed by all consent holders in the Upper Waitaki Catchment and approved by the Canterbury Regional Council or (ii) by the Canterbury Regional Council. All necessary costs associated with this monitoring shall be met by the consent holders on a proportional basis.

Advice Note:

Where costs are to be met on a proportional basis, this means that an individual consent holder shall meet costs according to a ratio which accounts for the proportion of land irrigated by that consent holder as a percentage of all land irrigated in the Upper Waitaki Catchment.

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Table 3 – Upper Waitaki Monitoring

	Monitoring Type	Parameter to be measured	Sites to be monitored	Frequency of monitoring
Lakes Tekapo, Pukaki and Ohau	Quality	Vertical profile of temperature, dissolved oxygen, pH, total nitrogen, total phosphorous, ammonia, nitrate, nitrite, total Kjeldahl nitrogen, dissolved reactive phosphorous, Secchi depth, Chlorophyll-a Total nitrogen, total phosphorous	Lake Tekapo, Pukaki and Ohau	Quarterly
	Lake sediment			Annually
	Ecology	Benthic invertebrates, macrophytes, fish and phytoplankton.		Annually Phytoplankton quarterly
Lake Benmore, Lake Ruataniwha, and Wairepo Arm	Quality	Vertical profile of temperature, dissolved oxygen, pH, total nitrogen, total phosphorous, ammonia, nitrate, nitrite, total Kjeldahl nitrogen, dissolved reactive phosphorous, Secchi depth, Chlorophyll-a	Lake Benmore, Ahuriri Arm, Northern Arm, and near Benmore Dam, Lake Ruataniwha and Wairepo Arm of Lake Ruataniwha.	Monthly
	Lake sediment	Total nitrogen, total phosphorous		Every 3 years
	Ecology	Benthic invertebrates, macrophytes, fish and phytoplankton.		Annually Phytoplankton quarterly
Lake Aviemore and Lake Waitaki	Quality	Vertical profile of temperature, dissolved oxygen, pH, total nitrogen, total phosphorous, ammonia, nitrate, nitrite, total Kjeldahl nitrogen, dissolved reactive phosphorous, Secchi depth, Chlorophyll-a Total nitrogen, total phosphorous	Lake Aviemore near dam and Lake Waitaki near dam	Quarterly
	Lake sediment			Every 3 years
	Ecology	Benthic invertebrates, macrophytes, fish and phytoplankton.		Annually Phytoplankton quarterly

37. If the monitoring undertaken in accordance with the sub catchment monitoring plan in condition 35 indicates that the nodal readings of Nitrogen and Phosphorous have reached 75% of the value specified in Table 4 then the sampling frequency at that site shall be increased to weekly.
38. If the increased monitoring undertaken in accordance with condition 37 determines that the average of any five of those consecutive weekly results exceeds 75% of the value specified in Table 4 then a report shall be prepared by an appropriately qualified Environmental Scientist and provided to the Canterbury Regional Council within one month of the receipt of such results. The purpose of the report shall be determine whether or not the cause of the exceedance is likely to be because of natural influences, or land use practices. The report shall include an assessment of:
- (a) the likely reasons for the observed increase in nutrient levels, including likely source and contributors (natural sources, or land use influences);
 - (b) the likelihood that the threshold in Table 4 will in fact be exceeded by land use practices; and
 - (c) shall identify the best practicable remedial or management measures considered necessary to ensure the threshold is not exceeded by land use practices.

Table 4 – Threshold

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39. If the monitoring and reporting undertaken in accordance with condition 38 determines that the consent holder is either solely or partly responsible for the increase in observed nutrient levels measured in the sub catchment, the consent holder shall be responsible for implementing (either wholly or partly, depending on the degree of culpability) the remedial measures outlined in the report prepared in accordance with condition 38(c). Monitoring shall continue on a weekly basis in accordance with condition 37 until such time as the results of that monitoring show that the nodal readings of Nitrogen and Phosphorus have returned to level below 75% of the value specified in Table 4.
40. If the monitoring undertaken in accordance with the sub catchment monitoring plan in condition 35 indicates that the nutrient values outlined in the Table 4 above have been exceeded then:
- (a) The sampling frequency at that site shall be increased to weekly and;
 - (b) If the average of any five of those consecutive weekly results exceeds the thresholds in Table 4 above then a report shall be prepared by an appropriately qualified Environmental Scientist and provided to the Canterbury Regional Council within one month of the receipt of such results. The report shall include an assessment of the likely reasons for the observed increase in nutrient levels, including likely source and contributors.

41. If the monitoring and reporting undertaken in accordance with condition 40(b) determines that the consent holder is either solely or partly responsible for the threshold exceedance then:
 - (a) the annual allocation of water to the consent holder shall reduce by 5% for the irrigation season that is current or which commences subsequent to the identification of the exceedance; and
 - (b) the consent holder shall prepare on either a collective or individual basis a Remedial Action Plan, for the certification of Canterbury Regional Council.
42. The Remedial Action Plan shall prescribe the methods for altering and/or adapting farm practices on one or more of the farms within the affected sub catchment to ensure that the exceedance in water quality standards at the affected site are returned to a level that is below the thresholds identified in Table 4. The Remedial Action Plan shall be verified by an appropriately qualified Environmental Scientist prior to being submitted to Canterbury Regional Council for certification.
43. Once the Remedial Action Plan prepared in accordance with condition 41 has been certified by the Canterbury Regional Council, the consent holder shall implement any necessary changes to on farm management practices required by the Remedial Action Plan. The consent holder shall update their FEMP (if necessary) to include the changes in farm management to be adopted in accordance with condition 42.
44. The consent holder shall continue to monitor water quality at the affected site on a weekly basis, and if the monitoring shows that the threshold limits in Table 4 are not exceeded for a period of two consecutive months then the 5% reduction can be lifted and weekly monitoring can cease. If this monitoring indicates that the thresholds in Table 4 continue to be exceeded the annual allocation of water to the consent holder shall reduce by an additional 5% for every week that the thresholds are exceeded until monitoring shows that these thresholds are achieved.
45. Should the measures undertaken in accordance with condition 44 fail to achieve compliance with the thresholds in Table 4, the Canterbury Regional Council shall review the consent in terms of section 128 of the Resource Management Act 1991.